

LAND OFF CURWEN ROAD, WORKINGTON, CUMBRIA

Archaeological Evaluation



Client: Port Derwent Properties Ltd

Planning Application Reference:
2/2010/1054

NGR:
299100 529050 (centre)

© Greenlane Archaeology Ltd

June 2015



Greenlane Archaeology Ltd,
2 Albrights Yard, Theatre Street,
Ulverston, Cumbria, LA12 7AQ

Tel: 01229 588 500
Email: info@greenlancearchaeology.co.uk
Web: www.greenlancearchaeology.co.uk

Contents

Non-Technical Summary	3
Acknowledgements	3
1. Introduction	4
2. Methodology	6
3. Historical and Archaeological Background	9
4. Fieldwork Results	12
5. Discussion	25
6. Bibliography	27
Appendix 1: Project Design	29
Appendix 2: Summary Context List	35
Appendix 3: Summary Finds List	37
Appendix 4: Clay Tobacco Pipe Catalogue	39
Appendix 5: Report on Decorated Clay Pipe Bowl from Context 206	40

Illustrations

List of figures

Figure 1: Site location	5
Figure 2: Trench location plan	7
Figure 3: Trench 1	19
Figure 4: Trench 2	20
Figure 5: Trench 3	21
Figure 6: Detailed plan of feature 306	22

List of plates

Plate 1 (left): Extract from the plan of the harbour of 1793	10
Plate 2 (right): Extract from the Plan of Enclosure Award of 1815	10
Plate 3 (left): Extract from the tithe map (CAC(C) DRC 8/158 1845) of 1845	11
Plate 4 (right): Extract from the Ordnance Survey map of 1867	11
Plate 5 (left): Wall 102 towards the centre of Trench 1	12
Plate 6 (right): Detail of wall 102 and drain to the west	12
Plate 7 (left): Wall 102 from above and pit 104	13
Plate 8 (right): Pit 104 after having been half sectioned	13
Plate 9 (left): Sandy deposits at the east end of Trench 1	13
Plate 10 (right): Wall 102 with drains either side	13
Plate 11: Drain to the east side of wall 102	14
Plate 12 (left): Trench 2 viewed from the north-east	15
Plate 13 (right): Trench 2 viewed from the south-west	15

Plate 14: Cobbled surface (205) in the section of Trench 2	16
Plate 15: Trench 3 viewed from the south/south-west	17
Plate 16 (left): North/north-east end of Trench 3.....	18
Plate 17 (right): Timber feature 306.....	18
Plate 18: Pottery and a bone button from 203.....	23
Plate 19: Unusual and marked transfer printed fragments from context 203.....	24
Plate 20: Decorated clay tobacco pipe bowl fragment from context 206	24
Plate 21 (left): Excavation for mains sewage in Kendal in the early 20 th century, showing timber shoring (from Duff and Duff 1997, 105)	26
Plate 22 (right): Excavation for mains sewage in Kendal in the early 20 th century, showing timber shoring (from Duff and Duff 1997, 105)	26

Non-Technical Summary

Following the submission of a planning application by Port Derwent Developments LLP for the construction of a residential development on land off Curwen Road, Workington, a condition (No. 13) was placed on the consent requiring a programme of archaeological work. Following the completion of an archaeological desk-based assessment, which revealed that the site largely saw development during the post-medieval period, initially in relation to wharfing associated with the coal trade, but latterly as an area of housing, Greenlane Archaeology carried out the archaeological evaluation of the site on 14th and 15th May 2015.

The evaluation comprised three trenches, aimed at specific features shown on the historic mapping. In Trench 1 it was intended to target the line of the railway and row of houses in this area, known to have developed between 1845 and 1867. A brick wall and drain pipes were revealed that evidently related to the buildings, but the inaccuracies of the previous desk-based assessment meant that the trench was not positioned across the line of the railway as intended. Trench 2 was positioned in an area where it was considered possible that earlier building might be present and also where an early wagon way ran, but the area was found to be extensively truncated by multiple ceramic drains, probably originally serving the row of houses that had stood to the west. However, a thick soil was found, perhaps relating to an enclosed garden shown on the early Ordnance Survey maps, and a thick cobbled surface was seen in section. This had been cut by the drains, and so was evidently earlier than them, although it sat on a layer containing finds of 18th – early 19th century date and so might relate to some of the early industrial activity on the site. Trench 3 was targeted on the row of what appear to have been back-to-back cottages on the north-west side of the site. This revealed that they had been comprehensively demolished as no structural remains survived, although a partially timber-lined feature filled with clay of apparent 19th century date that ran along the original line of the street was found, although this may just be the line of the mains sewage pipes.

The evaluation revealed that the demolition of the buildings that used to stand on the site had clearly been quite comprehensive and had left little trace of any structures. However, the cobbled surface found in Trench 2, which appears to predate the late 19th century remains is of interest. It is possible that it represents a yard used as part of the coal wharf or that it is in fact the line of the wagon way shown on the earlier maps. This could only be revealed through further archaeological investigation and it is recommended that this area be archaeologically stripped to more fully reveal the size, form, and date of the cobbled surface.

Acknowledgements

Greenlane Archaeology would like to thank Port Derwent Properties Ltd for commissioning the project and their agent Stuart Woodall of Day Cummins for providing information about the site. Additional thanks are due to Jeremy Parsons, Historic Environment Officer at Cumbria County Council, for approving the project design. Thanks are also due to G and AM Lawson Ltd plant hire for providing the excavator.

The evaluation was carried out by Dan Elsworth and Tom Mace. This report was co-written by Dan Elsworth and Tom Mace, the latter of whom also produced the illustrations. All of the finds were processed and assessed by staff at Greenlane Archaeology, although the decorated clay tobacco pipe was examined by Peter Davey. Jo Dawson edited the report and the project was managed by Dan Elsworth.

1. Introduction

1.1 Circumstances of the Project

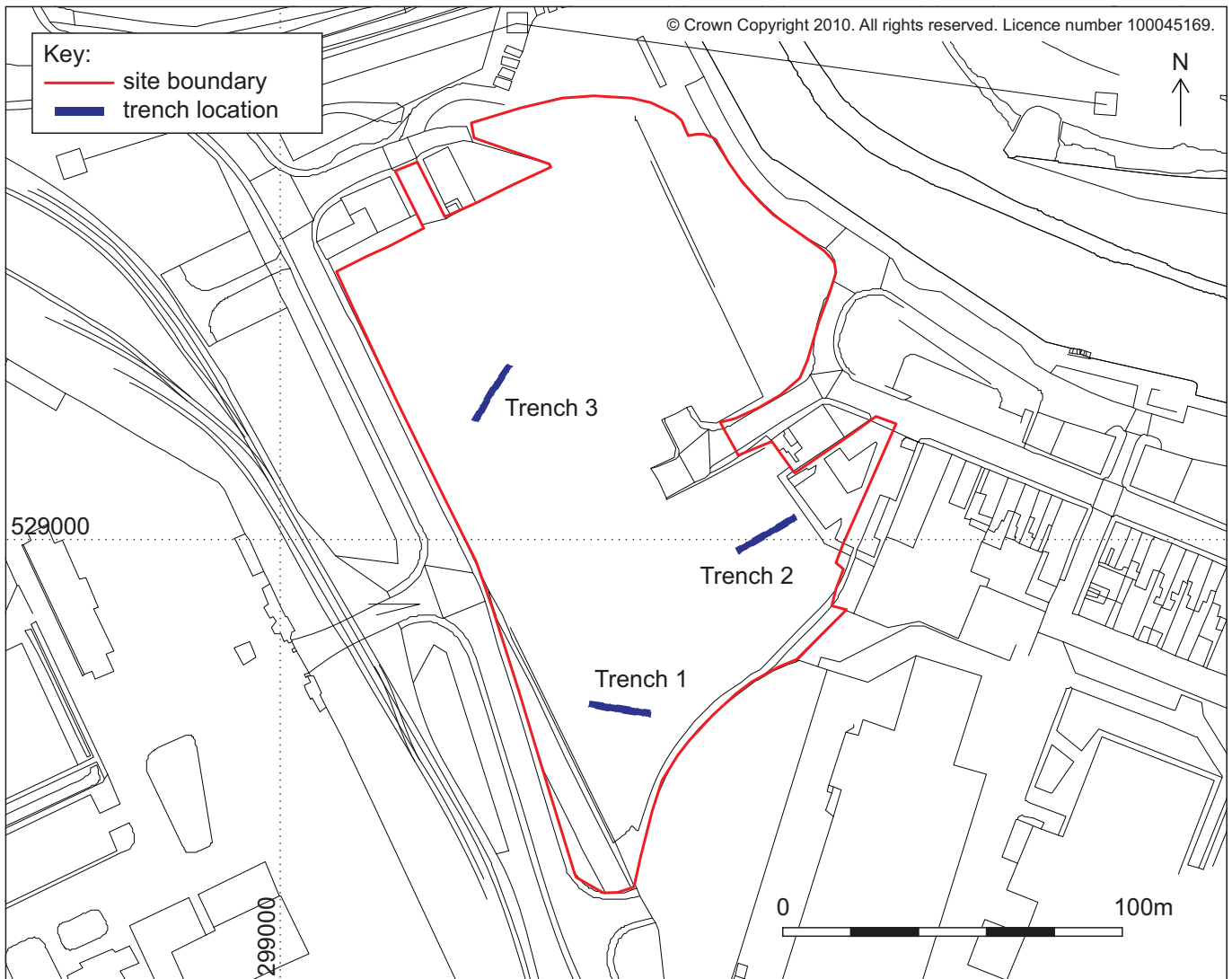
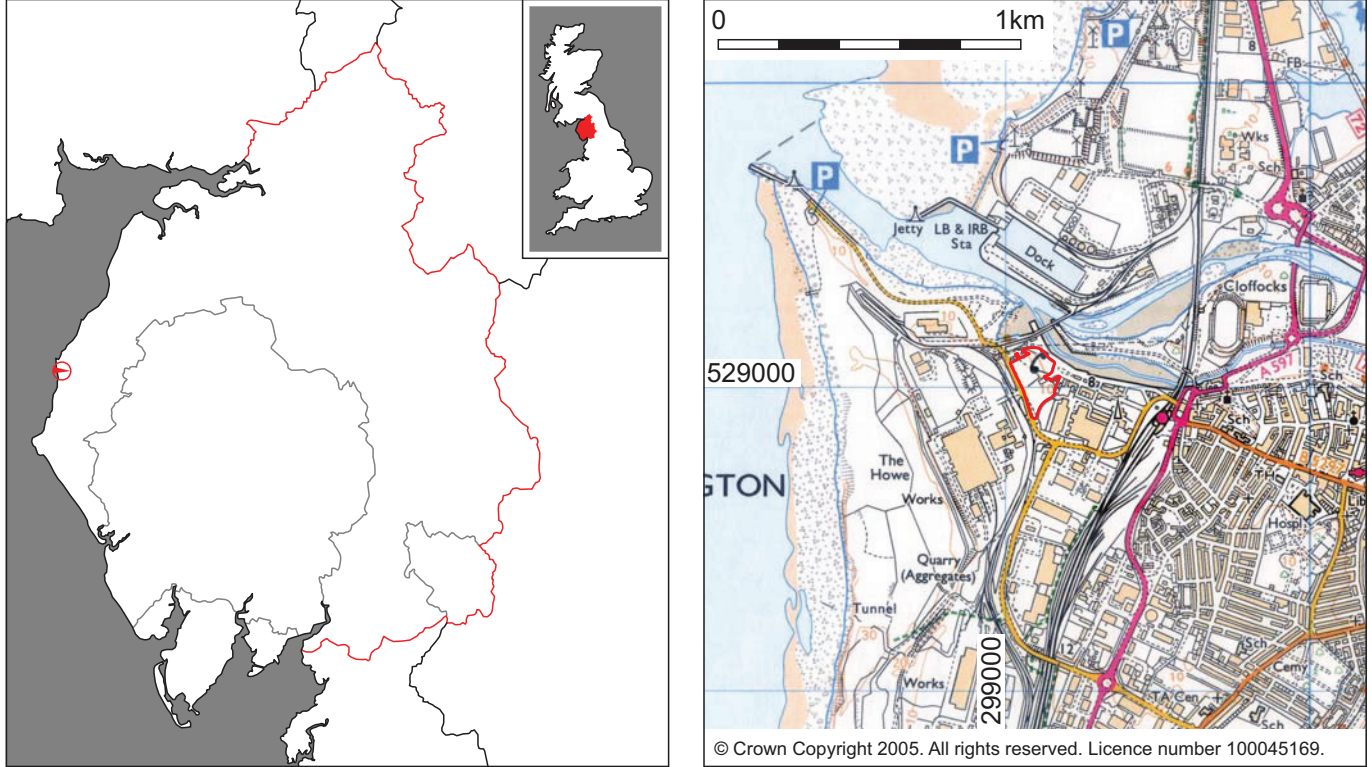
1.1.1 Following the submission of a planning application (ref. 2/2010/1054) by Port Derwent Developments LLP for the construction of a residential development on land off Curwen Road, Workington, Cumbria (NGR 299100 529050 (centre)), a condition (No. 13) was placed on the consent requiring a programme of archaeological work. Following the completion of an archaeological desk-based assessment (ARS 2011), Greenlane Archaeology was commissioned by Port Derwent Properties Ltd (hereafter 'the client'), through their agent Day Cummins Ltd, to carry out an archaeological evaluation of the site. Greenlane Archaeology produced a project design, following the issuing of a brief by the Cumbria County Council Historic Environment Service (CCCHES), and following its acceptance the archaeological evaluation was carried out by staff at Greenlane Archaeology on the 14th and 15th May 2015.

1.1.2 The previous desk-based assessment revealed that the site largely saw development during the post-medieval period, initially in relation to wharfing associated with the coal trade, but latterly as an area of housing (ARS 2011).

1.2 Location, Geology, and Topography

1.2.1 The site occupies an area of relatively level ground to the west of the main town centre. The River Derwent lies 25m northeast of the site and the whole area is less than 10m above sea level (Ordnance Survey 2011) (Figure 1).

1.2.2 The solid geology is dominated by Carboniferous Westphalian coal measures but with large amounts of red Permian sandstone of the Penrith group to the north and south (Moseley 1978, plate 1), with overlying glacial deposits forming a landscape generally comprising improved pasture outside of the urban area (Countryside Commission 1998, 27 and 29).



Client: Port Derwent Properties Ltd

© Greenlane Archaeology Ltd, June 2015

Figure 1: Site location

2. Methodology

2.1 Introduction

2.1.1 All aspects of the evaluation were carried out according to the standards and guidance of the Chartered Institute for Archaeologists (CIfA 2014) and according to Greenlane Archaeology's own excavation manual (Greenlane Archaeology 2007).

2.2 Desk-Based Assessment

2.2.1 The earlier desk-based assessment (ARS 2011) was consulted in order to provide information about the development of the site, relevant sections of which are referred to in this report, most prominently in *Section 3*.

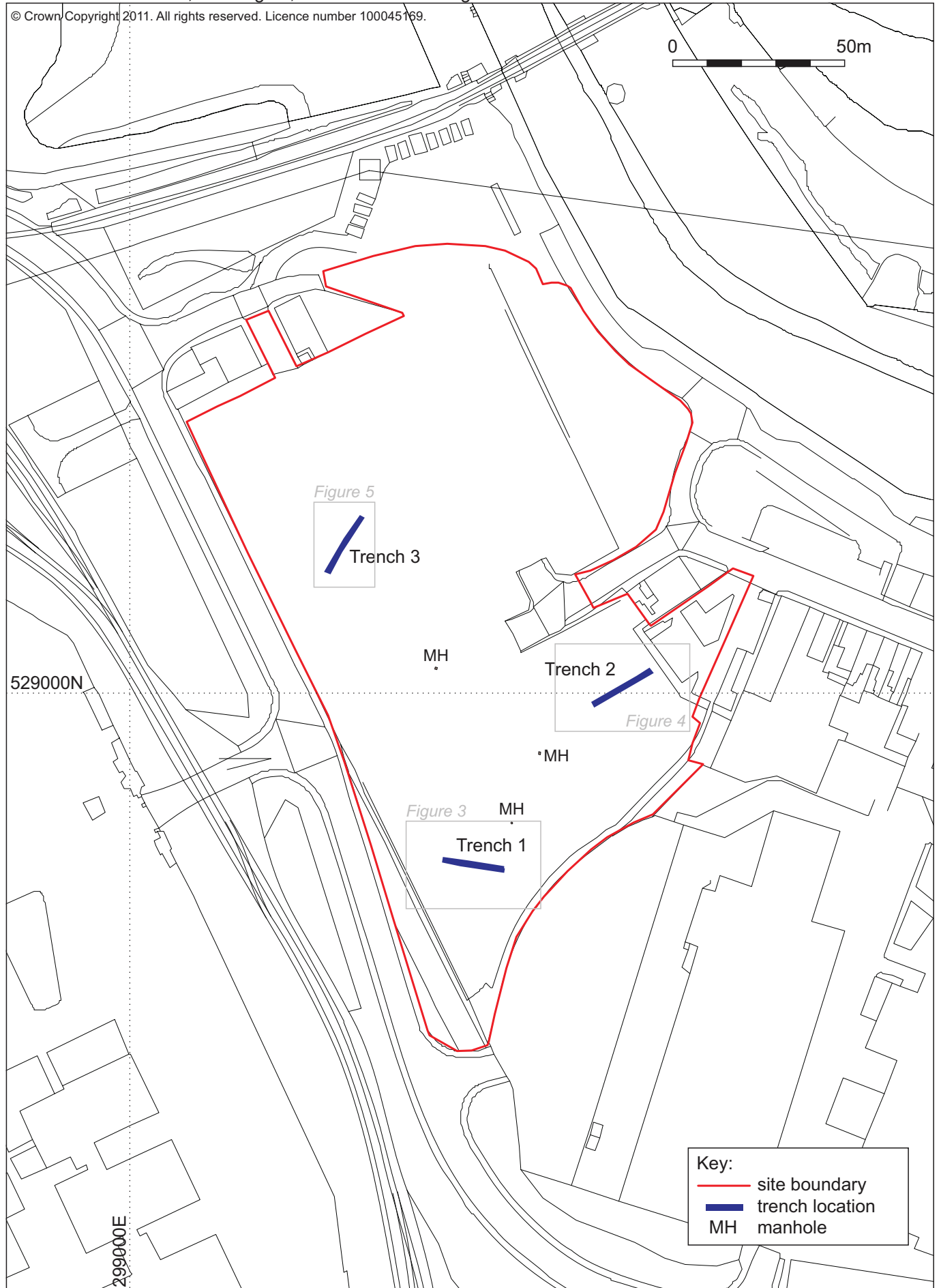
2.3 Archaeological Evaluation

2.3.1 Each of the three evaluation trenches was c1.9m-2.0m wide and c18-20m long. The combined area evaluated totalled approximately 110m² (Figure 2). Excavation was discontinued once the natural geology was reached, which varied between c7.6m and c8.1m above Ordnance Datum. Elsewhere excavation had to be discontinued due to various services (e.g. wastewater pipes, water pipes and electrical cables) being present, although it was not known if any of these were still active.

2.3.2 The topsoil and subsoil deposits were removed using a mechanical excavator with a toothless bucket. Deposits below this were subsequently cleaned and further investigated by hand. The location of each trench was recorded relative to nearby property boundaries and other structures that were evident on the site plans and Ordnance Survey mapping utilising a total station. All finds were collected from all deposits, as far as was practical, and the trench and spoil was scanned periodically with a metal detector but no metal finds were found. The following recording techniques were used during the evaluation:

- **Written record:** descriptive records of all deposits and features (see *Appendix 2*) were made using Greenlane Archaeology *pro forma* record sheets;
- **Photographs:** photographs in both 35mm colour print and colour digital format were taken of all archaeological features uncovered during the evaluation, as well as general views of the site, the surrounding landscape, and working shots. A selection of the colour digital photographs is included in this report and the remainder are included in the archive. A written record of all of the photographs was also made using Greenlane Archaeology *pro forma* record sheets (Greenlane Archaeology 2007);
- **Instrument survey:** the trenches were surveyed using a Leica reflectorless total station coupled to a portable computer running AutoCAD 2006 LT and TheoLT, which captures the survey data in AutoCAD in real-time at a scale of 1:1. This enabled the location of each trench to be positioned and allowed levels above Ordnance Datum to be provided through reference to a nearby spot height. As such, although levels in the trenches have been presented to two decimal places, they are perhaps only accurate to one decimal place;
- **Drawings:** plans and sections of features were drawn at a scale of 1:20 and additional sketches were made on trench record sheets.

© Crown Copyright 2011. All rights reserved. Licence number 100045169.



Client: Port Derwent Properties Ltd

© Greenlane Archaeology Ltd, June 2015

Figure 2: Trench location plan

2.4 Finds

2.4.1 **Collection:** all of the finds were recovered by hand and stored in self-seal bags with white write-on panels on site before being removed for processing and assessment.

2.4.2 **Processing:** artefacts were washed (or dried and dry brushed in the case of glass and metal), dried in a drying oven or naturally air-dried, and packaged appropriately in self-seal bags with white write-on panels.

2.4.3 **Assessment and recording:** the finds were assessed, identified where possible, and a list of them was compiled (see *Appendix 3*).

2.5 Environmental samples

2.5.1 No contexts suitable for the retrieval of environmental samples were encountered and so no samples were taken.

2.6 Archive

2.6.1 The archive, comprising the drawn, written, and photographic record of the evaluation, formed during the project, will be stored by Greenlane Archaeology until it is completed. Upon completion it will be deposited with the Cumbria Archive Centre in Whitehaven (CAC(W)). The archive has been compiled according to the standards and guidelines of the ClfA (Brown 2007), and in accordance with English Heritage guidelines (English Heritage 1991). In addition details of the project will be submitted to the Online Access to the Index of Archaeological Investigations (OASIS) scheme. This is an internet-based project intended to improve the flow of information between contractors, local authority heritage managers and the general public.

2.6.2 A copy of the report will be deposited with the archive at the Cumbria Archive Centre in Whitehaven, one will be supplied to the client, and within one month of the completion of fieldwork, a digital copy will be provided for Cumbria County Council Historic Environment Service (CCCHES). In addition, Greenlane Archaeology will retain one copy and a digital copy will be for the OASIS scheme.

2.6.3 The client will be encouraged to transfer ownership of any finds suitable for retention to an appropriate museum, most likely Helena Thompson Museum in Workington. If no suitable repository can be found the finds may have to be discarded, and in this case as full a record as possible would be made of them beforehand.

3. Historical and Archaeological Background

3.1 Site History

3.1.1 While there is limited evidence for human activity in the county immediately following the last Ice Age (c11,000BC), this is typically found in the southernmost part on the north side of Morecambe Bay and no remains of this date are known from the immediate area. The county was more densely inhabited during the Mesolithic (c8,000 – 4,000 BC), as large numbers of artefacts of this date have been discovered during field walking and eroding from sand dunes along the coast (Cherry and Cherry 2002). Coastal areas and river valleys are notably places where such material is frequently found in the wider region (Middleton *et al* 1995, 202; Hodgkinson *et al* 2000, 151-152; Hodgson and Brennand 2006, 26). In the Neolithic period (c4,000 – 2,500 BC), large scale monuments such as burial mounds and stone circles begin to appear in the region and monuments, particularly those thought to be ceremonial in nature, become more common still during the Bronze Age (c2,500 – 600 BC) and various stray finds of Bronze Age date are known from the area around Workington (Byers 1998, 4).

3.1.2 There are few finds of Roman date from within Workington. The nearest fort is at Burrow Walls to the north, which was established in the 2nd century, perhaps on a site originally occupied by a watch tower (Bellhouse 1955), with later remodelling in the 4th century (Shotter 2004, 163).

3.1.3 Excavations at St Michael's church, Workington, represent one of the few occasions where remains, comprising burials and structural elements, associated with early medieval crosses have been uncovered (Carlisle Archaeological Unit 1996; Flynn 1997; McCarthy and Paterson 2015). Place-name evidence in general shows a mixture of Anglian and Norse names in the area (Armstrong *et al* 1950, 454-455); the name Workington, meaning the town of *Weorc's* people, suggests it was an important Anglian settlement (*op cit*, 455), although little archaeological evidence relating to the medieval town has ever been uncovered.

3.1.4 The town began to grow during the late 16th century, partially as a result of the development of the port at Workington through the influence of the Mines Royal Company (Byers 1998), but it was large scale exploitation of the coal reserves in the local area from the 18th century onwards that brought about the most substantial changes (Hartley and Hardman 2002). This included the creation of proper quays and the gradual reclamation of the Marsh area, in part by the dumping of ballast but also by controlling the flow of high tidal water across it (Byers 1998). During the 19th century the town continued to grow, with the iron and steel industries being of particular importance at this time (Jackson and Jackson 1988, 37). The coming of the Whitehaven Junction Railway to Workington in 1856 (Andrews 2012, 47) was another major contributing factor.

3.2 Map Regression

3.2.1 **Introduction:** although various plans are available pre-dating and up to the late 18th century none of these show the area in sufficient detail to be of much use in interpreting the development of the site. Unfortunately, the site location was incorrectly marked on several of the maps in the original desk-based assessment of the site (ARS 2011; the area marked varies enormously in shape and size from figure to figure and many of the maps are reproduced at very low quality – these images have been reused in this report). The tithe map from c1845 was also not consulted in the original desk-based assessment and so has been included here as it is pertinent to dating the structures which were previously present on the site. Some corrections have also been made here, including repositioning the site area on several of the figures and stitching together digital copies of the 1867 Ordnance Survey map (using the original desk-based assessment as source material: ARS 2011, figures 6-8), but without redoing the map regression in its entirety (and consulting the original cartographic material) it is difficult to be certain of the position of the site, particularly on some of the earlier maps (e.g. a plan of the harbour of 1793 and the plan of enclosure award of 1815), which would require examination of a wider area of mapping to be certain of the correct alignment of various features. The slightly later maps are therefore perhaps the most useful (e.g. the tithe map of 1845 and the Ordnance Survey map of 1867).

The approximate location of the site boundary is shown in red and the trench locations are outlined in blue.

3.3.2 **Plan of the harbour of Workington, 1793:** this plan was originally reproduced in Jollie (1811), but this copy is taken from Byers (1998). The site appears to be just to the west of the area labelled 'Marsh' (Plate 1). A 'waggon [sic] way' appears to cut across the site from north to south and a *steath* [sic] is located at the north end (a staith is an elevated staging upon a wharf for discharging coal, etc, as from railway cars, into vessels (Farlex Inc 2015)), however, it is not easy to accurately locate anything on this map, again, partly due to the scale at which it was produced. The area as marked in the original desk-based assessment was the wrong shape and much too small (ARS 2011, figure 6).

3.3.2 **Plan of Enclosure Award, Workington, 1815:** the site location has been approximately marked on this map (Plate 2); the map having been realigned using the location of a dock to the north of the site and a boundary line to the west of the site which are marked on later maps (cf. Plate 1). The map was reproduced at very low quality in the original desk-based assessment and again the shape of the area was incorrect and probably too small (ARS 2011, figure 7), and aligning the map correctly is difficult, due to the scale and level of detail of the original map. Various tracks appear to cut across the site, one of which perhaps loosely follows the earlier wagon way (cf. Plate 1). The staith is presumably no longer extant.

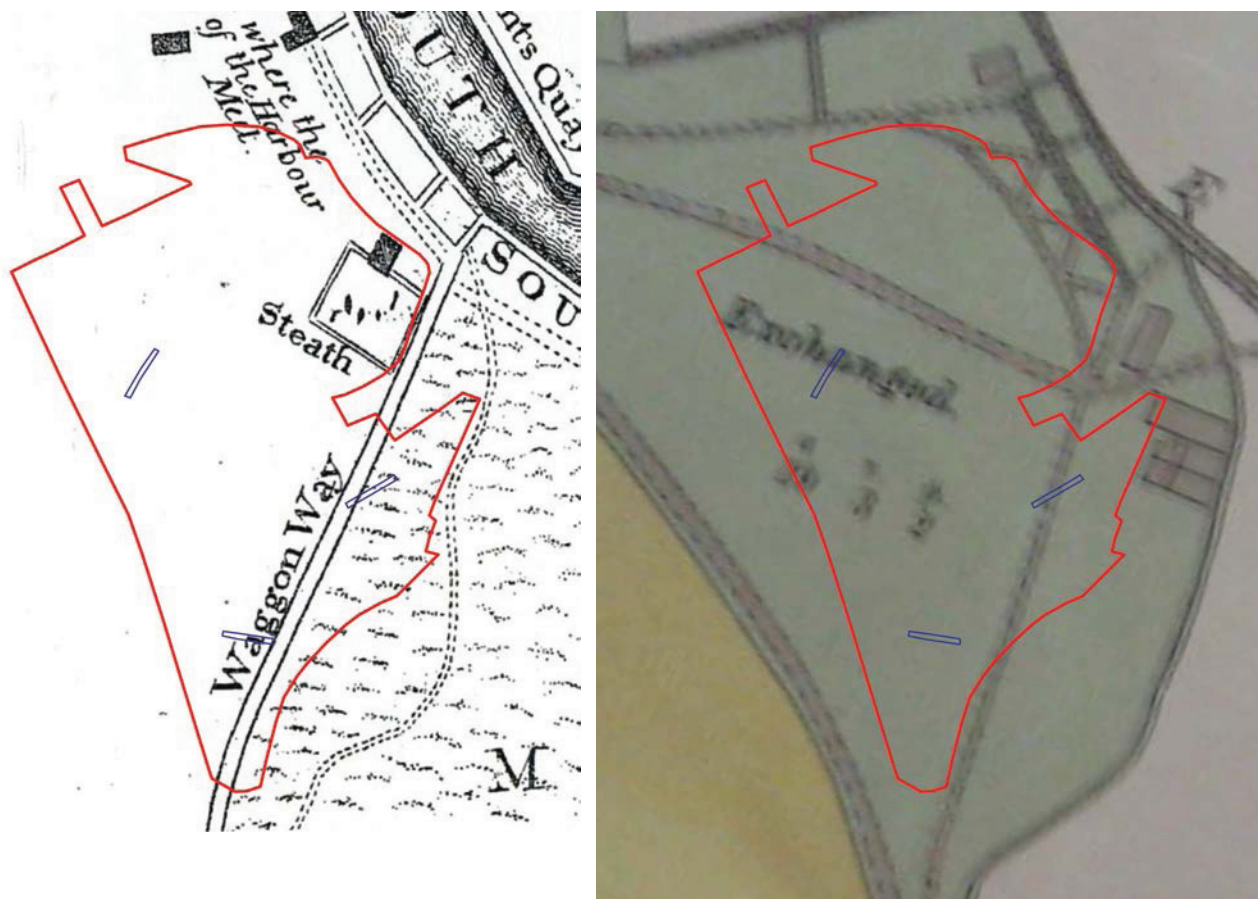


Plate 1 (left): Extract from the plan of the harbour of 1793

Plate 2 (right): Extract from the Plan of Enclosure Award of 1815

3.3.4 **Tithe map, 1845:** this map (CAC(C) DRC 8/158 1845) shows buildings covering much of the north end of the site around a cruciform layout of roads which are later marked as Swinburn Street and Marsh Street (Plate 3; cf. Plate 4). It is apparent, however, that the blocks of apparently back to back houses evident on the later maps have not been fully constructed by this date, indeed it is possible that they were in the process of being constructed at this time.

3.3.5 **Ordnance Survey 1867:** the terraces are well established along Swinburn Street and Marsh Street (Plate 4). Terraced houses now cover much of the south end of the area as well; slate yards are located to the south-east and further housing covers some of the area to the east. Various new branching sections of railway also cut across the site from north to south and also branch off to the east.

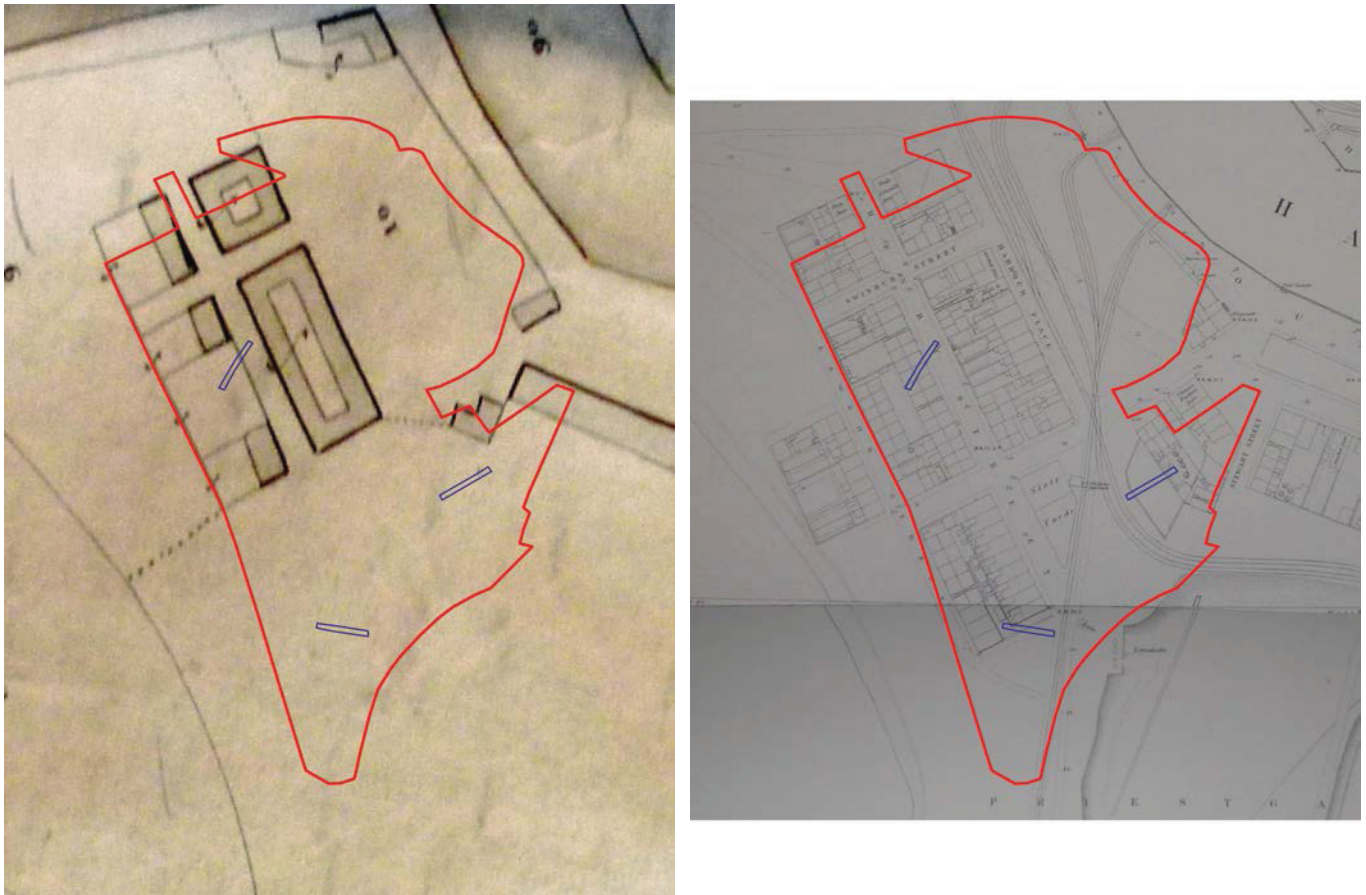


Plate 3 (left): Extract from the tithe map (CAC(C) DRC 8/158 1845) of 1845

Plate 4 (right): Extract from the Ordnance Survey map of 1867

3.3 Conclusion

3.3.1 The history of the area is dominated by the growth of Workington during the post-medieval period, especially during the Industrial Age. The map regression shows that the area was on the outskirts of the town, west of an area of unimproved wetland known as the Marsh, but by the end of the 18th century, a wagon way and staith may have been present on the site and during the mid- to late-19th century it was rapidly developed, probably largely on account of the arrival of the railway.

3.3.2 Any remains pre-dating the mid- to late-19th century will almost certainly have been disturbed by the development of the railway and terraced housing on the site, although earlier finds and features could have survived in some of the areas which have seen less development. Subsequent use of the site more recently has also undoubtedly disturbed archaeological remains and there are likely to be below-ground services across the site connected to the various buildings that were standing into the 20th century.

4. Fieldwork Results

4.1 Trench 1

4.1.1 Trench 1 was aligned approximately east/west (Figure 3). The topsoil (**100**) in Trench 1 (and across the area) was a soft, mid brown, silty-clay, c0.1-0.2m thick. This overlay 0.4m thickness of demolition rubble (**101**) and a lower dumped rubble or demolition deposit (**105**), which was between 0.5m and 0.6m thick and cut by drains.

4.1.2 A brick wall (**102**) was encountered near the centre of the trench (Plate 5). It was four courses tall, including the footing, mostly in a stretcher bond, with a lime mortar, although the bottom course was headers and projected slightly (Plate 6). Each brick was 23cm by 7cm by 10.5cm and, overall, the wall was 0.6m wide and what remained of it was 0.35m high. A thin layer of dark grey/brown sand was noted at the base in the footing trench and a shallow pit (**104**) was noted immediately next to it on the south side (filled by **103**; Plate 7 and Plate 8). Below the demolition rubble layers and the fill of this pit was a soft orange and pale yellow sand layer (**106**) (Plate 9), 0.1-0.3m thick, with some shell in it. This was cut by drains to the east and west of the wall (**102**) (Plate 10): to the west, the ceramic drain was 0.12m diameter in a cut 0.4m wide (Plate 6); to the east, the drain was 0.15m diameter in a cut 0.3m wide (Plate 11). Another layer of firm pale brown gravelly clay, probably the underlying geology (**107**), was encountered below that.



Plate 5 (left): Wall 102 towards the centre of Trench 1

Plate 6 (right): Detail of wall 102 and drain to the west



Plate 7 (left): Wall 102 from above and pit 104

Plate 8 (right): Pit 104 after having been half sectioned



Plate 9 (left): Sandy deposits at the east end of Trench 1

Plate 10 (right): Wall 102 with drains either side



Plate 11: Drain to the east side of wall 102

4.2 Trench 2

4.2.1 Trench 2 was aligned approximately north-east/south-west (Figure 4). The trench was covered by a 0.2-0.3m thick layer of topsoil (**200**). Demolition rubble (**201**), half a metre thick, extended in from the east end of the trench by roughly 2.7m and below that was a possible garden soil (**202**). To the west of that a large cut (**204**) occupied most of the remainder of the trench (Plate 12). The backfill of this cut (**203**) contained multiple ceramic drains (probably for waste water). These were left in place as it was unclear if they still drained the site. The ceramic drain pipes, each approximately 0.12m wide, followed the alignment of the trench to the west, before angling slightly to be more east/west at the west end (Plate 13). A raised area was also left in place at the east end of the trench where a north/south section of the drains was exposed (Plate 12). This cut truncated what appeared to be a cobbled surface (**205**) located immediately below the topsoil (**200**), which was only evident in section in the south-east side of the trench (Plate 14). This cobbled surface comprised two layers of large, rounded cobbles c0.3m thick bonded with a firm greyish clay and mortar, and was sat on top of a firm, mid brown sandy clay with 1% gravel inclusions (**206**). Two metal pipes (probably water pipes) were encountered at the west end of the trench (Plate 13) cut at a high level into the backfill of **204**; these too were left in place. The underlying geology (the 'natural') was a firm, dark, yellowish-brown, sandy-clay (**207**).



Plate 12 (left): Trench 2 viewed from the north-east

Plate 13 (right): Trench 2 viewed from the south-west



Plate 14: Cobbled surface (205) in the section of Trench 2

4.3 Trench 3

4.3.1 Trench 3 was aligned not far off north/south (Figure 5). The topsoil (**300**) in Trench 3 was approximately 0.3m thick and overlay a compacted dumped deposit (**301**), 0.4-0.5m thick, although at the north end this was softer and a mixture of sand and clay (**307**). **301** overlay a patch of compacted clay/sand (**304**), exposed in the middle of the trench, between baulks, and patches of soft, mid orange, sand (**302**) were encountered at the south and north ends (Plate 15 and Plate 16). Sandy gravel (**303**) was present in places at the south end above this patchy sand layer (**302**); it had probably been truncated and was probably originally present across the whole trench.



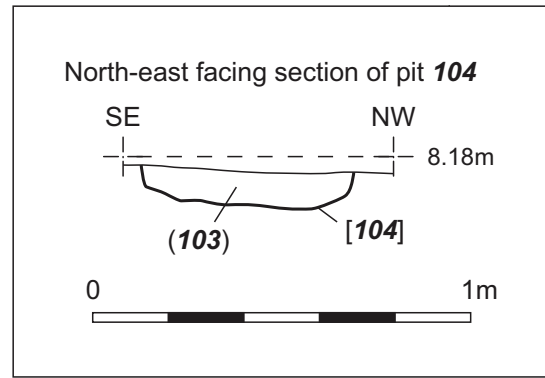
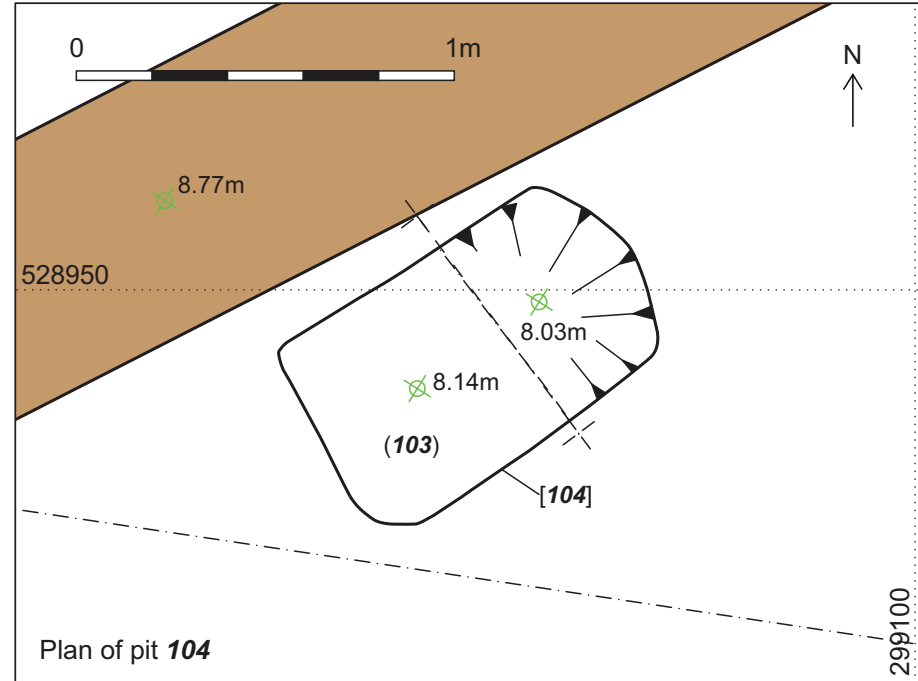
Plate 15: Trench 3 viewed from the south/south-west

4.3.2 At the base of the trench, at the north end, there was a partially timber lined linear feature (Figure 5 and Figure 6; Plate 16 and Plate 17). This comprised a virtually vertical cut (**306**) the sides seemingly originally lined with edge-set boards, of which some remained with a cross piece, apparently pegged together and then the interior packed with clay (**305**) between and extending 0.5m above the extant timber pieces. The feature was aligned north-west/south-east and measured 1.7m by 1.4m and each of the planks was c0.05m thick. The cut for **306** truncated the mix of sand and sandy clay (**307**) present at this end below the topsoil, which was 0.3m thick (above **302**), and the condition of the timber was slightly degraded. A 0.3m slot was taken through the clay at the base of the trench and it was noted to continue beyond this depth, but it could not be excavated further because of the difficulty of removing the fill without destroying the timber lining.

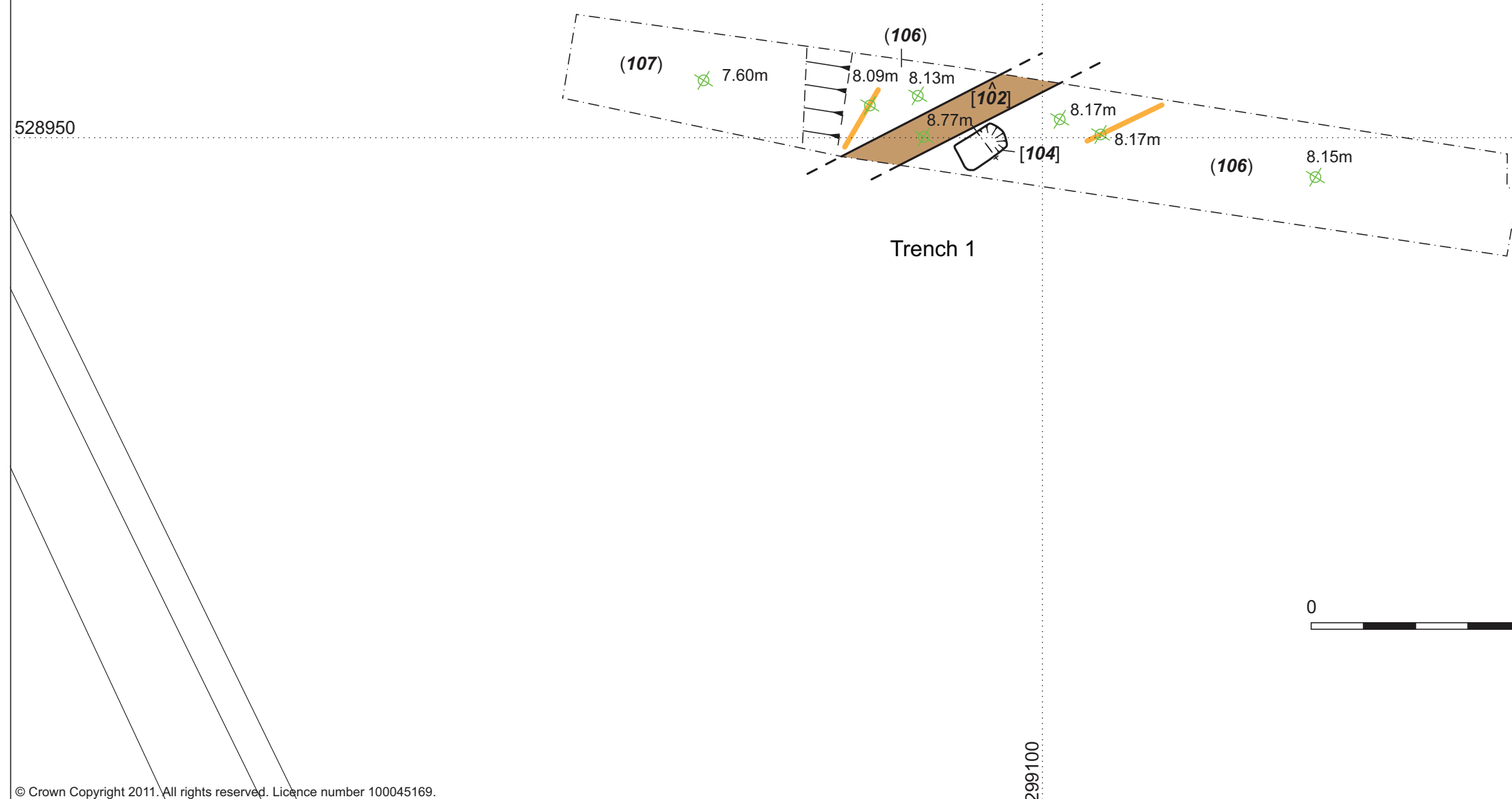


Plate 16 (left): North/north-east end of Trench 3

Plate 17 (right): Timber feature 306



MH



Key:

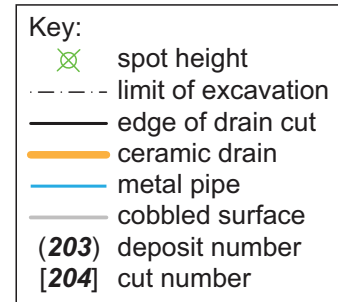
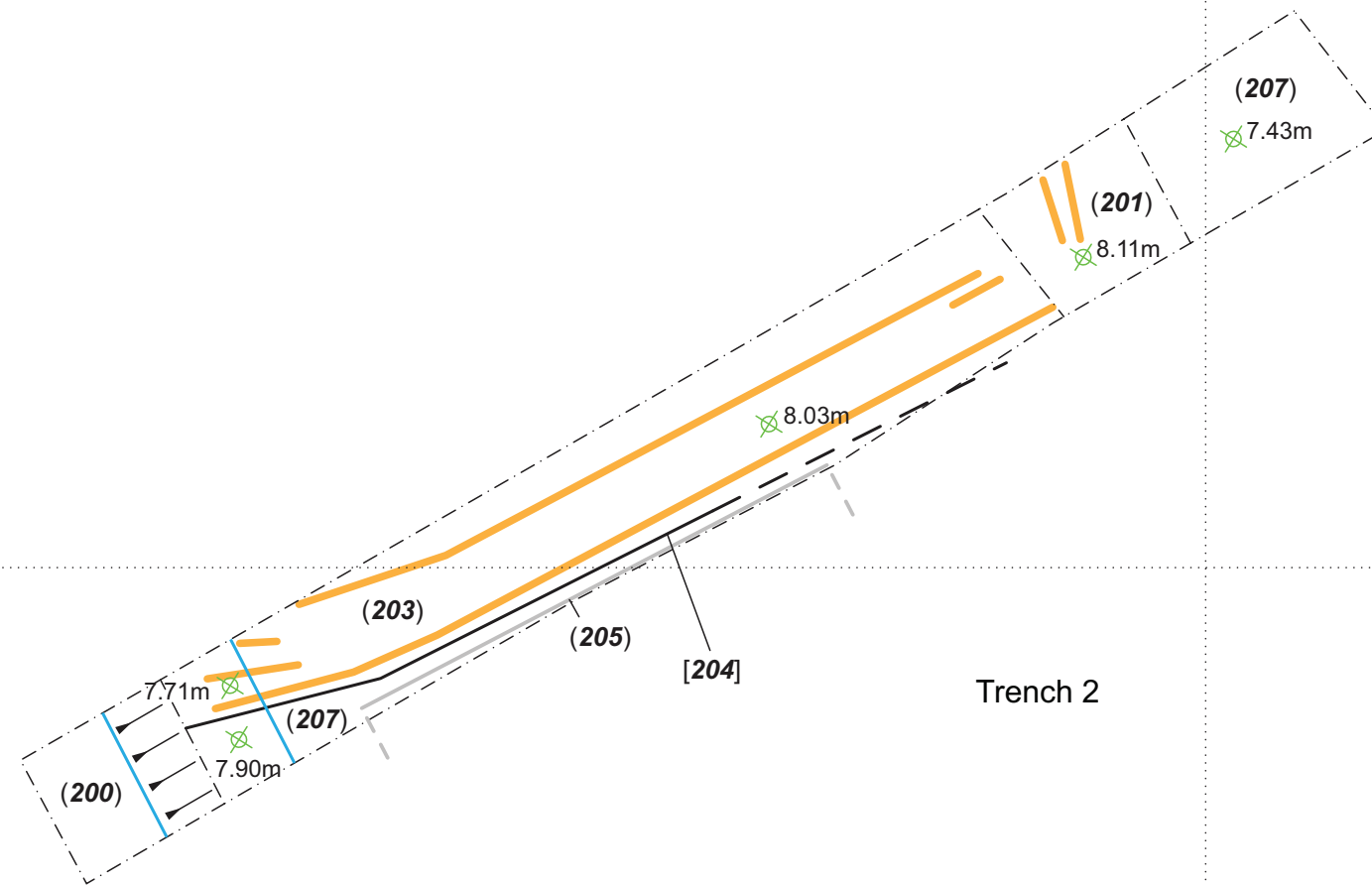
- spot height
- limit of excavation
- pit cut
- ceramic drain
- wall
- section line
- (103)** deposit number
- [104]** cut number
- [102]** structure number
- MH manhole

Figure 3: Trench 1

© Crown Copyright 2011. All rights reserved. Licence number 100045169.



529000



299150

Figure 4: Trench 2

© Crown Copyright 2011. All rights reserved. Licence number 100045169.

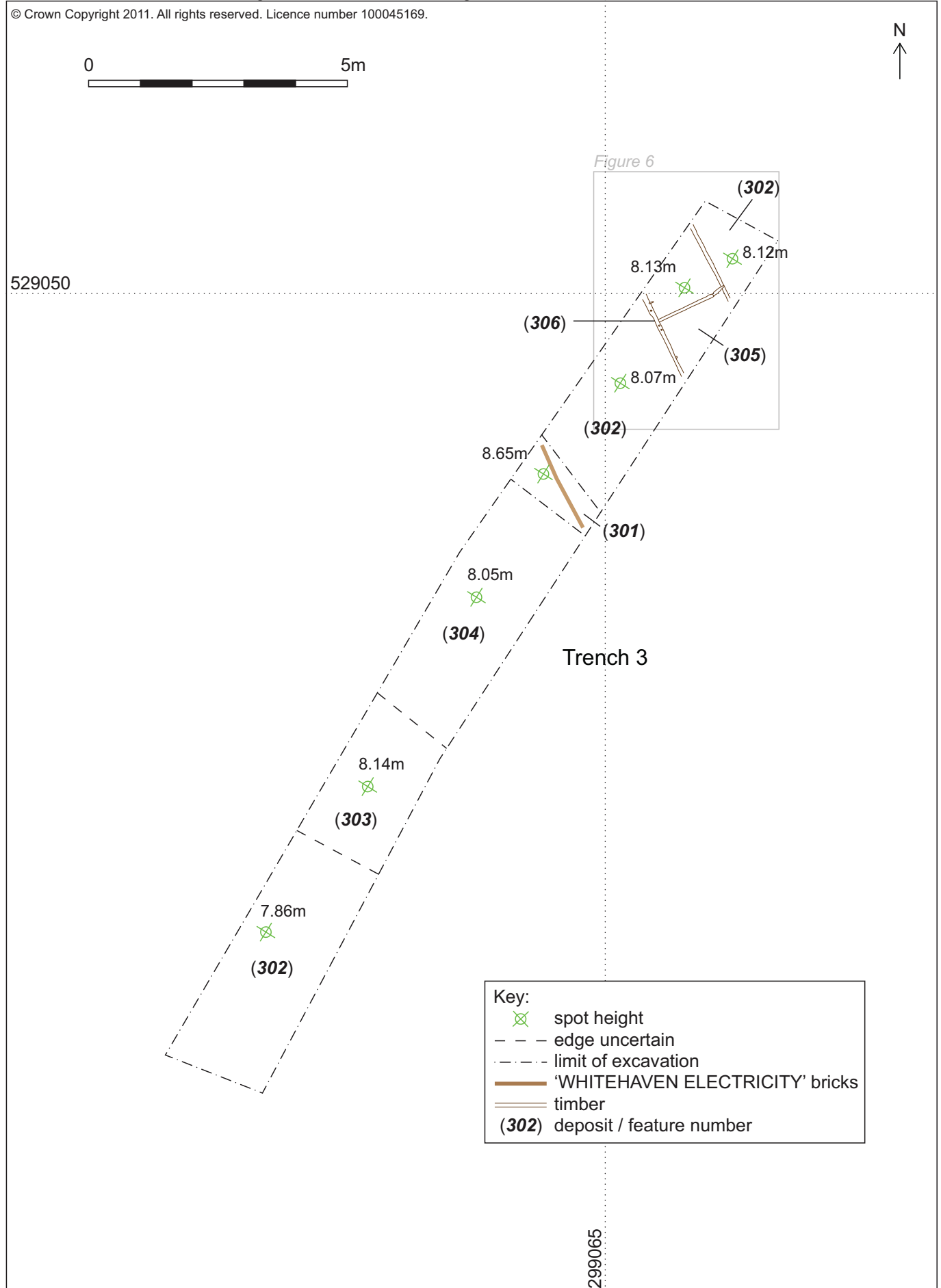


Figure 5: Trench 3

© Crown Copyright 2011. All rights reserved. Licence number 100045169.

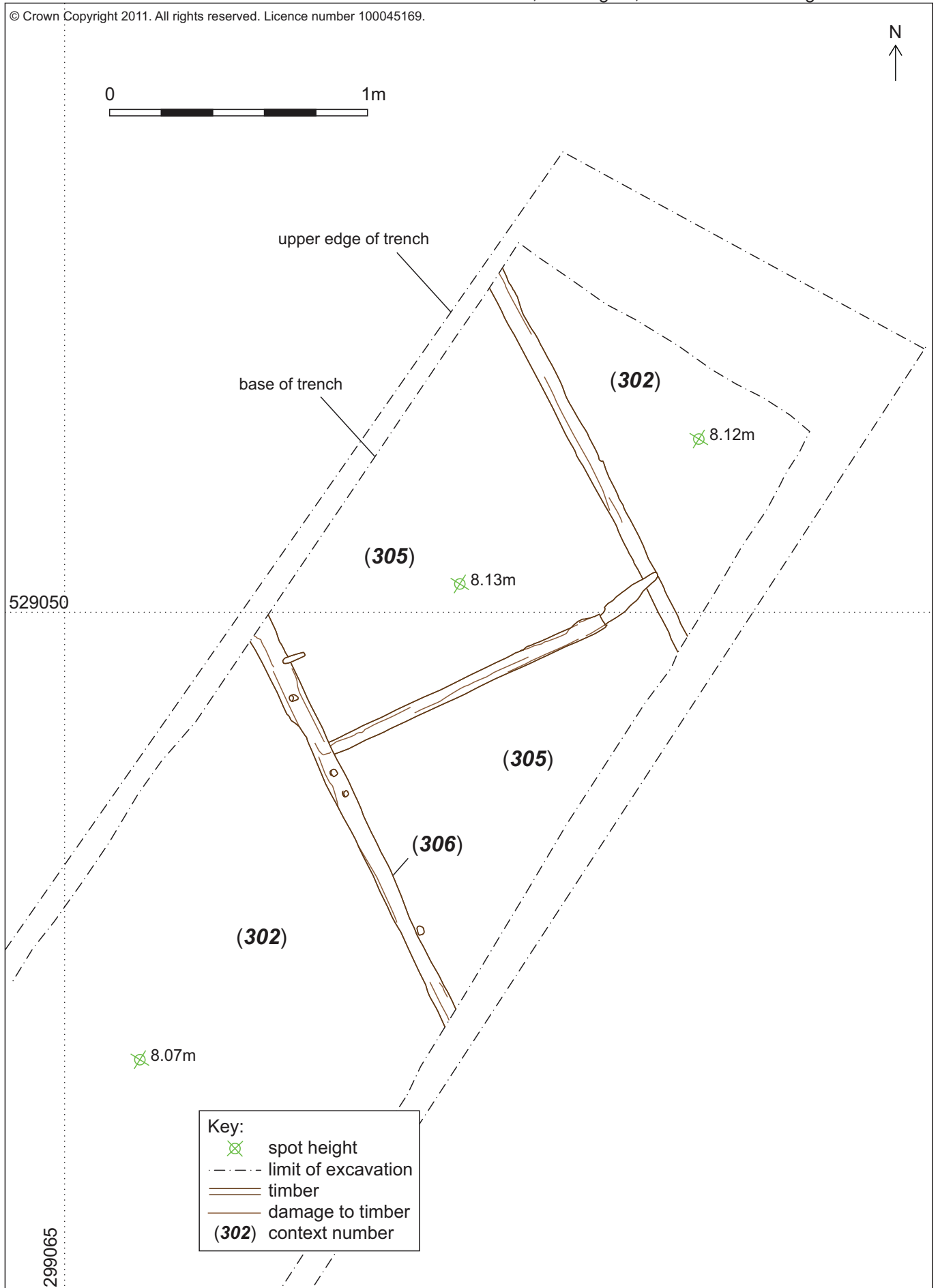


Figure 6: Detailed plan of feature 306

4.4 Finds

4.4.1 **Introduction:** in total, 62 artefacts were recovered during the evaluation, from a variety of deposits. These are dealt with by category in the following sections. A complete list is provided in *Appendix 3*.

4.4.2 **Animal bone:** four unidentified animal bone fragments of uncertain date were recovered in total from contexts **105**, **106** and **203** (*Appendix 3*). A small bone button with four holes was also recovered from context **203**, which probably dates from the 19th to early 20th century.

4.4.3 **Post-medieval pottery:** the majority of the finds comprised fragments of post-medieval pottery, totalling 45 individual pieces recovered from across the site (from contexts **101**, **106**, **200**, **203**, **206**, and **307**). Overall the assemblage potentially ranges in date from the late 17th to 20th century and reflects typical domestic ware types of the region, including red and white earthenwares, creamware, and pearlware, but also less commonly found types such as Rockingham ware, manganese glazed, black basalt ware, and lusterware, with a particularly good range from context **203** (Plate 18). The more closely dateable fragments show a noticeable concentration of 18th to early 20th century dates.



Plate 18: Pottery and a bone button from 203

4.4.4 Two of the transfer printed sherds of white earthenware from **203** are of particular interest. The first, printed in black, has a border (top left in Plate 19) known from other items manufactured by the Whitehaven Pottery (Sibson 2008, 66-7, 103), including items relating to the Isle of Man produced approximately 1820-1840 (*op cit*, 64). Of the known patterns it most closely resembles the 'FREE TRADE WITH ALL THE WORLD/MANUFACTURES IN EXCHANGE FOR CORN' money boxes donated by the Sloan family and now in the Beacon Museum collection (*op cit*, 103). The two letters shown on the fragment from Curwen Road may therefore be 'FR...'. The slogan is a piece of anti-Corn Law propaganda, most likely dating to the late 1830s-1840s, at which time there was a depression before the Corn Laws were repealed in 1846 (Stott 2009). The second has part of a mark containing the word 'WARRAN[TED]' (bottom in Plate 19), which is almost certain also a product of Whitehaven, the full mark probably being 'WARRANTED STONE CHINA I.W.' the initials standing for John Wilkinson, who was operating in Whitehaven 1820-1824 (Sibson 1997, 191), although this mark may have been used as late as 1840 (Kowalsky and Kowalsky 1999, 369).



Plate 19: Unusual and marked transfer printed fragments from context 203

4.4.5 **Post-medieval glass:** only three fragments of glass were recovered (all from Trench 2, from contexts **200**, **203** and **206**), all of which are from bottles of different types and broadly 19th century in date, although the fragment from **206** may be earlier.

4.4.6 **Industrial residue:** a single piece of undiagnostic slag derived from iron working was recovered from context **105**. This may derive from blacksmithing, but does not necessarily suggest that this is something that was taking place nearby as this material is extremely hard wearing and so can be moved repeatedly without showing any real signs of damage.

4.4.7 **Clay tobacco pipe:** six fragments of clay tobacco pipe were recovered in total (*Appendix 4*). Five plain stem fragments were recovered altogether from contexts **101**, **203**, **305**, and **307** and a decorated bowl fragment was recovered from context **206**. On the basis of the stem borehole diameter (most commonly 4/64" and 5/64"), the plain stem fragments are most likely to date from the 18th to 19th century, apart from the fragment from context **307** (7/64" bore), which may be slightly earlier in date, possibly 17th to 18th century (following Davey 2013). The decorated bowl fragment, only part of one side of which remains, shows a sailor standing at a ship's wheel (Plate 20) and probably dates from the early 19th century (see *Appendix 5*).



Plate 20: Decorated clay tobacco pipe bowl fragment from context 206

5. Discussion

5.1 Results

5.1.1 A brick wall (**102**) was encountered towards the centre of Trench 1. This is evidently the boundary wall marked on the Ordnance Survey map of 1867 (Plate 4) and marks the southern limit of terraced properties built at the south end of Marsh Street between 1845 and 1867 (Plate 4; cf. Plate 3). Unfortunately the inaccuracies of the original desk-based assessment in terms of locating the proposed development area resulted in the trench being placed too far to the north-west to cross the line of the railway shown on the Ordnance Survey map 1867, although this was initially mistaken for the earlier wagon way, again because of the inaccuracies of the earlier report.

5.1.2 Multiple ceramic drains occupied most of the area evaluated by Trench 2. These were not removed during the course of the evaluation as it was not known if any were still in use (three manhole covers were present in the field nearby) but it is likely that any archaeological deposits beneath them will have been destroyed or at least very heavily truncated, much like the cobbled surface (**205**) seen in the trench section. These drains seem likely to relate to the later row of terraced housing in the south-west part of the site, targeted by Trench 1 although the finds recovered from the fill the pipe trench (**203**) can be dated, based on the more reliable fragments, to the first half of the 19th century date, although they perhaps represent residual material incorporated as backfill. It is possible that the cobbled surface (**205**) corresponds to an enclosed area shown on the Ordnance Survey map of 1867 (see Plate 4), although the finds, though limited in quantity, recovered from the deposit on which it was laid (**206**), which was also cut through by **204**, suggest that the cobbled surface is earlier and probably no later than the early 19th century. The east end of the trench was noted to contain a possible garden soil (**202**), the extent of which probably corresponds with the garden/yards to the rear of properties of Stewart Street to the south-east side of the site marked on the map of 1867. Again, this area saw development sometime between 1845 and 1867. Ironically, Trench 2 was unintentionally positioned on the line of the early wagon way intended to be examined in Trench 1, but the extensive truncation caused by the trench excavated for the water pipes (**204**) meant that no evidence for it was discovered.

5.1.3 Trench 3 was mostly void of archaeological features apart from a linear feature filled with clay (**305**) and partially lined with timber (**306**) at the north/north-east end. This feature aligns with the course of Marsh Street as shown on the Ordnance Survey map of 1867 and shown (but unnamed) on the earlier tithe map of 1845 (Plate 4; Plate 3). Its purpose is uncertain; the only find recovered from its fill, a fragment of clay tobacco pipe, was of 18th – 19th century date, and it cut through **307**, which contained finds of perhaps 18th century date. The feature was not fully excavated but its location in the middle of the street suggests it relates to the housing that was there and it probably represents the line of the mains sewage excavated in the 19th or early 20th century to serve the houses; examples of timber shoring similar to that seen in feature **307** are recorded in early photographs of Kendal (Plate 21 and Plate 22), and the same method would no doubt have been used elsewhere. It is conceivable that the grey clay (**305**) represents marine deposits encountered at depth during the excavation for **307** and then re-used as backfill. There were no structural remains relating to the 19th century terraced properties at this end of Marsh Street, which means that they must have been comprehensively removed during demolition.



Plate 21 (left): Excavation for mains sewage in Kendal in the early 20th century, showing timber shoring (from Duff and Duff 1997, 105)

Plate 22 (right): Excavation for mains sewage in Kendal in the early 20th century, showing timber shoring (from Duff and Duff 1997, 105)

5.2 Conclusion

5.2.1 The majority of the features in the southern part of the site corresponded to features shown on the Ordnance Survey map of 1867 in an area developed between 1845 and 1867, including the southern boundary wall of terraced properties at the south end of Marsh Street and the garden area to the rear of properties off Stewart Street. The cobbled surface in Trench 2 may also relate to an enclosed area shown on the same map, but the finds evidence and its relationship to the drains suggests it is perhaps earlier. No structural remains of 19th century terraced properties at the north end of Marsh Street were encountered, which were targeted by Trench 3. A partially timber lined feature which followed the course of the centre of the Marsh Street was encountered at the north/north-east end of Trench 3 and while this is likely to relate to the houses that were present in this area, it is probably just a trench for the mains sewage pipes.

5.2.5 Across most of the site there is clearly little archaeological potential. However, it is possible that the cobbled surface revealed in Trench 2 relates to the early coal wharfs that were present in this area or, in fact, that it is part of the structure of the early wagon way that served the wharfs. In either case it would be worthwhile further examining this area archaeologically in order to determine the full form, function, and date of this feature. The most efficient method for achieving this would be to strip a larger area around the section revealed during the evaluation archaeological supervision.

6. Bibliography

6.1 Primary and Cartographic Sources

CAC(C) DRC/8/158, 1845 *Plan of the District of Priest Gate in the Parish of Workington County of Cumberland*

Ordnance Survey, 2011 *Workington & Whitehaven Cockermouth and Egremont*, **303**, 1:25,000

6.2 Secondary Sources

Andrews, M, 2012 *The Furness Railway: A History*, Barrow-in-Furness

Archaeological Research Services (ARS), 2011 *An Archaeological Desk-Based Assessment of the Proposed Port Derwent Redevelopment at the Quayside Quarter, Workington, Cumbria*, unpubl rep

Armstrong, AM, Mawer, A, Stenton, FM, and Dickins, B, 1950 *The Place-Names of Cumberland, Part II: Allerdale Below Derwent and Allerdale Above Derwent Wards*, Cambridge

Bellhouse, RL, 1955 The Roman Fort at Burrow Walls, Near Workington, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 2nd ser, **55**, 30-45

Brown, DH, 2007 *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer, and Curation*, IfA, Reading

Byers, RLM, 1998 *The History of Workington from Earliest Times to AD 1865*, Cockermouth

Carlisle Archaeological Unit, 1996 *St Michael's Church, Workington, Cumbria: A Project Design for an Archaeological Investigation*, unpubl rep

Chartered Institute for Archaeologists (CIfA), 2014 *Standard and Guidance: Archaeological Field Evaluation*, revised edn, Reading

Cherry, PJ, and Cherry, J, 2002 Coastline and Upland in Cumbrian Prehistory – A Retrospective, *Trans Cumberland Westmorland Antiq Archaeol Soc*, 3rd ser, **2**, 1-20

Countryside Commission, 1998 *Countryside Character, Volume 2: North West*, Cheltenham

Davey, PJ, 2013 The Clay Tobacco Pipes, in J Walker and M Graham (eds), *St. Mary's Abbey, Holme Cultram, Abbeytown Cumbria, Bowness on Windermere*, 88-92

Duff, M, and Duff, P, 1997 *Britain in Old Photographs: Kendal Revisited*, Worcester

English Heritage, 1991 *The Management of Archaeological Projects*, 2nd edn, London

Farlex Inc, 2015 Staith <http://www.thefreedictionary.com/Staith>

Flynn, P, 1997 Excavation at St Michael, Workington, *Church Archaeology*, **1**, 43-45

Gallagher, DB, 1987 Tobacco Pipemaking in Glasgow, 1667-1967, in PJ Davey (ed), *The Archaeology of the Clay Tobacco Pipe X: Scotland*, Oxford: British Archaeological Reports, British Series **178**, 35-109

Greenlane Archaeology, 2007 *Archaeological Excavation Manual*, unpubl rep

Hammond, PJ, 1985 'Registered and Patented Clay Tobacco Pipes, in PJ Davey (ed), *The Archaeology of the Clay Tobacco Pipe IX: More Pipes from the Midlands and Southern England*, Oxford: British Archaeological Reports, British Series **146**, 29-156

Hartley, S, and Hardman, C, 2002 *Extensive Urban Survey Archaeological Assessment Report: Workington*, unpubl rep

Hodgson, J, and Brennand, M, 2006 Prehistoric Period Resource Assessment, in M Brennand (ed), *The Archaeology of North West England – An Archaeological Resource Framework for North West England Volume 1: Resource Assessment*, Archaeology North West, **8**, 23-58

Hodgkinson, D, Huckerby, E, Middleton, RH, and Wells, CE, 2000 *The Lowland Wetlands of Cumbria*, North West Wetlands Survey, Lancaster Imprints **8**, Lancaster

- Jackson, H, and Jackson, M, 1988 *Workington 1500-1900*, Maryport
- Jollie, F and Sons, 1811 *Jollie's Cumberland Guide and Directory*, Carlisle
- Kowalsky, AA, and Kowalsky, DE, *Encyclopedia of Marks on American, English, and European Earthenware, Ironstone, and Stoneware 1780-1980*, Atglen (Pennsylvania, USA)
- McCarthy, M, and Paterson, C, 2015 A Viking-Age Site At Workington, Cumbria: Interim Statement, in SE Harding, D Griffiths and E Royles (ed), *In Search of Vikings: Interdisciplinary Approaches to the Scandinavian Heritage of North-West England*, Boca Raton (Florida, USA), 127-136
- Middleton, R, Wells, CE, and Huckerby, E, 1995 *The Wetlands of North Lancashire*, North West Wetlands Survey **3**, Lancaster Imprints **4**, Lancaster
- Moseley, F (ed), 1978 *The Geology of the Lake District*, Yorkshire Geological Society, occ publ **3**, Leeds
- Rutter, J, and Davey, PJ, 1980 Clay Pipes from Chester, in PJ Davey (ed), *The Archaeology of the Clay Tobacco Pipe III: Britain the North and West*, Oxford: British Archaeological Reports, British Series **78**, 41-272
- Shotter, D, 2004 *Romans and Britons in North-West England*, Lancaster
- Sibson, F, 2008 *The History of the West Cumberland Potteries: Volume II*, Distington
- Stott, A, 2009 'The Anti-Corn Law League' in *Nineteenth Century Britain: A blog of WEA students created by Dr Anne Stott*, <http://nineteenthcenturybritain.blogspot.co.uk/2009/02/anti-corn-law-league.html>
- White, SD, 2004 The Dynamics of Regionalisation and Trade: Yorkshire Clay Tobacco Pipes c1600-1800, in PJ Davey and DA Higgins (ed), *The Archaeology of The Clay Tobacco Pipe XVII*, Oxford: British Archaeological Reports, British Series **374**

Appendix 1: Project Design

LAND OFF CURWEN ROAD, WORKINGTON, CUMBRIA

Archaeological Evaluation Project Design



Client: Port Derwent Properties Ltd

NGR: 299100 529050 (centre)

April 2015

1. Introduction

1.1 Project Background

1.1.1 Following the submission of a planning application (ref. 2/2010/1054) by Port Derwent Developments LLP for the construction of a residential development on land Curwen Road, Workington, Cumbria (NGR 299100 529050 (centre)), a condition (No. 13) was placed on the application requiring a programme of archaeological work. Following the completion of an archaeological desk-based assessment (ARS 2010) Greenlane Archaeology was commissioned by Port Derwent Properties Ltd (hereafter 'the client'), through their agent Day Cummins Ltd, to carry out an archaeological evaluation of the site, following the issuing of a brief by the Cumbria County Council Historic Environment Service (CCCHES). This project design was produced in response.

1.1.2 The previous desk-based assessment revealed that it largely saw development during the post-medieval period, initially in relation to wharfing associated with the coal trade, but latterly as an area of housing (ARS 2011).

1.2 Greenlane Archaeology

1.2.1 Greenlane Archaeology is a private limited company based in Ulverston, Cumbria, and was established in 2005 (Company No. 05580819). Its directors, Jo Dawson and Daniel Elsworth, have a combined total of over 20 years continuous professional experience working in commercial archaeology, principally in the north of England and Scotland. Greenlane Archaeology is committed to a high standard of work, and abides by the Chartered Institute for Archaeologists' (CIfA) Code of Conduct. The evaluation will be carried out according to their standards and guidance.

1.3 Project Staffing

1.3.1 The project will be managed and supervised by **Dan Elsworth (MA (Hons), ACIfA)** with suitably qualified assistance. Daniel graduated from the University of Edinburgh in 1998 with an honours degree in Archaeology, and began working for the Lancaster University Archaeological Unit, which became Oxford Archaeology North (OA North) in 2001. Daniel ultimately became a project officer, and for over six and a half years worked on excavations and surveys, building investigations, desk-based assessments, and conservation and management plans. These have principally taken place in the North West, and Daniel has a particular interest in the archaeology of the area. He has recently managed a number of similar archaeological excavation projects in the region including evaluation and excavation at the former Lowwood Gunpowder Works in Haverthwaite (Greenlane Archaeology 2010; 2011a), evaluation at Salthouse Farm, Millom (Greenlane Archaeology 2011b), and evaluation in Cartmel (Greenlane Archaeology 2011c), as well as several more projects over the last six years ranging from large excavations, to building recordings, surveys and desk-based assessments.

1.3.2 All artefacts will be processed by Greenlane Archaeology, and it is envisaged that they will initially be assessed by Jo Dawson, who will fully assess any of post-medieval date; medieval pottery will be assessed by Tom Mace. Finds of earlier date will be assessed by specialist sub-contractors as appropriate. The Cumbria County Council Historic Environment Service (CCCHES) will be notified of any other specialists, other than those named, who Greenlane Archaeology wishes to engage, before any specialist contracts are awarded, and the approval of the (CCCHES) will be sought.

1.3.3 Environmental samples, and faunal or human remains will be processed by Greenlane Archaeology. It is envisaged that any environmental samples would be assessed by staff at Headland Archaeology, Roman pottery by Ruth Leary, and animal bones by Jane Richardson at ASWYAS. Other remains, such as industrial material, will be assessed by specialist sub-contractors as appropriate and the CCCHES will be informed and their approval will be sought for these arrangements.

2. Objectives

2.1 Archaeological Evaluation

2.1.1 To excavate evaluation trenches totalling 100m² depending on the nature of any on site constraints. This will assess the presence or absence of features of archaeological interest within the area, their extent, date, nature, and significance.

2.2 Report

2.2.1 To produce a report detailing the results of the evaluation, that will present the results, and assess the potential of the site and significance of the remains.

2.3 Archive

2.3.1 Produce a full archive of the results of the evaluation.

3. Methodology

3.1 Archaeological Evaluation

3.1.1 A brief site visit will be carried out prior to the evaluation, primarily to ascertain whether there are any constraints to the evaluation, in particular issues of health and safety and access.

3.1.2 Evaluation trenching amounting to 100m² will be excavated, and it is envisaged that this will comprise four trenches each slightly more than 12m in length and 1.7m wide (a standard excavator bucket width) depending on the topography and any constraints, targeted on the features of interest revealed during the desk-based assessment, as agreed with the CCCHES. These will be excavated until significant archaeological deposits or the natural geology are reached, or to a depth of 1.2m. The trenches will be positioned to target the features of possible archaeological interest recorded during the desk-based assessment. It is anticipated that the evaluation will take two days on site with two archaeologists (totalling four person days).

3.1.3 The evaluation methodology, which is based on Greenlane Archaeology's excavation manual (Greenlane Archaeology 2007c), will be as follows:

- Each trench will be excavated with regard to the position of any known constraints, focussing on the areas of high archaeological interest or potential, and avoiding areas which are likely to have been severely damaged or truncated by later activity, unless they are considered to have a high potential;
- The overburden (which is likely to largely comprise topsoil) will be removed by machine under the supervision of an archaeologist until the first deposit beneath it is reached;
- All deposits below the overburden will be examined by hand in a stratigraphic manner, using shovels, mattocks, or trowels as appropriate for the scale. Deposits will only be sampled, rather than completely removed, below the first identified level of archaeological interest, unless specified by the CCCHES, with the intension of preserving as much *in situ* as possible;
- The position of any features, such as ditches, pits, or walls, will be recorded and where necessary these will be investigated in order to establish their full extent, date, and relationship to any other features. Negative features such as ditches or pits will be examined by sample excavation, typically half of a pit or similar feature and approximately 10% of a linear feature;
- All recording of features will include hand-drawn plans and sections, typically at a scale of 1:20 and 1:10, respectively, and photographs in both 35mm colour print and colour digital format;
- All deposits, trenches, drawings and photographs will be recorded on Greenlane Archaeology *pro forma* record sheets;

- All finds will be recovered during the evaluation for further assessment as far as is practically and safely possible. Should significant quantities of finds be encountered an appropriate sampling strategy will be devised;
- All faunal remains will also be recovered by hand during the evaluation, but where it is considered likely that there is potential for the bones of fish or small mammals to be present appropriate volumes of samples will be taken for sieving;
- Deposits that are considered likely to have, for example, preserved environmental remains, industrial residues, and/or material suitable for scientific dating will be sampled. Bulk samples of between 20 and 60 litres in volume (or 100% of smaller features), depending on the size and potential of the deposit, will be collected from stratified undisturbed deposits and will particularly target negative features (e.g. gullies, pits and ditches) and occupation deposits such as hearths and floors. An assessment of the environmental potential of the site will be undertaken through the examination of samples of suitable deposits by specialist sub-contractors (see *Section 1.3.3* above), who will examine the potential for further analysis. All samples will be processed using methods appropriate to the preservation conditions and the remains present;
- Any human remains discovered during the evaluation will be left *in situ*, and, if possible, covered. The CCCHES will be immediately informed as will the local coroner. Should it be considered necessary to remove the remains this will require a Home Office licence, under Section 25 of the Burial Act of 1857, which will be applied for should the need arise;
- Any objects defined as 'treasure' by the Treasure Act of 1996 (HMSO 1996) will be immediately reported to the local coroner and securely stored off-site, or covered and protected on site if immediate removal is not possible;
- Each evaluation trench will be backfilled following excavation although it is not envisaged that any further reinstatement to its original condition will be carried out.

3.1.4 Should any significant archaeological deposits be encountered during the evaluation these will immediately be brought to the attention of the CCCHES so that the need for further work can be confirmed. Any additional work will be carried out following discussion with the CCCHES and subject to a new project design, and the ensuing costs will be agreed with the client.

3.2 Report

3.2.1 The results of the evaluation will be compiled into a report, which will include the following sections:

- A front cover including the appropriate national grid reference (NGR) and planning application number;
- A concise non-technical summary of results, including the date the project was undertaken and by whom;
- Acknowledgements;
- Project Background;
- Methodology, including a description of the work undertaken;
- Results of the evaluation, incorporating the results of the desk-based assessment, including descriptions of any deposits identified, their extent, form, and potential date, and an assessment of any finds or environmental remains recovered during the evaluation;
- Discussion of the results including an assessment of the significance of any archaeological remains present within the study area, and areas of further archaeological potential. Any recommendations for further work, and appropriate types of further work, will be provided separately;

- Bibliography, including both primary and secondary sources;
- Illustrations at appropriate scales including:
 - a site location plan related to the national grid;
 - copies of early maps, plans, drawings, photographs and other illustrations of elements of the site collected as part of the desk-based assessment as appropriate to aid the understanding of the results of the evaluation;
 - a plan showing the location of the evaluation trenches in relation to nearby structures and the local landscape;
 - plans and sections of the evaluation trenches showing any features of archaeological interest;
 - photographs of the evaluation, including both detailed and general shots of features of archaeological interest and the trench;
 - illustrations of individual artefacts as appropriate.

3.3 Archive

3.3.1 The archive, comprising the drawn, written, and photographic record of the evaluation, formed during the project, will be stored by Greenlane Archaeology until it is completed. Upon completion it will be deposited with the Cumbria Archive Centre in Whitehaven (CAC(W)). The archive will be compiled according to the standards and guidelines of the IfA (Brown 2007), and in accordance with English Heritage guidelines (English Heritage 1991). In addition details of the project will be submitted to the Online AccesS to the Index of archaeological investigationS (OASIS) scheme. This is an internet-based project intended to improve the flow of information between contractors, local authority heritage managers and the general public.

3.4.2 A copy of the report will be deposited with the archive at the Cumbria Archive Centre in Whitehaven, one will be supplied to the client, and within two months of the completion of fieldwork, one paper and one digital copy will be provided for CCHES. In addition, Greenlane Archaeology will retain one copy, and a digital copy will be deposited with the OASIS scheme as required.

3.4.3 The client will be encouraged to transfer ownership of the finds to a suitable museum. Any finds recovered during the evaluation will be offered to an appropriate museum, most likely the Helena Thompson Museum in Workington. If no suitable repository can be found the finds may have to be discarded, and in this case as full a record as possible would be made of them beforehand.

4. Work timetable

4.1 Greenlane Archaeology will be available to commence the project from the **23rd April 2015**, or at another date convenient to the client. The project will comprise the following tasks:

- **Task 1:** archaeological evaluation;
- **Task 2:** post-excavation work on archaeological evaluation, including processing of finds and production of draft report and illustrations;
- **Task 3:** feedback, editing and production of final report and archive.

5. Other matters

5.1 Access

5.1.1 Access to the site for the evaluation will be organised through co-ordination with the client and/or their agent(s).

5.2 Health and Safety

5.2.1 Greenlane Archaeology carries out risk assessments for all of its projects and abides by its internal health and safety policy and relevant legislation. Health and safety is always the foremost consideration in any decision-making process.

5.3 Insurance

5.3.1 Greenlane Archaeology has professional indemnity insurance to the value of **£1,000,000**. Details of this can be supplied if requested.

5.4 Environmental and Ethical Policy

5.4.1 Greenlane Archaeology has a strong commitment to environmentally and ethically sound working practices. Its office is supplied with 100% renewable energy by Good Energy, uses ethical telephone and internet services supplied by the Phone Co-op, is even decorated with organic paint, and has floors finished with recycled vinyl tiles. In addition, the company uses the services of The Co-operative Bank for ethical banking, Naturesave for environmentally-conscious insurance, and utilises public transport wherever possible. Greenlane Archaeology is also committed to using local businesses for services and materials, thus benefiting the local economy, reducing unnecessary transportation, and improving the sustainability of small and rural businesses.

6. Bibliography

Archaeological Research Services (ARS), 2011 *An Archaeological Desk-Based Assessment of the Proposed Port Derwent Redevelopment at the Quayside Quarter, Workington, Cumbria*, unpubl rep

Brown, DH, 2007 *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer, and Curation*, Institute for Archaeologists (IfA), Reading

English Heritage, 1991 *The Management of Archaeological Projects*, 2nd edn, London

Greenlane Archaeology, 2007c *Archaeological Excavation Manual*, unpubl rep

Greenlane Archaeology, 2010 *Lowwood Gunpowder Works, Haverthwaite, Cumbria: Archaeological Evaluation*, unpubl rep

Greenlane Archaeology, 2011a *Lowwood Gunpowder Works, Haverthwaite, Cumbria: Archaeological Excavation and Watching Brief*, unpubl rep

Greenlane Archaeology, 2011b *Salthouse Farm, Millom, Cumbria: Archaeological Evaluation*, unpubl rep

Greenlane Archaeology, 2011c *Fairfield, Cartmel, Cumbria: Archaeological Evaluation*, unpubl rep

HMSO, 1996 *Treasure Act*, <http://www.opsi.gov.uk/acts/acts1996/1996024.htm>

Appendix 2: Summary Context List

Context	Type	Description	Interpretation
100	Deposit	Soft, mid brown, silty-clay, with 1% rounded pebbles, 0.1-0.2m thick	Topsoil
101	Deposit	Compact, mottled (dark brown with lenses of orangey-brown and dark grey) gravelly/sandy-clay with 10% rounded cobbles, and some brick, drainpipe and plastic material, 0.4m thick	Demolition rubble
102	Structure	Four courses of a brick wall (ea. 230 by 70 by 105mm), including the footing, mostly in a stretcher bond, with a lime mortar, although the bottom course was headers and projected slightly. The wall was 0.6m wide and 0.35m high. A thin layer of dark grey/brown sand was noted at the base in the footing trench.	Wall
103	Deposit	Soft, mid brown, sandy gravel; 0.6m north-west/south-east by 0.9m north-east/south-west by 0.1m deep; fill of 104	Fill of shallow pit 104
104	Cut	Roughly rectangular pit, rounded slightly at the north-east end, aligned approximately north-east/south-west; ; 0.6m north-west/south-east by 0.9m north-east/south-west by 0.1m deep; steeply sloping on the long sides, with shallower more concave ends and a flat base; filled by 103	Shallow pit
105	Deposit	Firm and soft, mottled (dark greyish-brown and orange and black), silty-clay and sand, with 10% rounded stone; 0.5-0.6m thick; cut by drains	Lower demolition / dumped rubble
106	Deposit	Soft, orange and pale yellow sand, 0.1-0.3m thick; contained some shell; cut by drains to the east and west of the wall (102) – to the west: 0.12m diameter in a cut 0.4m wide; to the east: 0.15m diameter in a cut 0.3m wide in total	Essentially 'natural' (geology)
107	Deposit	Firm and loose, pale brown and grey, gravel and clay	Lower natural
200	Deposit	Soft, pale brown, sandy-clay with 5% rounded pebbles, 0.2-0.3m thick	Topsoil
201	Deposit	Loose, pale grey rubble, with 1% red brick fragments, 0.4 thick, 2.7m from east end	Demolition rubble
202	Deposit	Soft, dark grey, silt, 0.5m thick	Buried garden soil
203	Deposit	Firm, mottled, dark greyish-brown, sandy-clay, with 2% sub-angular inclusions and brick; 0.4m thick with ceramic (waste water?) pipes towards the base of the cut ea. c0.12m diameter	Backfill of cut for drains with at least four ceramic pipes
204	Cut	Approximately north-east/south-west aligned linear cut for multiple drains; more than 2m wide and c0.4m deep, with vertical sides and a flat base; filled by 203	Cut for multiple drains
205	Deposit	Two layers of rounded cobbles in a firm, dark greyish rubble deposit, with gritty clay mortar; c0.3m thick; cut by 204	Cobbled surface
206	Deposit	Firm, mid brown, sandy-clay with 1% rounded gravel inclusions, 0.10-0.15m thick; cut by 204	
207	Deposit	Firm, dark, yellowish-brown, sandy clay, with 2% rounded gravel	Natural
300	Deposit	Soft, mid grey-brown, silty-clay, with 2% rounded pebble inclusions, 0.3m thick	Topsoil
301	Deposit	Compacted, mottled (brown and yellow) clay and orange sandy lenses, with 1% brick fragments and 10% sub-angular cobbles; 0.4-0.5m thick	Compacted dumped deposit

Context	Type	Description	Interpretation
302	Deposit	Patches of soft, mid orange, sand at the south-west and north-east ends of the trench, with 1% rounded cobble inclusions	Natural sand
303	Deposit	Soft, mid grey, sandy gravel, with 1% rounded cobble; 0.1m-0.2m thick; over 302 at the south-west end but probably truncated by 301 and originally present across the whole trench	Natural gravel
304	Deposit	Patch of compacted, mottled (dark brown and grey) clay/sand, exposed in the middle of the trench between baulks, with 10% rounded gravel	Natural ridge of compacted material
305	Deposit	Firm, mid grey, clay, with 2% rounded gravel, 1.4m wide by 1.7m; confined within timber feature (306), but 0.5m thick in section; not all edged with timber >0.3m slot taken through base	Clay fill of timber feature 306
306	Structure	Parallel boards/rails with cross piece, pegged together, with clay (305) packed between and extending above; vertically-sided cut, apparently cut into 302 ; aligned north-west/south-east; timber slightly degraded; 1.7m long by 1.4m wide; each plank c0.05m thick	Timber lined structure filled with clay (305)
307	Deposit	Firm, dark reddish-brown and orange-brown; mix of layers of sand and sandy clay, with 10% rounded gravel, 0.3m thick	Dumped deposit cut by linear feature 306

Appendix 3: Summary Finds List

Context	Type	Qty	Description	Date range
101	Pottery	2	Black-glazed red earthenware coarseware refitting rim and body sherds from hollow-ware vessel	Late 17 th – early 20 th century
101	Pottery	1	Rockinghamware teapot base	Mid 18 th – 20 th century
101	Pottery	1	White earthenware/ironstone cup/bowl rim	19 th – 20 th century
101	Clay tobacco pipe	1	Plain stem fragment (5/64" borehole), 38mm long by 7mm diameter	18 th – 19 th century
105	Industrial residue	1	Undiagnostic iron working slag, possibly smithing waste	Not closely dateable
105	Animal bone	1	Unidentified long bone fragment, mostly complete	Uncertain
106	Animal bone	1	Small, unidentified fragment	Uncertain
106	Pottery	1	Glazed buff-coloured earthenware (factory-produced, body fragment from cylindrical hollow-ware vessel)	19 th – early 20 th century
106	Pottery	1	Salt-glazed white earthenware fragment	Early 19 th century?
200	Pottery	1	Rockinghamware teapot (?) rim	Mid 18 th – 20 th century
200	Glass	1	Very light turquoise spherical mineral water bottle stopper (marble) with mould seam	Late 19 th century
202	Pottery	1	White earthenware hollow-ware vessel base with blue decoration	19 th – 20 th century
203	Pottery	6	Brown-glazed red earthenware coarseware with white slip-coated interior, including 3 rims	19 th – early 20 th century
203	Pottery	1	Brown-glazed red earthenware coarseware vessel base with white slip-trailed decoration on exterior	Late 17 th – early 20 th century
203	Pottery	1	Black-glazed red earthenware hollow-ware coarseware vessel body fragment	Late 17 th – early 20 th century
203	Pottery	1	Brown glazed stoneware coarseware handle terminal	18 th – mid 20 th century
203	Pottery	1	Black-glazed red earthenware moulded teapot spout	Mid 18 th – 20 th century
203	Pottery	1	Manganese-glazed buff-coloured earthenware fineware fragment	Late 17 th – early 20 th century
203	Pottery	1	Creamware fragment	Mid 18 th – 20 th century
203	Pottery	1	Pearlware plate (?) base fragment with recessed footrim	Late 18 th – early 19 th century
203	Pottery	19	White earthenware: Willow transfer-printed x 3 (including plate base with part of 'Warranted' scroll mark), Broseley transfer-printed fragment, Albion transfer-printed plate base, grey 'Sealeaf' transfer-printed fragment, dark green transfer-printed cup body fragment with pattern of a Chinese man cooking, sponge-printed bowl fragment x 3 (from different vessels and with different patterns), blue painted bowl fragments x 2, blue shell edge plate rim (press-moulded and blue painted), blue banded factory-produced slipware (?) bowl body, undecorated x 3 (including cup/bowl base)	19 th century
203	Pottery	1	Black transfer-printed plate rim, matching patterns known to be produced in Whitehaven connected either with the Isle of Man of the anti-Corn Law movement, two letters of text probably 'FR...'	1820-1840
203	Pottery	1	Willow transfer-printed plate base with part of 'WARRAN[TED]' scroll mark, probably manufactured by John Wilkinson of Whitehaven	1820-1840

Context	Type	Qty	Description	Date range
203	Pottery	1	Porcelain or bone china cup body fragment with painted enamel decoration	Late 18 th – early 20 th century
203	Pottery	1	Glazed buff-coloured earthenware factory-produced slipware with white slip banding	Late 18 th – 20 th century
203	Pottery	1	Copper lusterware fine red earthenware body fragment with white slip-coated interior	19 th – 20 th century
203	Glass	1	Very light turquoise square cross-section bottle base	19 th century
203	Clay tobacco pipe	2	One plain stem fragment (5/64" borehole), 21mm long by 7mm diameter; one fragment (4/64" borehole) stem/bowl junction, 43mm long by 6-8mm wide (along slightly oval-shaped stem)	18 th – 19 th century
203	Animal bone	2	Rib fragment and another small unidentified fragment	Uncertain
203	Bone object	1	Button with four holes	19 th – early 20 th century?
203	Stone	1	Purple (Welsh?) slate fragment, possibly part of a writing slate	Post-medieval
206	Pottery	1	Black-glazed red earthenware coarseware body fragment	Late 17 th – early 20 th century
206	Pottery	1	White earthenware plate base fragment	Late 18 th – early 20 th century
206	Clay tobacco pipe	1	Decorated bowl fragment (one side of the bowl remains) showing a sailor standing at a ship's wheel	19 th century?
206	Glass	1	Dark green bottle base fragment	18 th – 19 th century
305	Clay tobacco pipe	1	Plain stem fragment (4/64" borehole), 28mm long by 7mm diameter	18 th – 19 th century
307	Clay tobacco pipe	1	Unmarked stem fragment (off-centre 7/64" borehole), 47mm by 7mm diameter	17 th – 18 th century
307	Pottery	1	Black basalt hollow-ware base	Late 18 th – 20 th century

Appendix 4: Clay Tobacco Pipe Catalogue

Location	Context	B ¹	S ²	M ³	H/S ⁴	64 ⁵	Decoration	Fig	Illustration number	Comments	Date range
Trench 1	101		1			5				Plain stem fragment	18 th – 19 th century
Trench 2	203		1			4				Plain stem fragment	18 th – 19 th century
Trench 2	203		1			5				Plain stem fragment	18 th – 19 th century
Trench 3	206	1				-	Fragment of one side remains, showing sailor standing at a ship's wheel			Decorated bowl fragment	1810-1840
Trench 3	305		1			4				Plain stem fragment	18 th – 19 th century
Trench 4	307		1			7				Plain stem fragment	17 th – 18 th century

Notes: 1. Bowl; 2. Stem; 3. Mouthpiece; 4. Heel / spur; 5. Borehole diameter in sixty-fourths of an inch

Appendix 5: Report on Decorated Clay Pipe Bowl from Context 206

P J Davey

A small fragment of mould-decorated clay tobacco pipe, apparently from the left side of the bowl, was recovered from an evaluation carried out at land off Curwen Road, Workington, by Greenlane Archaeology Ltd (Site code: CR15, context 206). The fragment, which includes a cut rim and the beginnings of a moulded spur, is 32mm high and 17mm wide at the rim, its widest point. It is 1.8mm thick at the rim and 3.1mm at its thickest near the bottom. It is stained with burnt tobacco residue, especially near the rim.

The decoration depicts the wheel of a ship with a sailor behind it. The wheel has eight spokes and a central hub; the lower three spokes project slightly beyond the wheel itself. Behind the wheel an inverted U-shaped figure appears to represent the frame to which it is attached. While the wheel is shown as vertical to the axis of the pipe, the sailor is leaning at an angle into the wind, presumably to brace himself against the heeling of the ship. He is wearing a hat and his pigtail is blowing down wind. The finesses of the detail implied a very good quality mould.

Ships and anchors are common images used on 19th-century pipes. Typical examples are published from Chester (Rutter and Davey 1980, 211, Fig. 74, No. 26) and Glasgow (Gallagher 1987, 83, Fig. 18 No 37). On one side is a fully square-rigged sailing ship and on the other a large anchor and length of chain. This is one of the images current throughout the 19th-century trade in Britain and Ireland, along with thistles, baskets, shamrocks, claws, hearts, TW etc. Such pipes were widely available and are found everywhere irrespective of geography. For example a number of ship pipes were recovered from excavations at Pontefract Castle in West Yorkshire (White 2004, 467, Fig. 177, Nos. 7-11). On occasions ship pipes were produced for specific events, such as for the opening of the Manchester Ship Canal (Hammond 1985, 122-123, Fig. 4, No. 85).

The Workington fragment is not paralleled in the literature or in Cumbrian museum collections. It is very much more specific, detailed and closely observed in its presentation of a scene on board ship than is normal. This implies that it was made for smokers with a close everyday connection to the sea and not simply as a generalised icon. It was probably made by a local maker, possibly one of the group known, from newspapers and census returns, to have been active in the first half of the 19th century in Whitehaven (D Banks Archive, Whitehaven Museum microfilm).

The quality of this pipe fragment, its size and relative thinness of wall suggests a production date sometime between 1810 and 1840.