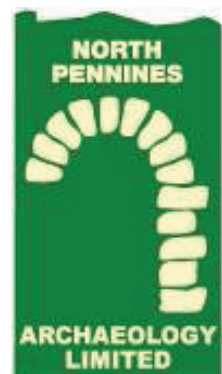


**KING STREET
PUMPING STATION TO
MILLOM WASTE
WATER TREATMENT
WORKS,
MILLOM,
CUMBRIA**



**DESK-BASED ASSESSMENT AND
WALKOVER SURVEY
CP. No: 1378/10
DATE 31/01/2011**

NORTH PENNINES ARCHAEOLOGY LTD
NENTHEAD MINES HERITAGE CENTRE,
NENTHEAD,
ALSTON,
CUMBRIA,
CA9 3PD
TEL/FAX: (01434) 382045/043
WWW.NPARCHAEOLOGY.CO.UK



NORTH PENNINES ARCHAEOLOGY LTD

DOCUMENT TITLE: King Street Pumping Station to Millom Waste Water Treatment Works

DOCUMENT TYPE: Desk-Based Assessment and Walkover Survey

CLIENT: United Utilities

CP NUMBER: 1378/10

OASIS REFERENCE: northpen3-91907

PRINT DATE: 31/01/2011

GRID REFERENCE: SD 1884 7964

Quality Assurance

This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by North Pennines Archaeology Ltd on the preparation of reports.

	01	02	03
PREPARED BY:	Fiona Wooler		
POSITION:	Project Supervisor		
DATE:	23/01/2011		
EDITED BY:	Frank Giecco		
POSITION:	Technical Director		
DATE:	24/01/2011		
APPROVED BY:	Martin Railton		
POSITION:	Project Manager		
DATE:	27/01/2011		

North Pennines Archaeology Ltd is a wholly owned company of North Pennines Heritage Trust (Company Registration No. 4847034; VAT Registration No. 817 2284 31). All rights reserved.

Disclaimer

No part of this report may be copied or reproduced, stored or transmitted by any means without prior written permission from North Pennines Archaeology Ltd, or the client for whom the work was carried out. The report has been produced specifically for the client's usage, and no other party may use, make use of or rely on the contents of the report; any person or party using or relying on this document for such purposes agrees, and with such use or reliance be taken to confirm their agreement, to indemnify NPA Ltd for all loss or damage resulting from their action. No liability is accepted by North Pennines Archaeology Ltd for any use of this report other than the use and purpose for which it was originally intended. Information contained in this report is provided by North Pennines Archaeology Ltd using due care and diligence and no explicit warranty is provided as to its accuracy. No independent verification of any information provided to North Pennines Archaeology Ltd has been made.

CONTENTS

SUMMARY	7
ACKNOWLEDGEMENTS	9
1 INTRODUCTION	10
1.1 Circumstances of the Project.....	10
2 METHODOLOGY	11
2.1 Project Design	11
2.2 Desk-Based Assessment	11
2.3 Walkover Survey	12
2.4 The Archive.....	12
3 SITE LOCATION AND GEOLOGY	13
4 DESK-BASED ASSESSMENT	14
4.1 Introduction	14
4.2 Historic Environment Record (HER).....	14
4.3 Cartographic Sources.....	18
4.4 Historical Background.....	20
5 WALKOVER SURVEY	38
5.1 Introduction	38
5.2 Results of the Walkover Survey	38
6 CONCLUSIONS	51
6.1 Desk-Based Assessment	51
6.2 Walkover Survey	52
6.3 Archaeological Potential	53
7 BIBLIOGRAPHY	54
APPENDIX: FIGURES	57

ILLUSTRATIONS

FIGURES (APPENDIX 2)

FIGURE 1: SITE LOCATION

FIGURE 2: ROUTE OF THE PROPOSED PIPELINE

FIGURE 3: LOCATION OF HER SITES WITHIN 0.5KM EITHER SIDE OF PROPOSED PIPELINE ROUTE

FIGURE 4: EXTRACT FROM HODSKINSON AND DONALD'S MAP OF CUMBERLAND 1774

FIGURE 5: EXTRACT FROM GREENWOOD'S MAP OF CUMBERLAND 1823

FIGURE 6: FIRST EDITION ORDNANCE SURVEY MAP C.1865 (6" TO 1 MILE SCALE)

FIGURE 7: SECOND EDITION ORDNANCE SURVEY MAP 1900 (6" TO 1 MILE SCALE)

FIGURE 8: ORDNANCE SURVEY MAP 1956 (6" TO 1 MILE SCALE)

FIGURE 9: ORDNANCE SURVEY MAPS 1973 AND 1980 (1:10 000 SCALE)

FIGURE 10: PLAN OF PROPOSED PIPELINE SHOWING THE LOCATIONS OF FEATURES IDENTIFIED DURING THE WALKOVER AND THE DIRECTIONS OF THE PHOTOGRAPHS – SECTION 1

FIGURE 11: PLAN OF PROPOSED PIPELINE SHOWING THE LOCATIONS OF FEATURES IDENTIFIED DURING THE WALKOVER AND THE DIRECTIONS OF THE PHOTOGRAPHS – SECTION 2

FIGURE 12: PLAN OF PROPOSED PIPELINE SHOWING THE LOCATIONS OF FEATURES IDENTIFIED DURING THE WALKOVER AND THE DIRECTIONS OF THE PHOTOGRAPHS – SECTION 3

PLATES

PLATE 1: VIEW LOOKING WEST SHOWING IRON WORKS PIER C.1910	34
PLATE 2: VIEW LOOKING NORTH-WEST SHOWING A SIMILAR VIEW OF THE IRON WORKS PIER, TO THE NORTH SIDE OF THE PROPOSED DEVELOPMENT SITE, JAN 2010	34
PLATE 3: A PADDLE STEAMER AT BORWICK RAILS HARBOUR C.1930	35
PLATE 4: MILLOM BLAST FURNACES AT THE IRON WORKS, C.1908.....	35
PLATE 5: MILLOM IRON WORKS FROM SLAG BANK, VIEW LOOKING SOUTH-EAST ALONG THE LINE OF THE PROPOSED PIPELINE ROUTE, C.1914.....	36
PLATE 6: MILLOM IRON WORKS C.1930	36
PLATE 7: HODBARROW PIER, MILLOM, C.1930	37
PLATE 8: VIEW LOOKING SOUTH-EAST AT THE WESTERN END OF SECTION 1 SHOWING THE TRACKWAY AND GRASS VERGE.....	39
PLATE 9: VIEW LOOKING SOUTH-EAST AT THE WESTERN END OF SECTION 1 SHOWING THE DROP IN GROUND LEVEL TO THE NORTH DOWN TO THE FLAT MARSH LAND	40
PLATE 10: VIEW LOOKING SOUTH-EAST SHOWING SOME BRICKWORK AND DEMOLITION MATERIAL IN THE SLOPE TO THE NORTH SIDE OF THE PIPELINE ROUTE	40
PLATE 11: VIEW LOOKING EAST FROM THE LINE OF THE PROPOSED PIPELINE ROUTE SHOWING STANDING WATER IN SALTHOUSE POOL WITH THE LEVELLED SLAG HEAP IN THE BACKGROUND.....	41
PLATE 12: DETAIL OF THE REMAINS OF A SLAG HEAP LOCATED TO THE SOUTH SIDE OF THE PROPOSED PIPELINE ROUTE, SECTION 1 (SCALE = 2M)	41
PLATE 13: VIEW LOOKING WEST FROM THE TOP OF THE LEVELLED SLAG HEAP SHOWING A WELL-BUILT MASONRY OUTFALL LOCATED TO THE NORTH SIDE OF THE PROPOSED PIPELINE ROUTE.....	42
PLATE 14: DETAIL OF THE MASONRY OUTFALL LOCATED TO THE NORTH SIDE OF THE PROPOSED PIPELINE IN SECTION 1 OF THE WALKOVER ROUTE	42
PLATE 15: VIEW LOOKING SOUTH-EAST AT THE EASTERN END OF SECTION 1 SHOWING THE FLAT AREA OF LAND CONSISTING OF GRAVEL TRACKS AND WASTE LAND.....	43
PLATE 16: VIEW LOOKING SOUTH-EAST SHOWING IN-SITU RAILWAY SLEEPERS TO THE NORTH-EAST SIDE OF THE PROPOSED PIPELINE ROUTE, SECTION 1 (SCALE = 1M)	43
PLATE 17: VIEW LOOKING NORTH-WEST SHOWING IN-SITU RAILWAY SLEEPERS IN SECTION 1 (SCALE = 1M)	44
PLATE 18: VIEW LOOKING SOUTH-EAST SHOWING SECTION 2 OF THE WALKOVER ROUTE	46

PLATE 19: VIEW LOOKING SOUTH-EAST SHOWING A SURVIVING PART OF A STONE WALL LOCATED ON SLIGHTLY HIGHER GROUND TO THE PROPOSED PIPELINE ROUTE, SECTION 2 (SCALE = 1M)46

PLATE 20: VIEW LOOKING SOUTH-EAST SHOWING DUDDON VILLA, NOW SELF CATERING HOLIDAY ACCOMMODATION47

PLATE 21: VIEW LOOKING NORTH-WEST SHOWING DUDDON VILLA AS SEEN FROM THE FLAT AREA OF FORMER RAILWAY SIDINGS, CLOSE TO THE FORMER BORWICK RAILS HARBOUR47

PLATE 22: VIEW LOOKING SOUTH-EAST SHOWING SURVIVING CONCRETE SECTIONS OF MILLOM IRONWORKS PIER, SECTION 2 OF WALKOVER ROUTE.....48

PLATE 23: VIEW LOOKING SOUTH-EAST FROM THE SOUTH-WEST CORNER OF THE SEWAGE WORKS SHOWING THE TOPOGRAPHY OF THE PROPOSED PIPELINE ROUTE, SECTION 3 OF WALKOVER48

PLATE 24: VIEW LOOKING SOUTH-EAST SHOWING THE SMALL SAND HILL LOCATED ALONG THE PROPOSED PIPELINE ROUTE, SECTION 3 OF THE WALKOVER49

PLATE 25: VIEW LOOKING NORTH-WEST SHOWING THE EASTERLY SECTION OF THE PIPELINE ROUTE, SECTION 3 OF THE WALKOVER49

PLATE 26: VIEW LOOKING NORTH-EAST SHOWING THE SANDY BEACH AND REMAINS OF HODBARROW PIER50

PLATE 27: VIEW LOOKING NORTH-WEST SHOWING SURVIVING TIMBERWORK AND IRON FITTINGS RELATING TO HODBARROW PIER.....50

SUMMARY

North Pennines Archaeology Ltd were commissioned by United Utilities to undertake an archaeological desk-based assessment and walkover survey prior to groundworks associated with the installation of a new sewerage pipeline from King Street Pumping Station to Millom Waste Water Works, and then onto the outfall in the sea (Grid Ref: SD 178 804 to SD 193 794), covering a distance of c.1.5km in total.

It is believed that archaeological remains could potentially survive along the route of the pipeline, which could be impacted upon by the proposed scheme. The purpose of the desk-based assessment was to set the pipeline route into its geographical, archaeological and historical context, as well as identifying where archaeological remains may survive. A walkover survey was then undertaken in order to identify and record any visible archaeological remains along the pipeline route, which had not previously been noted from the desk-based research.

The desk-based assessment involved the consultation of a number of existing datasets, principally the assessment of relevant information held by Cumbria County Council Historic Environment Record (HER), including aerial photographs, and the collation of cartographic information relevant to the proposed pipeline route to identify historic land use.

The desk-based assessment has revealed that up until the second half of the 19th century, the area through which the proposed pipeline will pass was largely marshland. Where the pipeline route was not passing through marsh, a small section passes through fields, a possible trackway and field boundaries, all presumably associated with a small farmstead known as Borwick Rails. The construction of Millom Ironworks, the extent of which is clearly visible on the Second Edition Ordnance Survey map of 1900, commenced in 1866 and the works were operating by September 1867. The construction of this site, as well as the provision of railway tracks leading from it to Hodbarrow Pier and to join the main line at Holborn Hill, appears to have involved the reclamation of some of the former marshland of Rottington Marsh. The proposed pipeline route is presently planned to pass along the line of some of these railway tracks and it is possible evidence for these could be noted during the excavations of the pipeline trench, as well as evidence for ballast for support of the tracks and possible evidence for this made-up ground.

Cartographic evidence indicates that the majority of the pipeline route from the King Street Pumping Station to Duddon Villa remained in use as railway tracks up until the 1970s. The section of pipeline from the Waste Water Works to the outfall at the sea will also pass through some railway tracks, and possibly structures located close to Hodbarrow Pier.

The walkover survey revealed that the majority of the proposed pipeline route from King Street Pumping Station to the road on which Duddon Villa is located follows present gravelled trackways, although towards the eastern end of this section the route passes through an area of rough grassland. Small sections of railway lines, in the form of *in-situ* wooden sleepers, were noted along the route although these do not appear to be along the proposed pipeline alignment. From Millom Waste Water Treatment Works, the proposed pipeline route was noted to pass through pasture land; no archaeological features were noted at the time of the walkover, although the lines of possible former railway tracks were observed in close proximity which may have crossed the pipeline route.

Information derived from the research undertaken for the desk-based assessment and from the walkover of the proposed pipeline route has indicated that the potential for late 19th century and 20th century archaeological remains relating to Millom Ironworks and associated infrastructure is high. The pipeline route follows a section of railway which was in existence since at least 1900 up until the 1970s. Although it is likely the railway tracks themselves have been removed, it is possible that evidence for the track sleepers and ballast to support the tracks may be revealed during groundworks. Dependant on the exact route alignment it is possible that other features relating to the iron works may be revealed.

The section of pipeline from King Street to Duddon Villa is likely to reveal post-medieval deposits associated with the iron works. Earlier features may have been truncated or removed by later activity; however the possibility that they survive in isolated pockets needs to be considered during the course of the groundworks.

The section of pipeline route from the Waste Water Treatment Works to the outfall may potentially pass through features not associated with the iron works, or Hodbarrow Mines, simply due to the fact that cartographic sources indicate less activity in this area. The route could potentially pass through at least two former railway tracks which may reveal evidence of ballast or made-up ground; however the majority is through the former marshland of Crab Marsh.

ACKNOWLEDGEMENTS

North Pennines Archaeology Ltd would like to offer thanks to Tim Rimmer, Environmental Planner, United Utilities for commissioning the project.

North Pennines Archaeology Ltd would also like to extend their thanks to staff at Cumbria Record Office, Barrow-in-Furness and Carlisle Library local studies, for their help during this project.

The desk-based assessment was undertaken by Fiona Wooler. The walkover was undertaken by Fiona Wooler and Angus Clarke. The report was written, and the drawings were produced, by Fiona Wooler. The project was managed by Frank Giecco, Technical Director for NPA Ltd, who also edited the report.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 North Pennines Archaeology Limited were commissioned by United Utilities to undertake an archaeological desk-based assessment and walkover survey of a proposed pipeline route between King Street Pumping Station and Millom Waste Water Treatment Works, and an outfall to the sea at Millom, Cumbria (centred on NGR SD 1884 7964).
- 1.1.2 The archaeological works were to be undertaken over the entire route of the proposed pipeline (which covers a distance of approximately 1km), and the outfall from Millom Waste Water Treatment Works to the sea (a further c.0.5km) (Figures 1 and 2).
- 1.1.3 It is believed that archaeological remains could potentially survive along the route of the proposed pipeline, which could be impacted upon by the groundworks. As a consequence, Jeremy Parsons, Cumbria County Council Historic Environment Officer has requested that a desk-based assessment and walkover survey be undertaken prior to the commencement of groundworks.
- 1.1.4 The principal objectives of the assessment and walkover were to undertake sufficient work in order to identify and characterise the archaeological constraints associated with the development area. This report sets out the results of the work in the form of a short document outlining the findings, followed by a statement of the archaeological potential of the area.

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 Prior to the commencement of this scheme of archaeological works, a Project Design (or Written Scheme of Investigation) was submitted and approved by Cumbria County Council Historic Environment Service (Railton 2011). All work undertaken was consistent with the relevant standards and procedures of the Institute for Archaeologists, as set out in *Standard and Guidance for Archaeological Desk-Based Assessments* (IfA 2008) and generally accepted best practice.

2.2 DESK-BASED ASSESSMENT

2.2.1 The desk-based assessment involved the consultation of a number of existing datasets, in order to achieve a full understanding of the nature of the existing resource regarding the geographical, topographical, archaeological and historical context of the proposed pipeline route.

2.2.2 The desk-based assessment includes the following:

- the collation and assessment of any relevant information held by Cumbria County Council Historic Environment Record (HER), a database of known archaeological and historical sites within the county (excluding the Lake District National Park), to identify known historical and archaeological sites;
- the consultation of relevant aerial photographs held by the HER;
- the consultation of historical mapping and relevant documents held by Cumbria Record Office at Barrow and the local studies section of Carlisle Library;
- an assessment of relevant published sources including articles in national, regional and local journals such as the Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society.

2.2.3 The desk-based study provided an assessment of areas of archaeological potential based on the above research.

2.2.4 The desk-assessment was undertaken in accordance with the Institute for Archaeologists *Standard and Guidance for Archaeological Desk-Based Assessment* (IfA 2008).

2.3 WALKOVER SURVEY

- 2.3.1 A visual survey of the proposed pipeline route was undertaken prior to the commencement of groundworks. This was in order to assess the topography of the route and to note any areas of archaeological potential not already identified through the County Historic Environment Record, as well as to determine any constraints to archaeological site survival.
- 2.3.2 Any visible earthworks, archaeological remains or historic features were recorded and their locations noted on a plan of the proposed pipeline route. Digital photographs were also taken of any features that were identified and a selection has been included within this report.
- 2.3.3 The results of the walkover survey have been included within this report to supplement the desk-based assessment, resulting in the identification of archaeological sites which are likely to be impacted by the proposed groundworks.

2.4 THE ARCHIVE

- 2.4.1 A final bound copy of the report will be deposited with Cumbria County Council Historic Environment Service, where viewing will be available on request.
- 2.4.2 North Pennines Archaeology and Cumbria County Council Historic Environment Service support 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. As a result, details of the results of this study will be made available by North Pennines Archaeology, as a part of this national project. This project has the unique identifier of **northpen-91907**.

3 SITE LOCATION AND GEOLOGY

- 3.1 Millom is located at the southern end of Cumbria, at the bottom end of the west coast, on the Duddon Estuary. The town is situated approximately only 11km as the crow flies from the port of Barrow-in-Furness, however due to the fact there is no rail or road crossing over the Duddon Sands, by road the distance is closer to 38km. Millom is located on an area of flat land at the base of Black Combe, a dominating fell which forms the southern end of the Lake District high fells in this area (Figure 1).
- 3.2 The site of the proposed pipeline route is situated to the east of the town, running from the north end of King Street in a south-easterly direction towards Duddon Villa, with a second section running from Millom Waste Water Treatment Works to an outfall at the sea, close to the former Hodbarrow Pier (Figure 2).
- 3.3 The Countryside Commission places Millom in a character area known as the West Cumbria Coastal Plain, a narrow belt of land between the coast and the high fells of the Lake District. South of St Bees Head, the area is coincident with the outcrop of the Permo-Triassic rocks, here mainly composed of the Steeton Bees Sandstone. Glaciation by ice, derived both from southern Scotland and the Lake District, has affected the whole area, leaving a widespread mantle of boulder clay (till) with, in places, sand and gravel. Where limestones occur, they form a narrow fringe between the Lake District fells and the Coalfield. Where not concealed by glacial deposits, small white-weathering limestone scars with small areas of limestone grassland, are characteristic (Countryside Commission 1998, 27).
- 3.4 The west and south Cumbria limestones carry large bodies of haematite iron ore especially in the area between Frizington and Egremont and in the Millom and Dalton areas. Mining these huge deposits has left numerous bridge red spoil heaps at a number of sites and in some places large water-filled hollows mark areas of subsidence above worked-out ore bodies. At Hodbarrow, Millom, a large sea wall was constructed to prevent flooding of shallow underground workings. Since the abandonment of the mine, the area enclosed by this barrier has flooded and is now used as a marina (*ibid*, 28).

4 DESK-BASED ASSESSMENT

4.1 INTRODUCTION

4.1.1 The County Historic Environment Record (HER), a database of known archaeological and historical sites in Cumbria (excluding the Lake District National Park), was consulted in the first instance. A distance of 0.5km to either side of the pipeline route was chosen as a suitable search area, to provide information on known and potential archaeological sites within close proximity to the line of the proposed groundworks. The locations of the presently recorded HER sites within this 1km buffer zone are shown on Figure 3.

4.2 HISTORIC ENVIRONMENT RECORD (HER)

4.2.1 **HER:** there were a total of seven HER sites within the study area that has been defined as a 1km buffer zone along the pipeline route. The locations of the HER sites are shown on Figure 3 and descriptions and provided in the table below:

Site No.	HER No.	Site Name	Brief Description	Grid Ref	General Period
1	4301	Hodbarrow Mine Sea Defences	Searches commenced for ore in 1843; by the mid 1860s several shafts had been dug. The main deposit was not fully proved until 1868-1873 when no fewer than 7 shafts were sunk. Due to land subsistence a wooden barrier was erected against the sea in 1885, and 1888-90 an 'inner barrier' was constructed which was a combination of a concrete wall and a watertight dam. Later this proved inadequate and in 1900-05 an 'outer barrier' was constructed. The outer	E:316520 N:478620	Post Medieval (Victorian)

Site No.	HER No.	Site Name	Brief Description	Grid Ref	General Period
			barrier extended for over a mile, and consisted of a girdle of limestone rubble and tumbled concrete blocks with supporting heart of clay and steel or timber piling		
2	4667	Millom Iron Company	Apart from the Moss Bay works this was the last operational ironworks in the county. In 1974 substantial slag banks, the offices, a large workshop and the former manager's house, were all that were left on the site. In 1986, the site had virtually been levelled. Now used for recreation and as a nature reserve	E:318700 N:479800	Post Medieval
3	12244	Millom Iron Works	The old Iron Works at Millom shown on the Second Edition OS map 1899	E:318100 N:480100	Post Medieval
4	12292	Crab Marsh Hospital for Infectious Diseases	Crab Marsh Infectious Disease Hospital shown on the Second Edition OS map 1899	E:318860 N:479360	Post Medieval (Victorian)
5	41691	Millom Road Methodist Chapel	Extant Methodist Chapel, built sometime between 1867 and 1900	E:317630 N:480270	Post Medieval (Victorian)
6	41850	Queen Street Methodist Chapel	A building survey was undertaken in 2006 prior to the conversion of the disused Methodist Church for residential purposes. The former church was found to	E:317595 N:480055	Post Medieval (Victorian)

Site No.	HER No.	Site Name	Brief Description	Grid Ref	General Period
			have been built in 1872 and closed in 1993		
7	43481	Millom Gasworks	Site of a former gasworks shown on the Second Edition OS map 1899	E:317715 N:480330	Post Medieval (Victorian)

4.2.2 **Listed Buildings:** there are no listed buildings located within the 1km buffer zone along the proposed pipeline route.

4.2.3 **Conservation Areas:** the proposed pipeline route is not located within Millom Conservation Area, which is situated to the west and includes the older parts of the town.

4.2.4 **Scheduled Ancient Monuments:** there are no Scheduled Ancient Monuments located within the 1km buffer zone of the proposed pipeline route.

4.2.5 **Aerial Photography:** there are two vertical aerial photographs housed at the HER in Kendal which show the area through which the proposed pipeline route will pass:

- *SD 1880/S.8.38, taken in 1966:* this is a vertical photograph showing the ironworks at Millom. The line of the proposed pipeline appears to extend along what was railway tracks associated with the ironworks, as well as through the site of the works themselves.
- *SD 1879/S.8.39, taken in 1966:* this is another vertical photograph showing the land to the south of the proposed pipeline route. This photograph shows that the pipeline will cross the site of former railway tracks which were still extant in 1966, as well as pasture or heath land towards the eastern end of the route.

4.2.6 **Archaeological Investigations:** there has been only one scheme of archaeological work that has been undertaken within the 1km buffer zone along the pipeline route. Two schemes of work have been undertaken at Salthouse, just outside the study area, which will be referred to below. An assessment of the north-west coast, which includes the area around Millom (ARS Ltd 2009), will also be referred to:

- *Former Methodist Chapel, Queen Street, Millom - Archaeological Building Recording:* Greenlane Archaeology Ltd undertook a building survey of a derelict Methodist Chapel on Queen Street in 2006. The survey

revealed that the chapel had been constructed in 1872 in part of the rapidly expanding town of Millom to the designs of James W Grundy of Ulverston. By the mid-20th century it was in a poor condition and in 1958 extensive repairs were made to the south wall. The church remained in use until 1993 when it closed (HER Report Ref: 4/06/1696).

- *Solway Salt Project 2005-2006 - Report and Site Assessments*: as part of independent research of the salt-working industry along the Solway coastline, potential sites were identified at Salthouse, located just to the north of the King Street Pumping Station. Area A was identified at Salthouse Farm, which was constructed on a low rounded mound composed of sand/silt and is raised above the former salt marsh and bog. Area B was identified as an area of low mounds and hollows in unimproved permanent pasture along the west side of Salthouse Pool, although some of the hollows may be natural seam channels (Cranstone 2006, 103).
- *Salthouse Farm, Salthouse Road, Millom – Archaeological Desk-Based Assessment and Building Recording*: Greenlane Archaeology Ltd undertook a desk-based assessment and building recording of redundant farm buildings prior to demolition and construction of new dwellings. The research noted that Salthouse is recorded from at least the 13th century and its name indicates that it was connected with the production of salt. Salt works controlled by monastic houses are recorded in the area around Millom at this time, although it is not clear which of these held Salthouse, although Furness Abbey has been suggested (Greenlane Archaeology 2010).
- *North West Rapid Coastal Zone Assessment- Desk-Based Assessment*: in 2009 Archaeological Research Services Limited undertook a desk-based assessment, based on information derived from the HER and aerial photographs, on behalf of English Heritage. The work was undertaken to assess the threat posed to heritage assets on the North West coast by rising sea levels and coastal erosion. Chapter 8 of this document refers to the section of coastline which includes Millom. Some of the HER sites within this document have already been noted if they lie within the 1km buffer zone of the present study. Sections of this report will be referred to in the Historical Background (4.4) below (ARS Ltd 2009).

4.3 CARTOGRAPHIC SOURCES

- 4.3.1 A search of historical maps recording the proposed pipeline route was carried out at Cumbria Record Office at Barrow-in-Furness, and at Carlisle Library local studies. Only those that reveal the area around the proposed pipeline route and of relevance have been included (see Appendix).
- 4.3.2 ***Hodkinson and Donald's Map of Cumberland 1774 (Figure 4)***: this was the earliest map consulted as part of the desk-based assessment which provides information on features in close proximity to the proposed development route. On this map, the place name Millom is only shown relating to *Millam Park* and as an area *Millam*. What is now the town of Millom, was at this date known as *Holburn Hill* and *New Town*, with the main road from the north clearly visible. A small settlement is shown at 'Salt Ho', the modern *Salthouse*. In the vicinity of the proposed pipeline route there are several apparent isolated properties, possibly small farmsteads, which are shown on later mapping, for example *Rottenton* [Rottington], *Burrow Crails* [Borwick Rails], *Red Hill*, *Hodbarrow* and *New Hall*, as well as several unnamed buildings. Apart from these isolated properties, there are no other significant features labelled, however this does not mean that they did not exist at this date.
- 4.3.3 ***Greenwood's Map of Cumberland 1823 (Figure 5)***: although also at a small-scale, this map does provide further information on the system of roads or tracks around *Holburn Hill* and *New Town* (what is now Millom) in the first half of the 19th century. Although it is difficult to accurately show the proposed pipeline route on this map, it does pass through what is largely shown as open land with the dispersed properties already referred to such as *Rottington*, *Well Hill* and *Burrow Crails*. Some of the land that the pipeline is due to cross actually appears to have been marshland at this date.
- 4.3.4 ***Lower Millom Tithe Map 1848 (not reproduced)***: this Tithe Map was consulted to assess if it could provide any further information to the earlier maps. This map was only available for viewing on microfiche at Barrow Record Office, and consequently the quality of the source was not as good as the original. This map actually provided little further information, apart from showing the linear form of *Holborn Hill*, with some of the isolated farmsteads such as *Rottington* and *Salthouses* and *Moor* [shown as *The Moor* on later mapping, located to the south-west of *Holborn Hill*, see Figure 6].
- 4.3.5 ***First Edition Ordnance Survey Map, undated c.1865 (Figure 6)***: this was the earliest map consulted to provide clear information on the character of the land through which the proposed pipeline route will take as it was in the second half of the 19th century. As can be seen, the town of Millom had still not developed and was still known as *Holborn Hill*, although the

Whitehaven and Furness Junction Railway had, by this date, been constructed with its own railway station at Holborn Hill. The small farmsteads noted on earlier mapping are clearly visible, for example *Rottington, Borwick Rails, New Hall and Red Hill*. The only industrial features shown in the area to the south and south-east of Holborn Hill at this date are a quarry and limekilns south of New Hall, and quarries and limekilns at Hodbarrow. The line of the proposed pipeline route can be shown to be through, what was at this date, largely marshland and fields.

- 4.3.6 ***Second Edition Ordnance Survey Map 1900 (Figure 7)***: by this date, it is clear that there has been considerable development, not just with the erection of the Millom Iron Works, but with the associated railway lines and the creation of the town of Millom itself, presumably as a response to the industrial growth. It is difficult to assess if the small farmsteads which were visible on earlier mapping were still extant at this date, although the names appear to have survived. Duddon Villa, located to the eastern side of the proposed pipeline route, has been constructed by this date, and towards the western end is Low Millom Foundry; neither of these sites, along with the small farmsteads of Rottington, Borwick Rails, Red Hill and Borwick Rails Cottage, are presently recorded on the HER. The proposed pipeline route appears to largely follow the line of one of the railway tracks which led towards Millom Iron Works and then on towards Duddon Villa. The eastern section of the route appears to pass through, what was in 1900, at least two railway lines and marshland, and possibly clipping a former building at Hodbarrow Pier before heading into the sea.
- 4.3.7 ***Ordnance Survey Map 1956 (Figure 8)***: this map shows some growth in the town of Millom, with housing seemingly having been constructed in some of the gaps of the regularly-shaped streets. The buildings at Millom Iron Works have expanded and there are more railway tracks and sidings by this date. What appears to be a slag heap has, unsurprisingly, grown in size to the immediate west of the iron works site since 1900. The proposed development route is still shown as mainly railway track at this date, with the eastern section also still passing over at least two railway lines, as well as the marshland and stream before entering the sea. The buildings which were formerly extant at Hodbarrow Pier are no longer standing by this date; these buildings are not presently recorded in the HER.
- 4.3.8 ***Ordnance Survey Maps 1973 and 1980 (Figure 9)***: Figure 9 is made up of two Ordnance Survey maps of differing dates, 1973 (the lower section) and 1980 (the upper section) due to there not being corresponding sheets at either Carlisle Library or Barrow Record Office. The upper sheet, dated 1980, shows that by that date most of the features and buildings relating to

the Iron Works have gone, although the lower section (1973) still shows these are extant; this provides a good date period for the decline of the Iron Works at Millom. The proposed pipeline route still follows the line of some railway tracks, as it had on earlier mapping, and at its eastern end, through at least one railway track, and through marshland and a stream before heading into the sea.

4.4 HISTORICAL BACKGROUND

4.4.1 **Introduction:** this historical background is compiled mostly from secondary sources, and is intended only as a summary of historical developments around the study area.

4.4.2 **Place Name Evidence:** the place name Millom is suggested to mean 'at the mills', from an Old English¹ dative plural *mylenum*. It is believed that these may refer to windmills (Lee 1998, 58). The name 'Millom' is not recorded in documents until c.1180AD, and it is possible that it previously known as *Hougenai*, the dative plural of *haugr* with the addition of *ēg*. *Hougun*, a manor held by Earl Tosti in 1065AD, comprising five vills (with 19 teamlands, four in Hougan, four in Bootle, four in Whicham, six in Hougenai and one in Kirksanton) was later represented by the manor of Millom. The site of *Hougenai* was possibly Millom Castle (Armstrong *et al* 1943-44, 414). Other place names in the vicinity of the study area are Borwick Rails which appears as *Barret-Rayls* in 1728; *Burick Rails* in 1757; *Burwick Rails* in 1763 and *Borwick-rails* in 1793. Hodbarrow is *Hodbarrow* in 1620; *Hethbrown* in 1634 and *Hotbarrow* in 1799. Salthouse is *Salthus in Caupland* in 1247, and means 'salt-house', an apparent building where salt was stored. Steel Green is probably associated with *Anthonye Steel* (1597) (*ibid*, 417-418). Warriner has suggested that the place name Borwick Rails, may have derived from the Old English *berewick* meaning a demesne farm (Warriner 1932, 9).

4.4.3 **Prehistoric (pre-AD43):** there is evidence for human activity along the coastline of Cumbria from the Mesolithic period; this evidence being largely influenced by the exposure of diagnostic material and concentrations of fieldwork in particular areas (Brennand *et al* 2006, 25), such as the work undertaken by Cherry and Cherry in West Cumbria. Along the stretch of coastline from Eskmeals to Haverigg, survey of ploughed fields and erosion scars have revealed evidence of prehistoric habitation sites in the form of worked flints. At Haverigg, it was noted that

¹ Old English – The language spoken by the Anglo-Saxons from the 6th to the 12th centuries (Source: Lee 1998)

- a small quantity of worked flints had been found which had Mesolithic affinities (Cherry and Cherry 1987, 7).
- 4.4.4 Finds of Bronze Age type have been recovered during groundworks in fields at Fenwick within Millom parish in the 19th century (although this site is some 9km to the north of the present town of Millom). Two stone hammers were revealed, one in 1860 and one in 1888, which were noted to have been Bronze Age in form. At Beck Farm, to the north of Millom, a pottery urn of Middle Bronze Age date was found in 1872, and a polished stone axe was found in 1824 at Lowscapes (also north of Millom), suggested to be similar to Neolithic examples (Cross 1939).
- 4.4.5 As well as the prehistoric stone implements and pottery revealed around Millom, there are several examples of stone circles which exist or existed in the locality. Situated approximately two kilometres west from the centre of the modern town is the site of the Lacra stone circles, which were built high up on the south-facing slope of a hill above the village of Kirksanton. Waterhouse describes four stone circles at Lacra, all in various forms of preservation, largely due to the fact that some stones have been removed to aid ploughing. The discovery of an inverted collared urn within Lacra D during excavations suggested that the site may have been in use in the early Bronze Age, although it has been noted that the urn could have been buried at a late date in the life of the circle, and may have had little to do with the original use of the site (Waterhouse 1985, 46-52).
- 4.4.6 Writing in the early 20th century, Warriner referred to several other stone circles within the area around Millom; in 1794 only one stone remained of the Anniside Circle which had formerly been a circle of 12 stones; near Hall Foss were eight 'massive columns' forming a circle known as 'Standing Stones', and at Gutterby there were 30 stones arranged in two concentric circles. The 'Giants Grave' at Kirksanton is mentioned in 1309 as 'the two standing stones', one of which having cup markings (Warriner 1932, 6-7).
- 4.4.7 Although the HER records no sites of prehistoric date within the 1km buffer zone along the proposed pipeline route, it is clear from the presence of stone circles, and the findspots of stone implements and pottery, that this area of Cumbria was colonised during the prehistoric period.
- 4.4.8 **Roman (c.AD43-410):** Warriner has suggested that there are traces of Roman occupation in the Millom district. He noted that a Roman road led from Ambleside to Ravenglass over Wrynose, then it crossed the Duddon at Cockley Beck, perhaps went to Black Hall and then onto Hardknott Fort (Warriner 1932, 8). These sites are, however, all located a considerable distance to the north of Millom.

- 4.4.9 A recent article on *'The "Streetgate" at Conishead, the "Castellum" at Dalton, and Roman Furness'*, refers to some evidence for a Roman fort at Dalton-in-Furness, as well as antiquarian observations of sections of a possible Roman road which ran from Conishead to Dalton. The theory that the Romans occupied the Furness area was, however, seemingly dismissed throughout the 20th century although ongoing work on the coin evidence has demonstrated a Roman presence (see 4.4.10 below). The coins span the whole of the Roman period, and the presence of rich iron reserves in Furness must have been a considerable attraction. This article concludes with reference to the place name *'Borwick Rails'* near Millom, as possibly being significant in relation to the possibility that the Romans or Romano-British occupied the area around Millom. The author suggests that the name contains two elements which mean *'burials'*, as interpreted from Lee's *'The Place Names of Cumbria'* (1998), *'which are often associated with Roman sites'* (Elsworth 2007, 45). As already noted in 4.4.2 above, however, the place name Borwick Rails is also believed to mean *'demesne farm'*.
- 4.4.10 Finds of Roman coins have been noted from south Cumbria and have been reported in the Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society. In Stukeley's diaries, reference is made to *'two great urns full of Roman silver coins'* found at Millom Castle in 1759 (Shotter 1982, 198). For south Cumbria, the greatest concentration of Roman coins has been found in the Barrow-in-Furness area, in particular at Furness Abbey where coins of mostly 2nd and 3rd date have been recovered, although it has been noted that it is possible that monks themselves *'did on occasion collect antiquities'* (Shotter 1995, 75).
- 4.4.11 During restoration work at the Parish Church of Holy Trinity, Millom, several pieces of stone sculpture and an inscribed stone were revealed. The inscribed stone was noted at the time by Mr R G Collingwood to have possibly been Roman. The inscription is believed to have read "CUR]ANTE F[LAVIO" and Collingwood observed that: *'The stone seems Roman to me..the person in charge of a piece of construction is often mentioned in late inscriptions (say 3rd century), and the lettering suggests a late date. Roman inscriptions cut on edge, as opposed to the face, of a stone are fairly common. Having regard to the possibility of bringing such a stone from Ravenglass, I should not argue from it to the existence of a Roman site at or near Millom'* (Warriner 1931, 120).
- 4.4.12 The HER does not record any sites or findspots dating to the Roman or Romano-British period within the 1km buffer zone along the proposed pipeline route, As yet there is little evidence of activity during this period in the area around Millom, however the possibility that iron ore was

exploited needs to be considered. As Shotter notes: '*Although no excavations have produced slag for which the ore-sources have been positively identified, it remains a strong likelihood that deposits in Furness will have been utilised*' (Shotter 1995, 74).

- 4.4.13 **Early Medieval (410-1066 AD):** the main evidence for occupation in the area around Millom in this period comes from the place names, some of which are believed to have derived from Old Norse (9th to 12th century) words as already noted in 4.4.2 above.
- 4.4.14 The other main form of evidence from this period is fragments of stone sculpture, often found during the course of renovation works in churches. Two fragments of possible early medieval stonework were revealed during the same restoration works at Holy Trinity Church as noted in 4.4.11 above. A broken cross shaft was revealed in the north wall of the chancel which had cable moulding decoration along one of its longer edges, and the centre of a cross-head was discovered in the same wall. The style of the decoration was noted to suggest a late date for the cross to which these two fragments belonged, i.e. the late 11th or early 12th century (Warriner 1931, 119-120).
- 4.4.15 Apart from the place names such as Borwick Rails, which is believed to derive from Old Norse words, there are no known historical or archaeological sites dating to the early medieval period located within the 1km buffer zone along the pipeline route.
- 4.4.16 **Medieval (1066-1485 AD):** located approximately 1km to the north of the modern town of Millom, is Millom Castle (see Figure 1). At this site there is, apparently, a motte with a ditch to the east and south of the standing buildings which may relate to a site dating to the 12th century, when *Godard de Boyville* was granted the manor. It passed to the *de Hudlestons* in c.1240 and in 1335 Edward III licensed John de Hudleston to crenellate his manor house at '*Millum*'. Some of the walls which survive on the site date to this period (Salter 1998, 74). Writing in 1924, H S Cowper noted that Millom Castle should not be seen in isolation, but rather as part of a link in a line of tower houses and castles extending along the Cumberland and Furness coasts, which included Workington, Muncaster, Irton, Millom; Piel, Gleaston and Dalton Castles; Wraysholme, Hazelslack and Arnside towers, and Sizergh and Dallam. He noted: '*at first site such a series looks almost like coastal defences; but the more important date from the 14th century, and were built soon after the Bruce's raid through Copeland and Furness in 1322*' (Cowper 1924, 182). In assessing the land surrounding the castle historically, it has been suggested that the castle stood on an 'island' comprising approximately 12 acres, 1½ of which was the castle and inner moat, the

remainder being the 'town' (now the farm buildings) and the church and rectory: *'surrounding the island was a lagoon of some 200 acres, perhaps more, as it seems to have been unbounded on the seaside and towards Burnfield and Water blane the whole land was more or less morass'* (ibid, 182). This description appears to suggest that Millom Castle occupied higher ground, surrounded by possible marshy land (possibly providing an effective form of defence), which may have included the land to the south extending to the sea, and consequently the land on which the proposed pipeline route is located.

- 4.4.17 The Parish Church of Millom (Holy Trinity), located beside Millom Castle (and not that within the present town) may have pre-Norman origins, although as yet there is no substantial evidence for this. Writing in 1924, Rev. Sykes noted that Kirksanton church was documented as being a *'daughter church to Millom'*; Kirksanton is seemingly mentioned in the Domesday Book (11th century) although the *'mother church is not'* (Sykes 1924, 235). Of the standing building, Pevsner described it as a *'late Norman church..to this church a south aisle was added in the early 13th century. This aisle was rebuilt and probably enlarged in the early 14th century'* (Pevsner 2002, 162). Mary Fair has suggested that the church was, at one time, surrounded by an outer moat: *'traces of which can be seen in certain lights when looking down from the Knotts at the west'* (Fair 1937, 91).
- 4.4.18 The North West Rapid Coastal Zone Assessment refers to Millom Deserted Medieval Village being located close to the site of Millom Castle (at Grid Ref: 317100 481200, HER No. 1485) (ARS Ltd 2009, 163), although very little is known about this site. It has been alluded to that the 'town' was located where farm buildings at Millom Castle now stand (see 4.4.16 above).
- 4.4.19 In documents relating to the estates of Calder Abbey, there are references to land at Millom. In a grant dated c.1242, *'John le Fleming and Amabel gave the abbey all that land next to their land in Milnum'*. There is an interesting reference in a Charter dated 1291 relating to John De Hudleston the Younger: *'In 1291 this same John gave the abbey 8 ½ acres of land and one acre of meadow in Bootle, and a place in Millom called "Barkerhals"'* (Thorley 2004, 145). This has been suggested to have been 'Borwick Rails' which may indicate that at least some of the land around the proposed pipeline route may have been suitable for cultivation or pasture at this date.
- 4.4.20 There is some evidence for medieval industry in the area around, what is now the town of Millom. William de Boyvil (died c.1227) is noted to have given Furness Abbey the advowson of Holy Trinity, Millom, with all its chapels, *'also the saltworks near Lairwath that Nigel had held, together with 4 acres of arable land with all other appurtenances in lands, fisheries, sands and mosses, together with sufficient peat rights to maintain the salt works, and common*

rights in all the common pasture of Millom for 8 oxen, 4 cows and 2 horses' (Warriner 1932, 14). In describing what was required for the salt works, Warriner noted that three things were necessary: peat, fresh water and ready access to the shore. The salt water was caught in shallow pans divided by clay walls and evaporated, the rough sand was then scraped up and placed in a higher tank and the process repeated. This rough mixture of sand and salt was then carted to the works by draught oxen or horses, pasture for which appeared in Grants. The sludge was placed in wooden troughs with bottoms pierced by fine holes, fresh water was then poured in carrying the salt to the brine pits, where by evaporation and the constant addition of fresh brine it became highly impregnated. The final stage was the boiling house, where after several hours boiling, the salt began to 'corn'; it was then raked out and placed in creels to dry in a warm compartment through which the flues passed. The *salinae* probably continued, as elsewhere, into the 16th century when a coast trade of cod and herrings developed with Liverpool and Chester, and the boats returned with salt (Warriner 1932, 15). This is an interesting account of how salt was produced in the area in the medieval and into the post-medieval period; Warriner's description also provides some information on the topography of the area around Millom, referring to good access to the coast, ready supply of peat and the provision of pasture land. The salt works at Millom may have been located at Salthouse as already referred to in 4.2.6 above. A Charter of 1287 allowing the monks of Furness Abbey to divert *Ruttand Pul*, refers to them only being allowed to do so in such a way as not to impact on the salt works at Salthouse. Writing in 1937, Warriner noted that part of this pool 'was for a long time traceable in the angle made by the main line [railway] and the Ironworks sidings' (Warriner 1937, 29). It is interesting to note that the Second Edition Ordnance Survey map annotates an area of land in the approximate location of the present pumping station at the north end of King Street as 'Saltings' (see Figure 7), which is situated approximately as Warriner described, at the junction of the main line railway and the sidings.

- 4.4.21 As well as salt works, another industry which was to have a dramatic effect on the area around Millom in the 19th century, was the extraction and processing of iron ore. A medieval bloomery site is recorded in the HER as having existed at Millom Castle (SD 1882; HER No. 1495) (ARS Ltd 2009, 163).
- 4.4.22 Fishing in the Millom area is recorded at an early date; there is an Indenture of 1338 between the monks of Furness and John de Hudleston regarding a fishery at *Houbergh*, which appears to have been Borwick Rails (Warriner 1932, 48).

- 4.4.23 ***Post-medieval to Modern (1485-present)***: there appears to have been a port of some description in the area of the proposed pipeline route in the 16th century. In 1566 the Commissioners for the Superintendence of Ports reported that at Powesfoote, that is Crook Pool, Borwick Rails, the deputies were Ralph Latus, Thomas and John Ox, and Thomas Dickinson. The report concluded: *'There is no towne ne inhabitations near Scituat the same but howses much dispersed one frome another alongst the sea coaste, of the inheritance of Anthony Hudleston Esq. There hath none heretofore used to give license for the loading or unloading there. There is no shippes, vessels ne any maryners'* (Warriner 1932, 49). This description provides some information on the area around Borwick Rails in the early post-medieval period.
- 4.4.24 Writing at the end of the 17th century, Thomas Denton noted that Millom Castle had, up until the middle of that century, *'a very large demsens and a park, well stored with deer, and (within this last twenty years), did abound with the choyest oak timber in all the cuntry'* (Winchester 2003, 70). This woodland, however, appears to have been decimated by the removal of timber, not only for the construction of a large ship, but also for use in the iron forges at Millom Castle, and for *'making char-cole'* (*ibid*, 70). This event was still noted a century later, when Hutchinson referred to Millom Parish: *'Iron-ore is found within this township, to manufacture which, and to build a ship of considerable burden, in 1690, a large forest was cut down by Ferdinand Huddleston, then lord, but neither project produced profit: the unfortunate speculation stripped the demesne of that shelter, which was so immediately necessary to it, and which ages cannot restore'*. Hutchinson also referred to there having *'anciently been a market'* at Millom, presumably referring to a settlement around the castle and church, rather than at the site of the present town (Hutchinson 1794-97, 528). Bulmer's directory of 1901 suggests that the ancient market was located at what became known as Holborn Hill (Bulmer 1901, 584).
- 4.4.25 According to Warriner, iron ore of moderate quality was worked near Millom Vicarage and some was brought into the area from Furness. In the early 18th century the Backbarrow Company mined at Millom, although not extensively. In 1718, several hundred tons of ore was taken from the *"oar pitts at Millham"* for which a royalty of a shilling in the pound was paid to Ferdinand Hudleston (Warriner 1932, 47).
- 4.4.26 At the end of the 18th century, it was noted that Lord Lonsdale was intending to creating a bank against the sea, on *'the extensive sands of Millum'*. Although it is not stated where exactly this area was located, it is possible it refers to the area south of the present town of Millom. It was believed that this undertaking would have prevented storms destroying

valuable farmland, however the chief advantage of the scheme, as noted by Hutchinson, was '*confining the channel of the river, so as to gain safe riding for small vessels, to carry on some degree of traffic* (Hutchinson 1794-97, 529).

4.4.27 The small farmstead of Borwick Rails was in existence as early as 1741, when it was included in part of the Low Demense. It has already been noted in 4.4.2 above that the name is believed to have derived from the Old English word *berewic*, meaning *demesne*² *farm*, implying much earlier origins (Warriner 1937, 28).

4.4.28 Millom Parish, in 1829, was described as being of great extent, but not very populous. A large portion of the parish, at this date, was noted to have been wastes and pasture ground, although the arable lands around Millom and the sea, were described as being very fertile. Limestone was quarried at *Hotbarrow*, *Standing-Stones*, *Beck and Water-Blain*, and iron ore was mined at *Hotbarrow* [presumably *Hodbarrow*] and in *Millom park*. In the early 19th century, the main settlement within Millom Parish appears to have been *Holborn Hill*; in the whole of *Millom Below* township, which included the village of *Holborn Hill* and the church and castle, there were only 62 houses in 1821. A further township, *Burrow Crails* [presumably *Borwick Rails*] in *Millom Parish*, was described as '*a natural harbour or creek on Duddon Sands, where a few vessels of about 100 tons burthen, import coal, and export corn, slate, wood-hoops, rods for coal baskets, etc. A coast waiter is stationed here from the Whitehaven custom house, and a little above the harbour is the farmhouse, called Burrow Crails, and nearly a mile NNW is the village of Holborn Hill*' (Parson and White 1829, 223). Greenwood's map of *Cumberland 1823* (Figure 5) clearly shows the site of *Burrow Crails*, located to the south-east of *Holborn Hill*. In 1829, the farmer listed at *Burrow Crails* was *Jas Dixon*; at *Rottington*, the farmer was *Stephen Seward*; and *New Hall* was occupied by *James Hartley*, also listed as a farmer. Within the whole of *Millom Below* township, there is no mention in the trade directory of 1829 for any industrial activity, apart from small-scale trades such as a blacksmith and a stone mason (*ibid*, 226). It is therefore clear, that in 1829 the area through which the proposed pipeline route is to pass, was largely rural and agricultural, with a relatively small-scale harbour at *Borwick Rails*. Although the quarrying of limestone and extraction of iron ore was being undertaken in the parish at this date, it was not to any extent that it would be 40 years later.

4.4.29 In 1861 the townships of *Millom Above*, *Millom Below* and *Chapel Sucken*, which formed the southern extremity of the vast ecclesiastical parish of

² *Demesne* = one's own land, a landed estate attached to a manor; a domain (Source: Geddes and Grosset Ltd 1996)

Millom, only contained 1183 inhabitants, of which about half lived in the villages of Holborn Hill, Haverigg, Kirksanton and The Hill, whilst the remainder occupied outlying farmsteads which lay along the flanks of the high ground known as Millom Park, and on the strip of land which boarded the Duddon estuary. Two thirds of the occupied males worked on the land; second only to agriculture as a source of employment in 1861 was mining, in which only 34 persons in the three townships were engaged. Most of these lived at The Hill in Millom Above, and were occupied in winning pyrites, from which sulphur was extracted for use in the chemical industry (Harris 1966, 450).

- 4.4.30 Searches for iron ore commenced at Hodbarrow Point in 1843, and in 1856 the discovery of a solid ore mass led to successful working during the following 12 years, of irregular guts, masses or stringers of haematite. Although the Whitehaven and Furness Junction Railway had opened a station at Holborn Hill in 1850, most of the early output from Hodbarrow was shipped from the quay at Borwick Rails harbour. By the mid-1860s, after several years of boom in haematite mining, some 265 men were employed underground (Marshall and Davies-Shiel 1969, 128-130).
- 4.4.31 When it became apparent that the mines at Hodbarrow were proving successful, the railway company provided sidings from Holborn Hill and eventually a short branch-line was extended to Hodbarrow. Most of the movement of ore, however, was initially undertaken by coastal shipping, either to ports in the consuming districts or to the company's depots at Ellesmere Port and Saltney. The cargo left Millom from the company's pier at Crab Marsh Point, which was linked by tramway with the mine. Despite the vagaries of the Duddon channel, which was a source of endless inconvenience to company and ships' master alike, almost 600 vessels used the harbour of Borwick Rails in 1864 (Harris 1966, 455).
- 4.4.32 Land for the Cumberland Iron Mining and Smelting Company Limited was leased at Borwick Rails from Lord Lonsdale, who also leased the company the Red Hills limestone quarry nearby. The ironworks was under construction throughout much of 1866 and 1867 and was finally brought into use September 1867. In its original form it consisted of two blast furnaces and ancillary equipment, but later additions increased the number of furnaces to six (Harris 1966, 455). This is the Millom Iron Works site which is shown on the Second Edition Ordnance Survey map of 1900 (see Figure 7), and it is through some of this site that the proposed pipeline route will pass. Not long after constructing the iron works, the company erected 12 cottages at Borwick Rails and a handful of cottages to the south

of the Rottington Estate (the eventual Devonshire Road) (Hughes 2006, 168).

- 4.4.33 As the mines at Hodbarrow started to produce iron ore in quantity, from around 1864, and the mining company found it necessary to employ more men, the problem of how to accommodate them became a pressing matter. In 1860 the villages of Holborn Hill and Haverigg had been able to provide accommodation for the handful of workers that the mining company had then employed, but by 1864 these established settlements could no longer absorb the sheer number of men which the mine required. In an attempt to address this issue, the mining company requested tenders for the construction of temporary wood and corrugated iron buildings measuring 64ft long by 36ft wide. It would appear that some temporary huts were constructed as there is reference in 1866 in the Soulby Advertiser to *'there is so great a want of accommodation that temporary huts are thrown up, in which men are stowed away as on shipboard'* (Hughes 2006, 166). During 1865 immigrants streamed into the parish, and by the summer of 1866 there were between 800 and 1000 people living in Millom 'above the ordinary population of the neighbourhood'. Some were engaged in building the ironworks referred to in 4.4.32 above, whilst others were extending the railway and shipping facilities. A brickworks, which had recently been established close to Holborn Hill Station, also contributed to the quickening pace of industrial activity (Harris 1966, 457).
- 4.4.34 Plans for building a new town at Millom were reported in 1865. Thereafter events moved quickly, and by February 1866 surveys were made, the lines of new street determined and a number of building plots sold. In April of the same year the new town was formally inaugurated and named Millom³. By the autumn nearly 100 houses were under construction and others were already occupied. It was not long, however, before serious problems became apparent. The Rottington Estate, on which the town was constructed, was an area of poorly-drained land close to the Duddon, but it had become available as a single block of land, and as a consequence that was where the town was located. A year after its creation, Millom was noted to have been *'still without water for domestic use, gas, drainage, or properly formed streets'*, however the town continued to grow. In 1876 the population of the town had risen to nearly 4000 (Harris 1966, 458-462). A serious outbreak of smallpox in Millom in 1872 stimulated both Millom Iron Works and the Hodbarrow Mining Company to provide an isolation

³ Norman Nicholson in his biography *'Wednesday Early Closing'* noted that possible names for the new town included 'Duddonville' and 'Lonsdaletown' but 'Millom' was chosen because the town lay in the outer periphery of the estates of the old Millom Castle (Source: Nicolson 1975, 21)

hospital into which affected individuals could be removed from their home environment, thus hopefully containing the disease (Hughes 2006, 172). It is presumed that this was the Crab March Infectious Diseases Hospital (HER No. 12292) which is shown on the Second Edition Ordnance Survey map of 1900 (see Figure 7).

- 4.4.35 As Millom grew, it acquired a new centre which evolved during the 1870s and 1880s in the area around St George's Road, which was laid out to connect new Millom with the suburb of Holborn Hill. Rapid growth was sustained by the generally healthy state of the town's basic industries. The annual production of ore from Hodbarrow was consistently above 270,000 tons after 1876. It was not until after the 1870s, however, that the physical conditions in the town slowly began to improve. By 1880 a supply of water had been obtained from the nearby hills, and an extensive scheme for draining and sewerage the district was under way (Harris 1966, 462-463).
- 4.4.36 By 1871, 1300 vessels a year were being loaded out of Crab Moss Pier, although most only carried between 100-150 ton capacity. The iron works were expanding rapidly, fuelled by the nearby Hodbarrow Mines. In 1872, the iron works began to construct their own pier which incorporated the old Borwick Rails Harbour, and became known as 'Ironworks Pier'. The rapid development at the Hodbarrow Mines enabled Crab Marsh Pier to be extended and soon after took the name of 'Hodbarrow Pier' (HER No. 4667 file, document entitled 'Heritage'). The Second Edition Ordnance Survey Map shows these names for the piers (see Figure 7), and Plates 1 and 3 show the pier in the early 20th century.
- 4.4.37 In 1888, owing to subsidence in the workings at Hodbarrow, and the danger of inundation by the sea, work began on the construction of an inner barrier or sea wall which enabled access to a further 4-5 million tons ore. In 1898 the sea wall collapsed into a 40ft cavity and depression. As a consequence construction on an outer barrier commenced, built of rubble limestone and clay, faced with concrete and filled with readily available iron slag. The outer barrier was completed in 1905 (George and Brumhead 1988, 9-10).
- 4.4.38 Duddon Villa, which is first shown on the Second Edition Ordnance Survey map of 1900 (Figure 7) to the south of the proposed pipeline route was seemingly constructed in 1879 on spare land behind the Ironworks Pier. This prominent residence (see Plate 20) was built to house the First Port Manager and his family was brought in from Liverpool when the piers became a thriving port. It went on to become the residence of the Millom Ironworks manager into the 20th century (HER No. 4667 file, document

entitled 'Heritage'). Duddon Villa is now used for self catering holiday accommodation.

- 4.4.39 The new town of Millom was described in 1901 as being a: *'comparatively recent creation, and owes its existence and prosperity solely to the iron trade. About 40 years ago this spot, now the scene of extensive business operations and commercial activity, was smiling under its weight of golden grain, or forming luxuriant pastures on which the cattle lazily browsed. The rich deposit of ore in the immediate neighbourhood, and the unlimited facilities for tipping of slag on the wide expanse of sand in the Duddon estuary, pointed to the spot as a most suitable place for the manufacture of iron'* (Bulmer & Co 1901, 584). The reference to iron slag is significant as it is noticeable from a comparison of historical mapping from the 1860s until the 1960s (compare Figures 6 and 7 for example), that areas of former marsh or waste have been reclaimed, possibly by the tipping of slag. Ordnance Survey mapping from 1969 (not reproduced here) shows a large area reclaimed from former marshland or sand flats to the north of Millom Iron Works complete with railway sidings. This area was noted during the site walkover and is shown on Plate 11 below. It is possible that some of the proposed pipeline route will pass through areas which have been made up with iron slag.
- 4.4.40 The North West Rapid Coastal Zone Assessment refers to shipbuilding along the stretch of coastline between St Bees and Roa Island, near Barrow-in-Furness (ARS Ltd 2009). Barrow is noted to have been a significant shipbuilding town, and continues to be so; however there is no reference to the area around Millom, presumably as there are no sites shown on historical mapping, or visible from aerial photographs. During the site walkover, it was mentioned to the author that there was a shipbuilding site located to the south-east of Duddon Villa within living memory, although it appears to have been fairly primitive consisting largely of a hollow in the ground. A leaflet entitled 'Heritage' held within a file relating to HER No. 4667 housed at Kendal, notes that there were a few boat buildings in and around the Duddon Estuary, particularly in the Saltings, Crab Marsh and the Mains in the early 20th century. One well-known facility was the Anderson's Boat Yard. The locally renowned schooner 'Emily Barrett' is recorded to have been built and launched from the tip of Millom Pier in 1909.
- 4.4.41 In 1938 the town of Millom was described as being a modern mining and market town *'owing its rise to the development of the iron industry'*. The town was noted to have been well laid out, lighted with gas and electricity from works in Millom, the gas presumably from the gasworks recorded in the HER as being located close to the north of King Street in 1900 (HER No.

43481) (see Figure 7). Water was obtained from Baystone Bank, Whicham, which was the property of the Urban District Council. The Hodbarrow Mining Company Ltd was noted to have had an extensive deposit of haematite iron ore, and the works of the Millom and Askham Haematite Iron Company Ltd were described as employing 600 people; both companies being the main employers in the town (Kelly 1929, 205-206).

4.4.42 There are some HER sites located within Millom which relate to the early 20th century, in particular relating to defence during the Second World War. To the west of Haverigg there is the site of a Pickett Hamilton Hydraulic Pillbox, located that end of one of the runways at RAF Millom (HER No. 19836), and to the north of the airfield at Kirksanton Haws there is the site of a WWII gunpost (HER No. 19850). RAF Millom itself (now the site of Haverigg Prison), located to the west of the Haverigg, was established in 1939 and was officially named RAF Millom by the Air Ministry. It was constructed as an advanced fighter station under the control of 9 Group Fighter Command, stationed at Barton Hall near Preston. By the time the airfield was completed in early 1941, however, the fighter defence of the north-west of England was a lesser priority. There were features associated with RAF Millom, outside of the airfield site, for example there were three bombing ranges at its disposal; one located at Duddon, two miles north of Millom; one as Silecroft and one at Askam. Millom was placed in the hands of the War Department in 1946 and remained dormant until 1952. The airfield was briefly used as the home of several Army regiments before becoming sold off. The site was taken over in 1967, the technical area becoming Haverigg Prison, with several of the former Maycrete huts still standing. In 2006, the airfield was described as being largely intact, the land belonging to Hempland Farm and returned to agriculture (Chorlton 2006, 168-186).

4.4.43 During the Second World War, Barrow-in-Furness was a target for the Luftwaffe as they sought to disable the shipbuilding capabilities of the country. As a consequence the town had extensive defensive systems and protection for the civilian populace, for example anti-aircraft defences, barrage balloon sites, and searchlight batteries. A bombing decoy site is recorded at Ravenglass (ARS Ltd 2009, 167). Apart from air raid shelters, there does not appear to be any features relating to the defence of the town of Millom despite its extensive iron ore mines and iron working sites, although it is possible they lie outside of the 1km buffer zone, or are as yet unrecorded in the HER. There is a WWII Royal Observer Core lookout post recorded on the *Defence of Cumbria in the 20th century* website (<http://www.users.globalnet.co.uk/~rwbarnes/index.htm>), which appears to have been an earlier masonry lighthouse which had a concrete top with

walkway added in 1941. The website records that the tower was moved in 1950 although its new or original location is not given

- 4.4.44 Millom Ironworks, through which the proposed pipeline route will pass, was the subject of a programme of re-organisation by the Millom and Askam Haematite Iron Company in 1932, when three new blast furnaces were constructed each with a capacity of up to 27 tons a day. Between 1935 and 1940 the iron works built a sinter plant, enlarged its furnaces and abandoned the old fashioned sand casting of pig iron. The improvements continued after the Second World War until, by its closure in 1968, Millom Ironworks was a modern, efficient plant with ambitious plans for the future (Myers 1991, 46). Plates 4 to 6 show Millom Iron Works at various dates in the early 20th century, providing some information on the extensive works and railway network which existed along the stretch of land between what is now the north end of King Street to Hodbarrow Pier. Plate 7 shows Hodbarrow Pier as it appeared in 1930.
- 4.4.45 In the early 1960s Millom Haematite Ore and Iron Company Ltd was still obtaining ore from the nearby Hodbarrow mines, although by this date the ores were almost exhausted. Foreign ores were being imported through Barrow Docks, and for fuel, the company also owned the local Goldmire limestone quarry and a coke-making plant in Durham. The plant had been well maintained and continuously modernised, with a new blast furnace in 1961. As a result, the site could produce first class merchant pig iron, as well as being noted for its high quality ingot moulds and other heavy castings which it sold to the steel industry. By 1964, the future for the steel industry looked bleak, with declining demand for iron and steel affecting European and World producers. Factors which effected its decline included the emergence of plastics which were ousting iron in several applications, such as pipes; the development of ductile iron, a brand of iron based on using steel scrap instead of pig iron, and the advent of continuous casting in steelmaking was rendering the use of ingot moulds obsolescent. All operations at Millom Ironworks ceased in August 1968 (Davis 2007).



Plate 1: View looking west showing Iron Works Pier c.1910



Plate 2: View looking north-west showing a similar view of the Iron Works Pier, to the north side of the proposed development site, Jan 2010



Plate 3: A paddle steamer at Borwick Rails Harbour c.1930

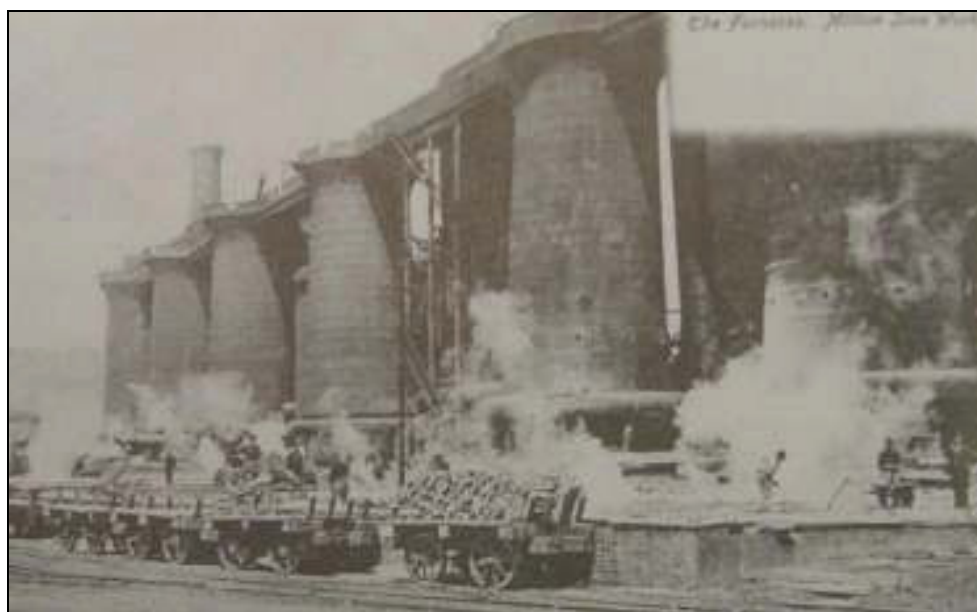


Plate 4: Millom blast furnaces at the iron works, c.1908



Plate 5: Millom Iron Works from Slag Bank, view looking south-east along the line of the proposed pipeline route, c.1914



Plate 6: Millom Iron Works c.1930

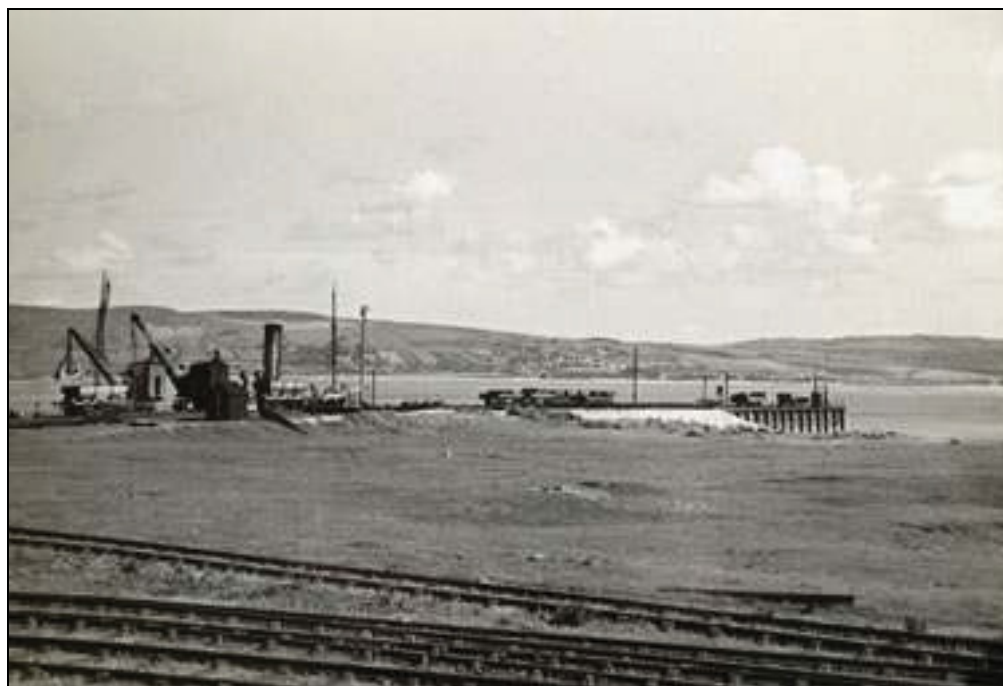


Plate 7: Hodbarrow Pier, Millom, c.1930

5 WALKOVER SURVEY

5.1 INTRODUCTION

- 5.1.1 The line of the proposed pipeline route was walked over by Fiona Wooler and Angus Clarke on the 18th January 2010 to assess the topography of the area and to identify any archaeological remains or historic features which may be impacted by the groundworks.
- 5.1.2 The entire length of the proposed pipeline route, as per the plan supplied by United Utilities, was visited and photographs were taken at various points to illustrate the condition of the ground cover, and to show features of archaeological or historic interest within close proximity to the pipeline route. The locations of archaeological features noted, and the directions of the photographs included within the report are shown on Figures 10-12, which show the route split into three sections, Section 1 (Figure 10), Section 2 (Figure 11) and Section 3 (Figure 12).

5.2 RESULTS OF THE WALKOVER SURVEY

- 5.2.1 **Section 1:** Section 1 was walked from the western end of the proposed pipeline route, commencing at the Pumping Station at the north end of King Street. It was noted that the pipeline is intended to be located along the grass verge to the northern side of a metalled track (Plate 8). It was noted that this grass verge was bounded on its northern side by a fence, to the northern side of which the ground level dropped down to marshland (Plate 9). This topography changed little until the point where the proposed pipeline route changed to a more south-easterly direction, from this point some limited brickwork and demolition material was noted in the slope of the hill (Plate 10).
- 5.2.2 Towards the middle of Section 1, the north side of the proposed pipeline route was noted to be the flat marsh land with standing water. To the north of this marshland was a flat area of land which was clearly man-made from slag from the ironworks. Historical mapping has shown that this large area of levelled slag heap is relatively modern, as it is not shown on Ordnance Survey mapping from 1956 (see Figure 8), but was noted by the author on Ordnance Survey maps dating to 1979, when this large expanse was utilised as railway sidings (OS Plan SD1879 and SD1880) (Plate 11). To the south side of the proposed pipeline route a raised area of land still exists, which was also clearly a former slag heap; the stratigraphy of the slag was clearly visible in section (Plate 12).

- 5.2.3 From the top of this levelled slag heap, looking back to the north-west, it was possible to note that there is a well-built masonry outfall located at the base of the slope (Plates 13 and 14).
- 5.2.4 Towards the eastern end of Section 1, the proposed pipeline route heads through an area of flat land which is now partly tracks and waste land (Plate 15). It was noted in this area that some railway sleepers still appear to survive *in-situ* (Location shown on Figure 10), although these will not be affected by the groundworks (Plates 16 and 17).



Plate 8: View looking south-east at the western end of Section 1 showing the trackway and grass verge



Plate 9: View looking south-east at the western end of Section 1 showing the drop in ground level to the north down to the flat marsh land



Plate 10: View looking south-east showing some brickwork and demolition material in the slope to the north side of the pipeline route



Plate 11: View looking east from the line of the proposed pipeline route showing standing water in Salthouse Pool with the levelled slag heap in the background



Plate 12: Detail of the remains of a slag heap located to the south side of the proposed pipeline route, Section 1 (Scale = 2m)



Plate 13: View looking west from the top of the levelled slag heap showing a well-built masonry outfall located to the north side of the proposed pipeline route



Plate 14: Detail of the masonry outfall located to the north side of the proposed pipeline in Section 1 of the walkover route



Plate 15: View looking south-east at the eastern end of Section 1 showing the flat area of land consisting of gravel tracks and waste land



Plate 16: View looking south-east showing in-situ railway sleepers to the north-east side of the proposed pipeline route, Section 1 (Scale = 1m)



*Plate 17: View looking north-west showing in-situ railway sleepers in Section 1
(Scale = 1m)*

- 5.2.5 **Section 2:** Section 2 of the walkover survey followed the proposed pipeline route through an area of flat waste land, with some gravelled tracks, in a south-easterly direction between a modern dwelling known as The Harriet and works on the north side of Devonshire Road, towards a road on which Duddon Villa and a scrap yard are located (Figure 11).
- 5.2.6 The only feature of note along this section was a surviving masonry wall which was set on a raised area of ground to the north side of the proposed pipeline route (Plate 19). It would appear that this raised area and the stone wall related to part of the north boundary of a railway line shown on historical mapping as late as 1979; the proposed pipeline route, which is located below this raised area, will therefore pass through the line of former railway tracks which were in existence up until the demise of the iron works.
- 5.2.7 Although not affected by the proposed pipeline route, Duddon Villa is worth noting for its relationship with the former Millom Ironworks. As already noted above (see 4.4.38), the property was constructed in 1879 to house the first port manager, then subsequently it was the residence of the iron works manager (Plate 20). This property now stands in relative

- isolation, now that all features associated with the iron works have gone (Plate 21).
- 5.2.8 Also not affected by the proposed pipeline route, but worth noting, are the surviving sections of Millom Ironworks Pier, formerly Borwick Rails Harbour (Plate 22). This pier has clearly been used in modern times; it was mentioned to the author at the time of the walkover by a local resident that until relatively recently boats were moored up along the pier, and some were broken up here.
- 5.2.9 During the walkover survey towards Section 3, it was noted that although the name Borwick Rails still survives as a name of a property to the east of Devonshire Road Industrial Estate, the original isolated farmstead, which would have stood at the east end of Devonshire Road (north side), is now occupied by industrial buildings. The row of cottages constructed by the Millom Ironworks at Borwick Rails, which are still seemingly shown on Ordnance Survey mapping of 1973 (Figure 9), have also now gone.
- 5.2.10 **Section 3:** Section 3 of the walkover, following the proposed pipeline route provided by United Utilities, commenced from the south-west corner of the sewage works and headed in a south-easterly direction towards the outfall at the sea (Figure 12).
- 5.2.11 The route passes along the south side of a field boundary from the sewage works, in a south-easterly direction through a field which was under pasture at the time of the site visit (Plate 23). Within approximately 100m the pipeline route reaches the location of Crab Marsh, where the ground becomes marshy before reaching a small hillock which was noted to have consisted of sand, rather than of slag (Plate 24). The route then continues to follow the south side of the present field boundary through grassland (Plate 25). No features of archaeological interest were noted along this section of the pipeline route, with no evidence for the former railway tracks which formerly crossed this area as shown on historical mapping (see Figure 8 for example).
- 5.2.12 Upon exiting the field, the pipeline route continues in a south-easterly direction towards the former Hodbarrow Pier, to reach the outfall into the sea. The route, as shown by the preliminary plan provided by United Utilities, takes the pipeline through an area of sandy beach (Plate 26).
- 5.2.13 It was noted during the walkover of Section 3 that all along the north-east facing side of the former Hodbarrow Pier, was surviving timberwork and iron fittings (Plate 27), although these features will not be affected by the proposed pipeline route.



Plate 18: View looking south-east showing section 2 of the walkover route



Plate 19: View looking south-east showing a surviving part of a stone wall located on slightly higher ground to the proposed pipeline route, Section 2 (Scale = 1m)



Plate 20: View looking south-east showing Duddon Villa, now self catering holiday accommodation



Plate 21: View looking north-west showing Duddon Villa as seen from the flat area of former railway sidings, close to the former Borwick Rails Harbour



Plate 22: View looking south-east showing surviving concrete sections of Millom Ironworks Pier, Section 2 of walkover route



Plate 23: View looking south-east from the south-west corner of the sewage works showing the topography of the proposed pipeline route, Section 3 of walkover



Plate 24: View looking south-east showing the small sand hill located along the proposed pipeline route, Section 3 of the walkover



Plate 25: View looking north-west showing the easterly section of the pipeline route, Section 3 of the walkover



Plate 26: View looking north-east showing the sandy beach and remains of Hodbarrow Pier

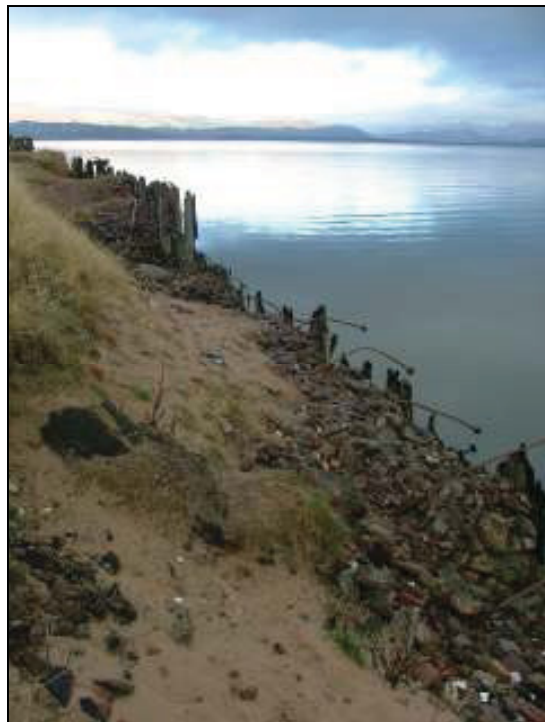


Plate 27: View looking north-west showing surviving timberwork and iron fittings relating to Hodbarrow Pier

6 CONCLUSIONS

6.1 DESK-BASED ASSESSMENT

- 6.1.1 The desk-based assessment involved the consultation of the County Historic Environment Record (HER) and the collation of cartographic information, published and unpublished material, in order to achieve an understanding of the topographical, historical and archaeological of the proposed pipeline route. The principal aim of this assessment was to identify known and potential archaeological sites along the pipeline alignment and to assess the impact that the groundworks may have on these archaeological remains.
- 6.1.2 The assessment has revealed that up until the second half of the 19th century, the area through which the proposed pipeline will pass, was largely marshland, at the western end Rottington Marsh, and at the eastern end through Crab Marsh (see Figure 6). Where the pipeline route was not passing through marshland, a small section passes through fields, a possible trackway and field boundaries identified on historical mapping, all presumably associated with a small farmstead known as Borwick Rails, which was in existence as early as the mid-18th century. A harbour at Borwick Rails, on the northern side of the study area, appears to have been in existence since the early 19th century, if not earlier, as in 1829 *'a few vessels of about 100 tons burthen import coal and export corn, slate, wood-hoops, and rods for coal baskets'* (see 4.4.28). This was presumably a natural harbour; it is not known if there was any physical structure to this berthing, as the First Edition Ordnance Survey map of c.1865 shows no significant site (Figure 6).
- 6.1.3 The construction of Millom Ironworks, the extent of which is clearly visible on the Second Edition Ordnance Survey map of 1900, commenced in 1866 and was operating by September 1867 (see 4.4.32). The construction of this site, as well as the provision of railway tracks leading from it to Hodbarrow Pier and to join the main line at Holborn Hill, appears to have involved the reclamation of some of the former marshland of Rottington Marsh. The proposed pipeline route is presently planned to pass along the line of some of these railway tracks and it is possible evidence for these could be noted during the excavations of the pipeline trench, as well evidence for ballast for support of the tracks and possible evidence for this made-up ground.
- 6.1.4 Cartographic evidence indicates that the majority of the pipeline route from the King Street Pumping Station to Duddon Villa remained in use as railway tracks up until the 1970s, although some of the pipeline route may

pass through other features associated with the Ironworks. The section of pipeline from the Waste Water Works to the outfall at the sea will also pass through some railway tracks, and possibly structures located close to Hodbarrow Pier which are shown on the Second Edition Ordnance Survey map of 1900 (see Figure 7)

6.1.5 Several sites were identified during the desk-based assessment within the 1km buffer zone, which are not presently recorded in the County HER:

- Borwick Rails Farm (*Burrow Crails* in 1774), mentioned in documents of 1741. Labelled on Hodskinson and Donald's map of 1774 (Figure 4) and later mapping.
- Rottington Farm (*Rottenton* in 1774). Labelled on Hodskinson and Donald's map of 1774 (Figure 4), and later mapping.
- Red Hill Farm. Labelled on Hodskinson and Donald's map of 1774 (Figure 4), and later mapping.
- Borwick Rails Cottage. Shown on the First Edition Ordnance Survey map of c.1865 (Figure 6).
- Tile and Brick Works at Holborn Hill (north of the railway station). Shown on the First Edition Ordnance Survey map of c.1865 (Figure 6).
- Low Millom Foundry, at the east end of Millom Street. Shown on the Second Edition Ordnance Survey map of 1900 (Figure 7).
- Duddon Villa, constructed in 1879 to house the first Port Manager, then became the residence of the Millom Ironworks manager. Shown on the Second Edition Ordnance Survey map of 1900 (Figure 7). Building still extant and in use as self-catering holiday accommodation.
- Millom Ironworks Pier. Shown on the Second Edition Ordnance Survey map of 1900 (Figure 7).
- Buildings and railway lines at Hodbarrow Pier. Shown on the Second Edition Ordnance Survey map of 1900 (Figure 7).

6.2 WALKOVER SURVEY

6.2.1 The walkover survey revealed that the majority of the proposed pipeline route from King Street Pumping Station to the road on which Duddon Villa is located follows present gravelled trackways, although towards the eastern end of this section the route passes through an area of rough grassland. Small sections of railway sidings, in the form of *in-situ* wooden

sleepers, were noted along the route although these do not appear to be along the proposed pipeline alignment.

6.2.2 From Millom Waste Water Treatment Works, heading in an easterly direction towards the outfall at the sea, the proposed pipeline route was noted to pass through pasture land; no archaeological features were noted at the time of the walkover, although the lines of possible former railway tracks were observed in close proximity which may have crossed the pipeline route. At the extreme eastern end of the pipeline route, is Hodbarrow Pier, a man-made feature which may be impacted by the scheme of works dependant on the exact alignment. To the south side of Hodbarrow Pier the ground surface was noted to be sandy beach.

6.3 ARCHAEOLOGICAL POTENTIAL

6.3.1 Information derived from the research undertaken for the desk-based assessment and from the walkover of the proposed pipeline route has indicated that the potential for late 19th century and 20th century archaeological remains relating to Millom Ironworks and associated infrastructure is high. The pipeline route follows a section of railway which was in existence since at least 1900 up until the 1970s. Although it is likely the railway tracks themselves have been removed, it is possible that evidence for the track sleepers and ballast to support the tracks may be revealed during groundworks. Dependant on the exact route alignment it is possible that other features relating to the iron works may be revealed.

6.3.2 The presence of levelled slag heaps to the south and north of the proposed pipeline route indicates that there may have sections of the pipeline route which may pass through similar material, some of which may have been used to reclaim some of the former marshland.

6.3.3 The section of pipeline from King Street to Duddon Villa is likely to reveal post-medieval deposits associated with the iron works. Earlier features may have been truncated or removed by later activity; however the possibility that they survive in isolated pockets needs to be considered during the course of the groundworks.

6.3.4 The section of pipeline route from the Waste Water Treatment Works to the outfall may potentially pass through features not associated with the iron works, or Hodbarrow Mines, simply due to the fact that cartographic sources indicate less activity in this area. The route could potentially pass through at least two former railway tracks which may reveal evidence of ballast or made-up ground; however the majority is through the former marshland of Crab Marsh.

7 BIBLIOGRAPHY

ARS Ltd, 2009, *North West Rapid Coastal Zone Assessment (NWRCZA)*, Unpublished Document, Gateshead: Archaeological Research Services Ltd [copy housed at the HER in Kendal]

Armstrong, A.M, Mawer, A, Stenton, F.M and Dickins, B, 1943-44, *The Place Names of Cumberland, Part II*, English Place Name Society, Volume XXI, Cambridge University Press

Brennand, M (Editor), 2006, *The Archaeology of North West England: An Archaeological Research Framework for the North West Region, Volume 1: Resource Assessment*, ALGAO/English Heritage/ The Council for British Archaeology North West

Bulmer, T & Co, 1901, *History, Topography and Directory of Cumberland*

Cherry, J and Cherry, P.J, 1987, *Prehistoric Habitation Sites in West Cumbria, Part V: Eskmeals to Haverigg*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume LXXXVII

Chorlton, M, 2006, *Cumbria Airfields in the Second World War*, Newbury: Countryside Books

Cowper, H.S, 1924, *Millom Castle and the Hudlestons*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume XXIV

Cranstone, D, 2006, *Solway Salt Project 2005-2006 - Report and Site Assessments*, Unpublished Report housed at Cumbria HER

Cross, M, 1939, *Publication of Four Prehistoric Objects from Millom Area*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series

Davis, Dr. D.R, 2007, *Millom – The End Game*, In 'Master of them All: Iron Making in Cumbria' Edited by G Brookes and C Irwin, Proceedings of a Joint Conference of the Cumbria Industrial History Society and the Historical Metallurgy Society, The Cumbria Industrial Society

Elsworth, D.W, 2007, *The "Streetgate" at Conishead, the "Castellum" at Dalton, and Roman Furness*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Third Series, Volume VII

Fair, M, 1937, *The Church of Holy Trinity, Millom*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series

Geddes and Grosset Ltd, 1996, *English Dictionary*, New Lanark

George, D and Brumhead, D, 1988, *Cumbrian Industrial Archaeology: A Field Guide*

- Harris, A, 1966, *Millom: A Victorian New Town*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume LXVI
- Hughes, R, 2006, *Millom: An Industrial Colony 1860-1875*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Third Series, Volume VI
- Hutchinson, W, 1794-97, *The History of the County of Cumberland*, Volume I, Republished 1974 by E P Publishing/Cumberland County Library
- IfA, 2008, *Standard and Guidance for Archaeological Desk-Based Assessment*, Institute of Field Archaeologists: Reading
- Kelly's Directory of Cumberland 1929*
- Lee, J, 1998, *The Place Names of Cumbria*, Carlisle: Cumbria County Council
- Marshall, J.D and Davies-Shield, M, 1969, *Industrial Archaeology of the Lake Counties*, Newton Abbot: David and Charles (Publishers) Limited
- Myers, B, 1991, *Millom in Old Picture Postcards*, Netherlands: European Library
- Nicholson, N, 1975, *Wednesday Early Closing*, London: Faber and Faber
- Parson, W and White, W, 1829, *History, Directory and Gazetteer of Cumberland and Westmorland*, Republished by Michael Moon, Whitehaven, 1984
- Pevsner, N, 2002, *The Buildings of England: Cumberland and Westmorland*, First Published 1967, Republished by Yale University Press 2002
- Railton, M, 2011, *An Archaeological Desk-Based Assessment, Walkover Survey and Watching Brief between King Street Pumping Station and Millom Waste Water Treatment Works*, Unpublished Document, North Pennines Archaeology Ltd
- Salter, M, 1998, *The Castles and Tower Houses of Cumbria*, Malvern: Folly Publications
- Shotter, D.C.A, 1982, *Roman Coin Hoards from Cumbria: Addenda*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume LXXXII
- Shotter, D, 1995, *Romans in South Cumbria*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume XCV
- Sykes, Rev. W.S, 1924, *The Parish Church of Millom*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series, Volume XXIV
- Thorley, J, 2004, *The Estates of Calder Abbey*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Third Series, Volume IV
- Warriner, F, 1931, *Newly-Discovered Sculptured and Inscribed Stones at Millom*, Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, Second Series

Warriner, F, 1932, *The Millom District: A History*, Republished in 1974 by Michael Moon, Beckermest

Warriner, F, 1937, *Millom People and Places*, Republished in 1977 by Michael Moon, Beckermest

Waterhouse, J, 1985, *The Stone Circles of Cumbria*, Chichester: Phillimore & Co Ltd

Winchester, A.J.L, 2003, *Thomas Denton: A Perambulation of Cumberland 1687-1688*, The Surtees Society and Cumberland and Westmorland Antiquarian and Archaeological Society, Woodbridge: The Boydell Press

Maps

Hodkinson and Donald's Map of Cumberland 1774 (Carlisle Library)

Greenwood's Map of Cumberland 1823 (Carlisle Library)

Lower Millom Tithe Map 1848 (microfiche at Barrow Record Office)

First Edition Ordnance Survey Map, undated c.1865, 6" to 1 mile scale, Cumberland Sheet XC (Barrow Record Office)


Second Edition Ordnance Survey Map, 1900, 6" to 1 mile scale, Cumberland Sheet XC NW (Barrow Record Office)

Ordnance Survey Maps, 1956, 6" to 1 mile scale, Sheets SD 17NE and SD 18SE (Carlisle Library)

Ordnance Survey Map, 1973, 1:10 000 scale, Sheet SD 17NE (Barrow Record Office)


Ordnance Survey Map, 1980, 1:10 000 scale, Sheet SD 18SE (Barrow Record Office)


APPENDIX: FIGURES

North Pennines Archaeology Ltd
2011

PROJECT: King Street to Millom Waste Water Treatment Works, Millom
 SCALE: 1:50 000 at A4
 REPORT No: CP1378/10
 CLIENT: United Utilities
 DRAWN BY: FW
 DATE: January 2011
 FIGURE: 1

KEY:
 Site Location



Reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number 100014732

Figure 1: Site Location



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:5000 at A3

DRAWN BY:
FW
DATE:
January 2011

KEY:
— Proposed Pipeline
Route



Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
2

Figure 2: Route of the Proposed Pipeline







North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:10 000 at A3

DRAWN BY:
FW
DATE:
January 2011

KEY:
 Proposed Pipeline Route
 1km Buffer Zone
 HER Site
 HER Site Extent for Iron Works

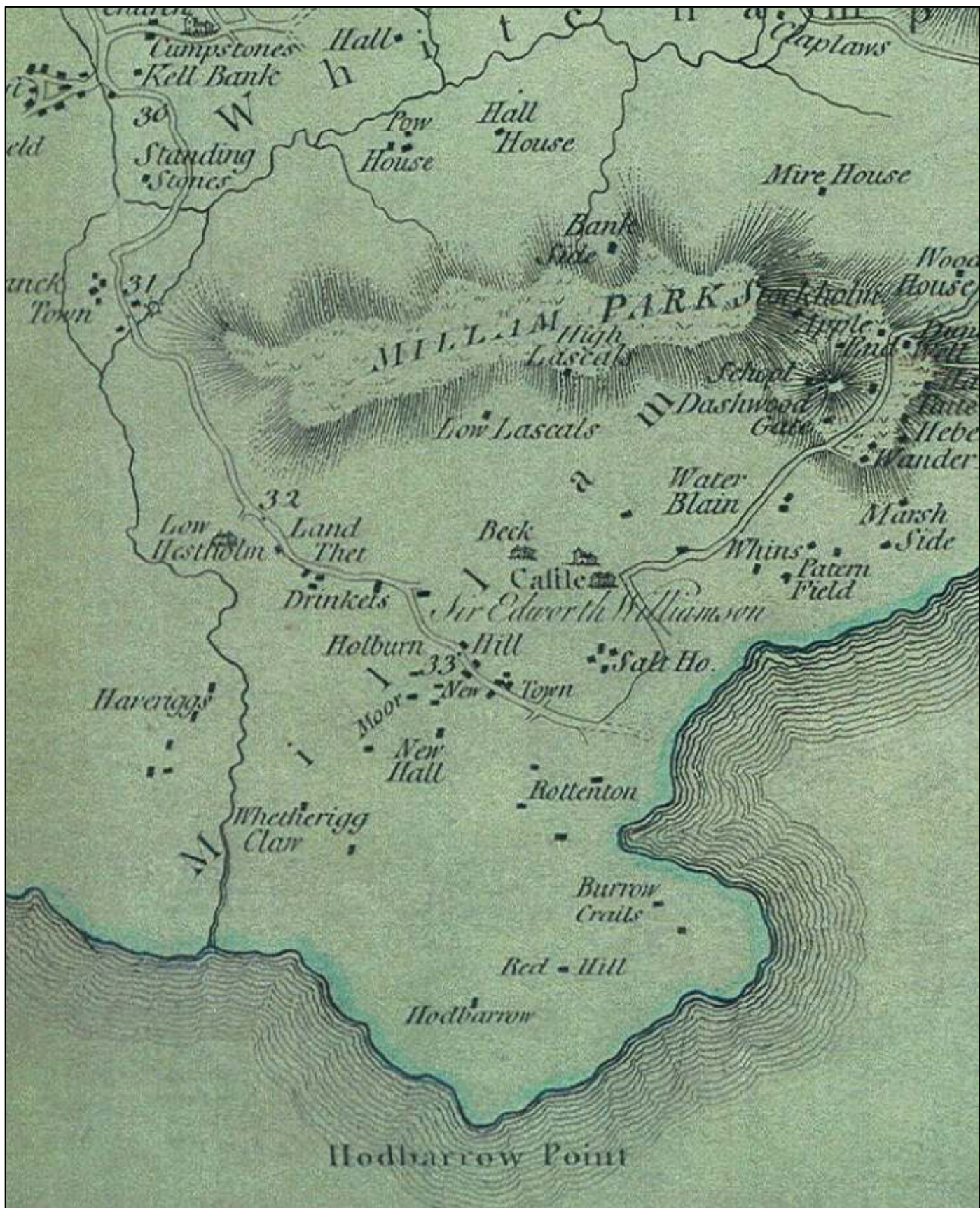


Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
3

Figure 3: Location of HER Sites within 0.5km either side of Proposed Pipeline Route



North Pennines Archaeology Ltd
2010

PROJECT: King Street to Millom Waste Water Treatment Works, Millom
 SCALE: Not to Scale
 REPORT No: CP1378/11
 CLIENT: United Utilities
 DRAWN BY: FW
 DATE: January 2011
 FIGURE: 4



Figure 4: Extract from Hodkinson and Donald's Map of Cumberland 1774



North Pennines Archaeology Ltd
2010

PROJECT:	King Street to Millom Waste Water Treatment Works, Millom
SCALE:	Not to Scale
REPORT No:	CP1378/11
CLIENT	United Utilities
DRAWN BY:	FW
DATE:	January 2011
FIGURE:	5



Figure 5: Extract from Greenwood's Map of Cumberland 1823



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:8000 at A3

DRAWN BY:
FW
DATE:
January 2011

KEY:
— Proposed Pipeline
Route

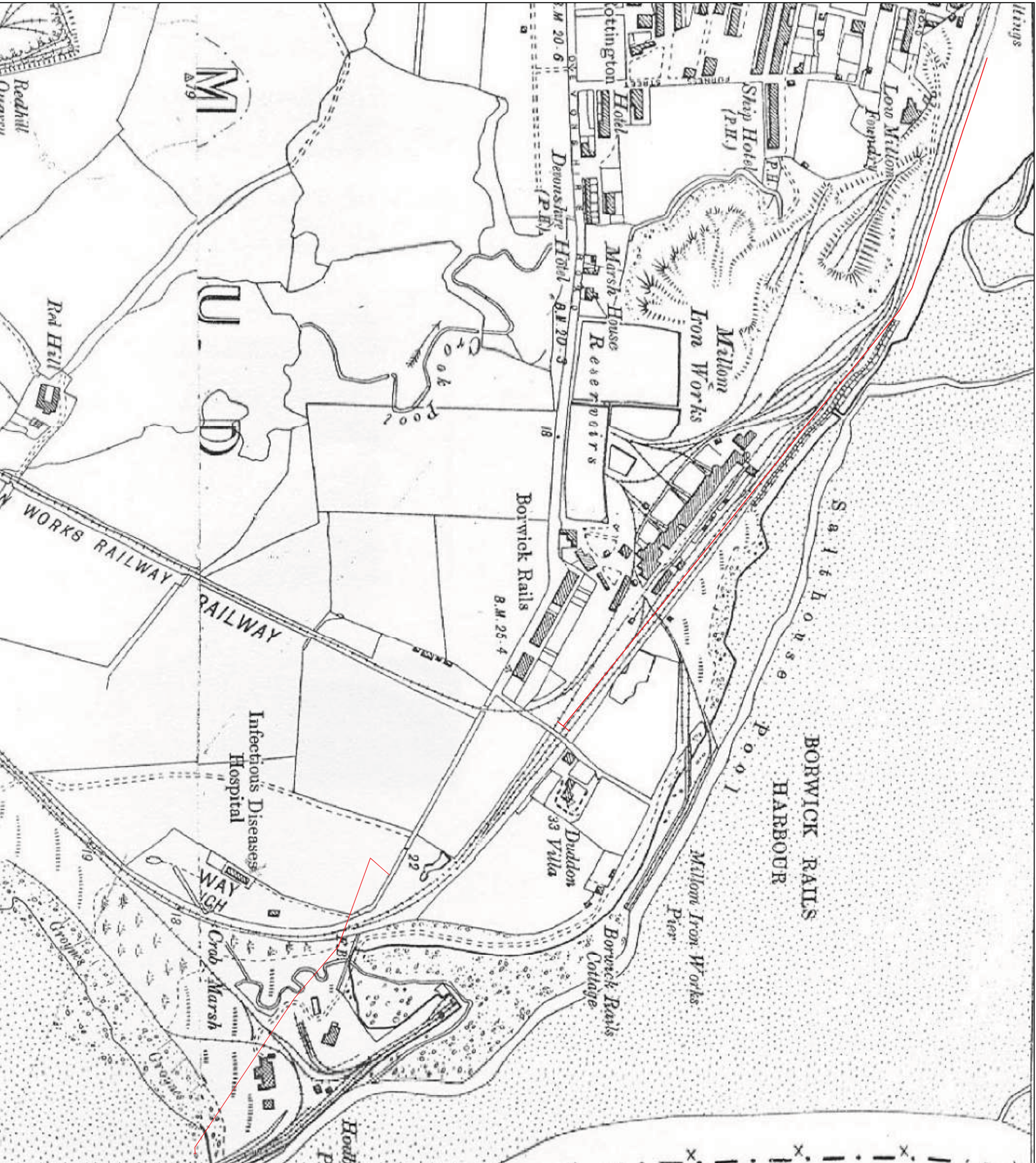


Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
6

Figure 6: First Edition Ordnance Survey Map c.1865 (6" to 1 mile scale)



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:5000 at A3

DRAWN BY:
FW
DATE:
January 2011

KEY:
— Proposed Pipeline
Route



Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:

7

Figure 7: Second Edition Ordnance Survey Map 1900 (6" to 1 mile scale)



Figure 8: Ordnance Survey 1956 (6" to 1 mile scale)



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:7500 at A3

DRAWN BY:
FW

DATE:
January 2011

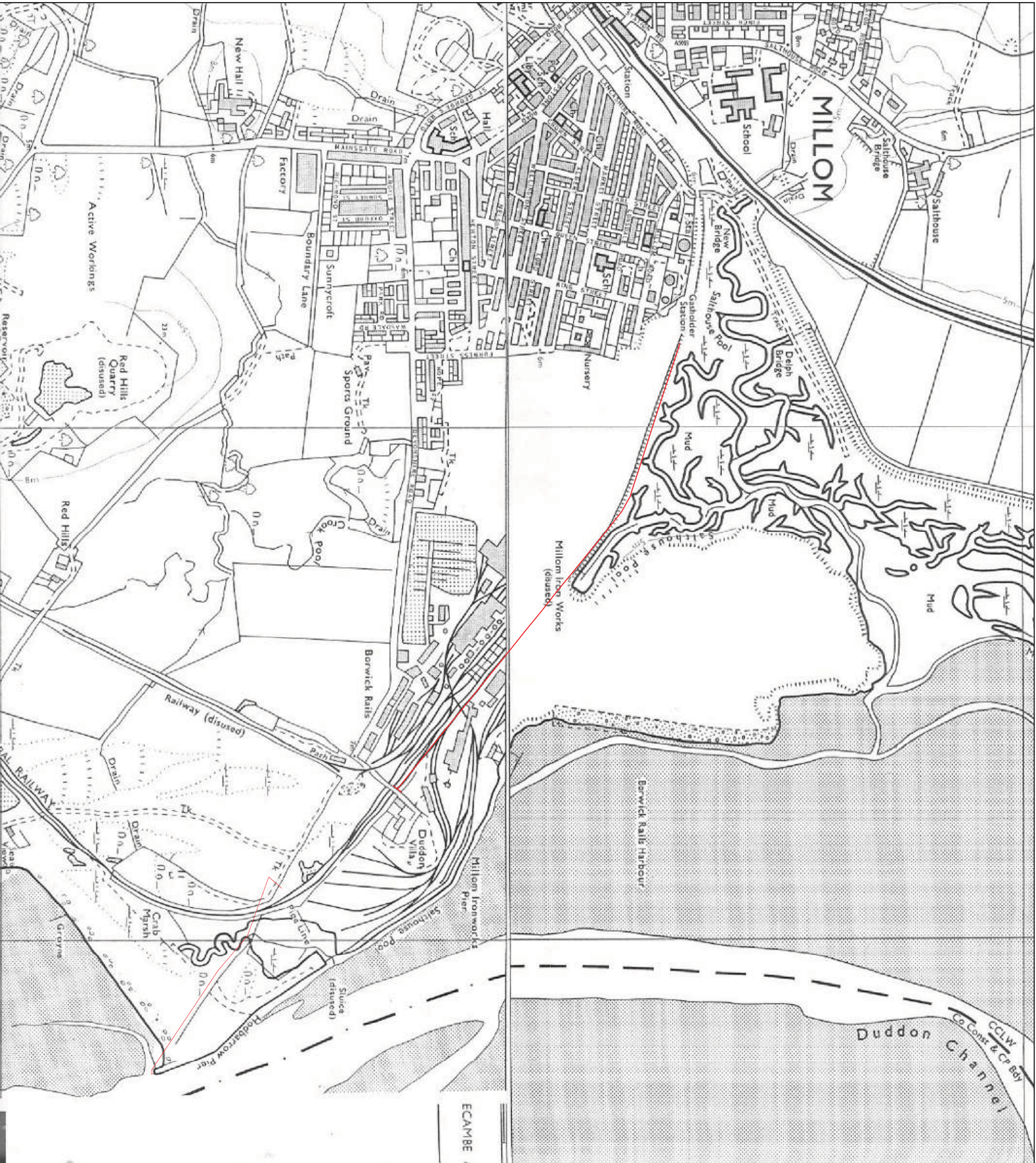
KEY:
— Proposed Pipeline
Route



Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
8



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:7500 at A3

DRAWN BY:
FW

DATE:
January 2010

KEY:
— Proposed Pipeline
Route

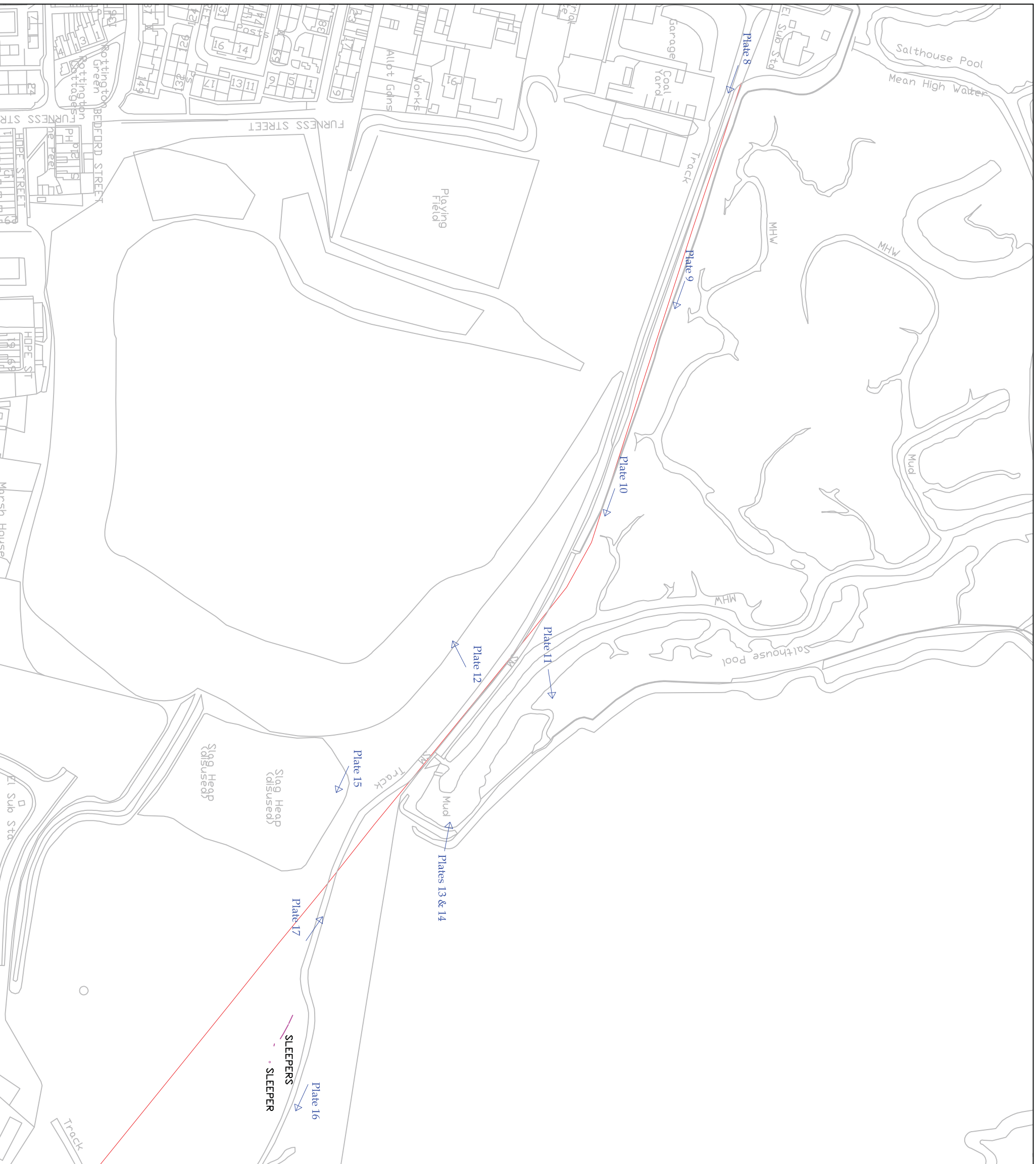


Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
9

Figure 9: Ordnance Survey Maps 1973 (lower section) and 1980 (upper section) (1:10 000 scale)



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:2500 at A3

DRAWN BY:
FW

DATE:
January 2011

KEY:
 Proposed Pipeline Route
 Railway Sleepers identified during Walkover



Reproduced by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office. © Crown copyright. All rights reserved. Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
10

Figure 10: Route of Proposed Pipeline showing the Locations of Features and the Directions of Photographs - Section 1



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:2500 at A3

DRAWN BY:
FW

DATE:
January 2011

KEY:

— Proposed Pipeline
Route



Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:

11

Figure 11: Route of Proposed Pipeline showing the Locations of Features and the Directions of Photographs - Section 2



North Pennines Archaeology Ltd
2010
King Street to Millom Waste Water
Treatment Works, Millom

CLIENT:
United Utilities

SCALE:
1:2500 at A3

DRAWN BY:
FW

DATE:
January 2011

KEY:
 Proposed Pipeline
 Direction of Photograph



Reproduced by permission of Ordnance Survey on behalf
of The Controller of Her Majesty's Stationery Office.
© Crown copyright. All rights reserved.
Licence number 100014732.

REPORT No:
CP1378/10

FIGURE:
12

Figure 12: Route of Proposed Pipeline showing the Locations of Features and the Directions of Photographs - Section 3