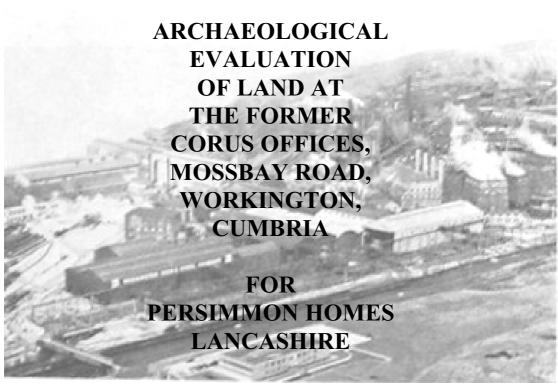
NORTH PENNINES ARCHAEOLOGY LTD

Project Designs and Client Reports No. CP/438/06



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EXECUTIVE SUMMARY

In December 2006, North Pennines Archaeology Ltd was commissioned by Persimmon Homes Lancashire to undertake a programme of archaeological works to assess the archaeological potential of the site of the former Corus Offices, Mossbay Road, Workington, Cumbria (NGR NY 9900 2698), following the submission of a planning application for 138 dwellings to be constructed on-site. The programme of archaeological works was undertaken in two stages: an archaeological desk-based assessment and walkover survey of the site, and a field evaluation comprising the excavation of a series of trial trenches.

The desk-based study involved the examination of all pertinent documents and cartographic sources held at Cumbria County Record Office in Carlisle and of the Record Office and Local Library at Whitehaven. The Historic Environment Record (HER) of Cumbria County Council based in Kendal was consulted. The HER includes the locations and settings of Scheduled Ancient Monuments, Listed Buildings, Parks and Gardens and other, non-designated archaeological remains. In addition, the research also involved a study of holdings of the Arts and Humanities Data Service, held by the Archaeology Data Service, available on-line (www.ads.ahds.co.uk). A number of published sources and several relevant web sites were also consulted to provide background information.

The desk-based assessment located a total of twenty features of cultural and historical importance within c.1km of the development site. These include fourteen HER records consisting of five entries of Post Medieval date, seven entries of 19th century date and two sites dating to the Second World War period. An additional four sites were revealed by an on-line search of the Archaeology Data Service, including a findspot of a Neolithic flint flake (Site 20), a probable Iron Age or Romano British sub-circular enclosure surviving as a cropmark (Site 18), Roman, medieval and Post-medieval evidence uncovered at St Mary's Parish Church (Site 19) and medieval documentary evidence for a settlement at Workington dating to 1150 and 1308 (Site 17).

Of particular interest are the prehistoric features seen as cropmarks located to the south-east of the development site and within 1km of it. Considering this study has shown that much of the development site has been left unaffected by modern developments in the area, the potential of the site to provide evidence for the survival of archaeology in this part of Workington is unparalleled. This development provided a rare opportunity to evaluate the potential of the area to yield pre-industrial archaeological deposits.

In January 2007 a field evaluation on the site of the former Corus Offices was undertaken. This comprised the excavation 13 evaluation trenches to evaluate the archaeological potential of an 1.25ha area on the north side of the site. The results of the evaluation showed the development site had been radically landscaped. The demolition debris and rubble from the previous training offices had been used to landscape the area to provide a flat surface for a football pitch and Bowling Green. On further investigation an open drain cover revealed a deep sewer ran underneath the north-eastern and the western part of the development site at approximately 4m below the ground surface. As a result of the demolition and later landscaping any potential for archaeological features had been destroyed or disturbed. The natural substrate was only observed in two trenches in the evaluation site, showing the depth of the landscaping on the development site.

ACKNOWLEDGEMENTS

North Pennines Archaeology Ltd would like to offer thanks to John Jackson of Persimmon Homes for commissioning the project, and for his assistance throughout the work.

North Pennines Archaeology Ltd would also like to extend their thanks to Jo Mackintosh, Historic Environment Records Officer for Cumbria and to Jeremy Parsons Assistant Archaeologist for Cumbria County Council, and all the staff at the Cumbria County Record Offices of Carlisle and Whitehaven, for their help during this project.

The desk-based assessment and walkover survey was undertaken by Cat Peters. The archaeological field evaluation was undertaken by Jo Beaty Project supervisor for NPA Ltd assisted by Kevin Mounsey. The report was written by Cat Peters and Jo Beaty, and the drawings were produced by Cat Peters. The project was managed by Martin Railton, Project Officer for NPA Ltd. The report was edited by Martin Railton, Project Officer for NPA Ltd.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 This scheme of archaeological works was undertaken to establish the archaeological potential of the site, located at the Former Corus Offices, Mossbay Road, Workington (NGR NY 9900 2698) (Fig 1). The work followed an application for planning consent for a development consisting of 138 dwellings and associated carparking spaces. The nearby evidence for Iron Age settlement (HER 4403: Site 18) and nearby 19th century industrial remains (HER 4664: Site 5) prompted the Cumbria County Council County Historic Environment Service (CCCHES) to recommend an archaeological desk-based assessment and field evaluation of the site to be undertaken prior to the development.
- 1.1.2 The development site lies within an urban context in the southern part of Workington to the west of the Westfields area, close to the shore edge (Fig 1). The site is within an industrial area and consists of disused offices and tarmac car parking areas interspersed with waste grassland. The study area, the designated area targeted by the desk-based assessment, consisted of the whole development site, outlined in red in Figures 7-10. The evaluation area consisted of a 1.25ha area designated by the CCCHES for sampling using trial trenches, and consists of the majority of the northern part of the development site. It is outlined in blue, in Figures 7-10.
- 1.1.3 The principal objective of the works was to identify and characterise the archaeological potential of the development area in accordance with a CCHES brief.
- 1.1.4 This report sets out the results of the work in the form of a short document outlining the findings of the documentary search and walkover survey, and field evaluation, followed by a statement of the archaeological potential of the site.

2 METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design was submitted to CCHES by North Pennines Archaeology Ltd at the request of Persimmon Homes Lancashire. This was in accordance with a brief prepared the County Historic Environment Service of Cumbria County Council. Following acceptance of the project design, North Pennines Archaeology Ltd was commissioned by the client to undertake the work. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists (IFA), and generally accepted best practice.

2.2 DESK-BASED ASSESSMENT

- 2.2.1 Several sources of information were consulted, in accordance with the project brief and project design. The study area consisted of a broad overall history of Workington, with an additional detailed area of 1km radius, centred on the proposed development area, which was studied in more depth. The principal sources of information were the Historic Environment Record (HER), maps and secondary sources.
- 2.2.2 Historic Environment Record (HER): the HER in Kendal, a database of archaeological sites within the county, was accessed. This was in order to obtain information on the location of all designated sites and areas of historic interest and any other, non-designated sites within the study area, which included monuments, findspots, Listed Buildings and Conservation Areas. A brief record including grid reference and description was obtained for the various sites within the study area, and was examined in depth. Aerial photographs of the area were also studied. They also hold details and reports of previous archaeological work carried out in the area.
- 2.2.3 *Cumbria Record Office, Carlisle (CROC):* the county record office was searched for relevant documentary material on the area. In particular, the First, Second, Third and Fourth Editions of the Ordnance Survey mapping were checked, and a search was made of the local history books and pamphlets held within their collections.
- 2.2.4 Cumbria Record Office, Whitehaven (CROW): the county record office in Whitehaven was checked for relevant evidence for the history of the area. In particular, pre-ordnance survey mapping in the form of tithe maps and plans of inclosure were checked, as well as the collection of old photographs. In addition, various local publications and documents outlining local history are held at the record office. The National Archives have recently awarded the record office almost £19,000 to catalogue former owner, British Steel Corporation, records of the Workington plant, along with those of subsidiary companies based around the area (McFarlane 2006). These records include plans for the works, details of the mines the company owned and accounts as well as many evocative photographs of work at the plant. These records will take about ten months to complete, so will not be ready

- until at least Summer 2007, and therefore were unavailable at the time this report was compiled.
- 2.2.5 Archaeology Data Service on-line search of Arts and Humanities Data Service records (www.ads.ahds.ac.uk): although most of the records held within this on-line search database are held within the HER, it is useful to check as an additional research tool. Several records not located by the HER search were recovered and have been included within Appendix 1 and Fig 2.
- 2.2.6 **North Pennines Archaeology Ltd (NPAL):** various publications and unpublished reports on excavations and other work in the region are held within the North Pennines Archaeology library, and any undeposited archives of the sites themselves were examined.

2.3 ARCHIVE

- 2.3.1 A full professional archive has been compiled in accordance with the project design, and in accordance with current UKIC (1990) and English Heritage guidelines (1991). The paper and digital archive will be deposited in Tullie House, Carlisle, Cumbia.
- 2.3.2 North Pennines Archaeology and CCHES 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 evaluation will be made available by North Pennines Archaeology, as a part of this national project.

3 BACKGROUND

3.1 LOCATION, TOPOGRAPHY AND GEOLOGY

- 3.1.1 The development site lies within an urban context in the southern part of Workington to the west of the Westfields area, close to the shore edge (Fig 1). The site is within an industrial area and consists of disused offices and tarmac car parking areas interspersed with waste grassland.
- 3.1.2 The site is bounded to the north by industrial wasteland with shrubs and an area of newly planted trees; to the east by 'Jubilee Cottages', a row of residential housing fronting Mossbay Road; to the south by football pitches and a tarmac car parking area and to the west by the West Coast Railway line. A public footpath, used predominantly by dog-walkers, circuits the eastern perimeter of the site between the site edge, demarked by a fence, and the railway line.
- 3.1.3 The geology of the immediate area consists of exposed coalfield (exploited in the 18th and 19th centuries) covering an area between Whitehaven and Maryport, including Workington, and spreading as far east as Moorside. In the southern part of Workington, close to Harrington, are outcrops of pre-coal measure rock. These are overlain by deposits of glacial boulder clay.

3.2 HISTORICAL BACKGROUND

- 3.2.1 This historical background is compiled mostly from secondary sources, and is intended only as a brief summary of historical developments around the study area. Site Numbers refer to the table in Appendix 1, and their location can be traced in Figure 2.
- 3.2.2 **Prehistoric:** it is well known that sites on the West Cumbrian coast were utilised by Mesolithic Hunter Gatherer communities. Those areas close to river mouths were also a good area for resources providing fishing opportunities and fresh water, as well as transport links. Although no precise evidence for prehistoric settlement has been encountered in Workington, the presence of a Neolithic flint flake (Site 20) to the south of the development site, discovered in 1931, does suggest prehistoric activity in the area. Continued habitation of the area during the late prehistoric era is suggested by the presence of cropmarks of a sub-circular enclosure surrounded by a double ditch and rampart, located in a field to the south-east of the development site (Site 18). Settlements of this kind are often dated to the Iron Age and there is evidence that they continued in use, and indeed continued to be constructed, throughout the proceeding Romano-British period.
- 3.2.3 **Romano-British:** a Roman Road connecting the station at Moresby, near Whitehaven and that at Ellenborough, near Maryport, is believed to have passed through the town of Workington (Whellan 1860, 464). The course was thought to have been along an Old Ford over the Cloffocks, by Borough Walls Hill (the site of a possible Roman camp or fort) and along by Siddick past Flimby to Maryport. It is not clear what route the road took, south of Workington (Byers 1998, 156).

3.2.4 Mr Horsley, quoted in Hutchinson 1794, casts doubt on the likelihood that the remains at Burrow Walls were a Roman fort, having "met with disappointment at Workington where some have said that here must have been a Roman station, for I could discover no appearance of it" (Hutchinson 1794, 142). Hutchinson himself states that others at the time thought the surviving walls could have formed part of Seaton, the mansion of Orme, an early seat-holder of the area. The site at Borough, or Burrow Walls, was disturbed in 1852 by Mr Jackson of Seaton Mill (Whellan 1860, 454). He was engaged in supervising digging beside the wall foundations to provide drainage for the surrounding fields, when he discovered several Roman altars in a ruinous state. The best was kept by the landowner and displayed in his garden at Seaton Mill:

"It has upon one side what appears to be a priest in his vestments, with a rod or staff of office in his right hand, whilst in his left hand he holds what appears to be a small vessel for burning incense. On the reverse side is a female figure, also holding a staff in her right hand; she has something in her left hand, but what it is cannot be made out. Probably she is meant to represent Victory" (Whellan 1860, 464).

The altar was discovered close to what was thought to have been the main entrance to the 'station'. In addition to the altars, several pieces of earthenware or Roman pottery, hand millstones, and tablets, one inscribed with 'SLAN', were reportedly uncovered. Some human skeletons were also supposedly dug out although once exposed to the air, they apparently "crumbled to dust" (ibid). The bones were found close to the foundation of the west wall, where large rams' horns and further skeletal remains of a variety of animals were encountered. It is thought that the stone from the Roman fort was robbed to build the Castle, later manor house at Workington (Byers 1998, 14). The site was excavated by a team of amateur archaeologists led by Bellhouse, in April 1955, when they found the fort to have measured 88.4m by 109.7m, an estimate, since the western part has been claimed by the sea (ibid). The whereabouts of coins supposedly found at the site, is not now known.

- 3.2.5 The Burrow Roman Fort site, lies on the north side of the River Derwent, and is therefore some distance from the development site. Despite this, there would have been a road leading to the fort, and its route could have passed close to the development site. This is further suggested by the presence of Roman altar fragments discovered in the Parish Church of St Mary to the south of the development site (Site 19). In addition, the presence of a Late Iron Age or Romano-British settlement to the south-east of the site (Site 18), indicates that the indigenous population may well have continued to utilise the area.
- 3.2.6 *Early Medieval:* McCartney (2002) cites Workington as among the list of post-Roman monastic sites, stating that the site "lay on a promontory at Workington, a location not unlike that of Ruthwell, and where fragments of sculpture, including an inscription, have been found. Recent excavation beneath the present church of St Michael, have located graves and a gully or boundary thought to be of this period" (McCarthy 2002, 154). The additional discovery of a Viking Sword on the north bank of the river (ADS NMR_NATINV-8572), although far from the development site, adds further weight to the evidence for continued settlement in the area into the Early Medieval Period. St Mary's Church (Site 19), to the south of the development

site, and St Michael's Church, the parish Church of Workington, close to Workington Hall, far to the north east of Workington, both have evidence for 12th century foundations or origins, showing that a population was available for worship in the area. The discovery of a fragment of a 10th or 11th century crosshead of yellowish white sandstone during road widening in October 1924 to the south of the development site (Site 21) further indicates that activity in the area continued throughout the medieval period.

- 3.2.7 Later Medieval: according to Whellan (1860, 465): "the manors of Workington and Lamplugh were given by William de Lancaster in exchange for Middleton in Westmoreland, to Gospatric, son of Orme, brother-in-law of Waltheof, lord of Allerdale. Thomas, son of Waltheaof having a grant of the great lordship of Culwen, in Galloway, his prosterity assumed the name of De Culwen, subsequently changed to Curwen", and this family continued to hold the manor of Workington until the mid 1800s. Evidence for a medieval settlement at Workington has been seen by documents dating to 1150 and 1308 (Site 17).
- 3.2.8 The first description of the settlement at Workington was by Leland (living in the time of Henry VIII, 1509-1547) who says that the name is derived from the Wyre, a rivulet which flows into the sea at Harrington, a view that could be coroberated by early records of the name of the town as Wyrekinton, Wyrkenton and Wyrekinton. The stream is located about two miles from the early town. Leland describes the settlement as a place "where as shyppes cum to, wher ys a pretty fisher toun, cawlid Wyrkenton, and ther is the chif house of Sir Thomas Curwyn" (Whellan 1860, 469).
- 3.2.9 On 16th May 1568, Mary Queen of Scots, fleeing the threat from enemies in Scotland, accidentally landed by fishing boat at Workington in strong winds (Jackson and Jackson 1988, 7). Apparently she first set foot at St Georges Pier. She stayed at Workington Hall as a guest of Sir Henry Curwen; a contemporary portrait of herself was given by Mary to the Curwens as a result (Whellan 1860, 469- 471). The chamber in which she had slept was still known as the Queens Chamber (Hutchinson 1794, 832). The Hall itself, uninhabited since c.1920, is gradually declining into a ruinous state. In 1573, Queen Elizabeth I granted a charter to the Lord of the Manor of Workington to hold a market and a fair (Borough of Workington 1914, 3-5).
- 3.2.10 **Post-Medieval:** Denton, writing in around the 1670s visited Workington Hall. It is clear from his description that the area retained much of its fishing and agricultural heritage before being a major coal producer, well into the 17th century, "I do not know any one seat in all Britain so commodiously situated for beauty, plenty and pleasure as this. The demesne breeds the largest cattle and sheep in all the country. The famous salmon fishing here [mentioned in Camden 1599] is worth 3001 per annum, 300 of these great fishes having been frequently taken at a draught. They are likewise plentifully stored here with very good sea-fish and fowl, and here is a large rabbit warren, worth 201 a year, besides that serves the House, and a great dove-cote stored with a huge flight of pigeons; a saltpan and colliery, worth 201 per annum, within the demesne". This description of the area matches that depicted in a plan of 1569 (Fig 3), suggesting only little development to the settlement in this time. Denton's description is one of the earliest references to industry in Workington, and 100 years later, industry would have changed the town

- considerably. In 1688, Workington's population was 945, and most of the dwellings at this time were clustered around the Hall (Jackson and Jackson 1988, 8).
- 3.2.11 By the early 18th century, smuggling had become prolific on the West Coast of Cumbria. The proximity of the Isle of Man, Ireland and Scotland, all a relatively short distance by boat, and all with different rates of duties on alcohol, tea etc, meant that Workington was an ideal location for a base. This was eventually curtailed, largely by the change of duty on spirits to match that in Scotland in 1853, making smuggling on the Solway Firth merely a memory by 1855 (Jackson and Jackson 1988, 18). The transition from a largely agricultural and fishing community of the early 18th century, to a predominantly coal-mining and iron manufacturing community of the 19th century, can trace its origins in the 1780s when progressive farming methods were pursued (ibid, 21). By the end of the 18th century, Workington was one of the 15 market towns in the county.
- 3.2.12 Pennant described the town as extending "from the castle to the sea; it consists two clusters- one, the more ancient, near the castele, the other near the church and pier, and both contain about four or five thousand inhabitants; they subsist by the coal trade, which is here considerable" (quoted in Whellan 1860, 471). In 1794 Hutchinson published a History of the County of Cumberland, which included an observation of the current state of Workington (Hutchinson 1794, 137-142). He assessed that Workington, like most small seaside towns, had not been "laid out upon a plan of elegance, or for pleasure, but merely for the advantage of those concerned in trade" (ibid, 137). By this time the small seaside town of Workington had become famous for salmon fishery. Hutchinson concluded that the settlement "cannot boast much importance in antiquity...[but that it had] arisen from an inferior degree within a century" (ibid, 138). There had been suggestions at his time (though he cites no examples) that formerly the area was frequented by "persons carrying on an illegal trade". Even at this early date Hutchinson noted that the population was on the increase, commenting that many new handsome buildings were being constructed, although the picture he paints of the older areas is of narrow and ill-built streets, the total number of houses estimated at eleven to twelve hundred (Hutchinson 1794, 138). The chief export was coal to Ireland, though some of that mined at Workington was kept for the eastern areas of England, with the main imports consisting of timber, bar-iron and flax. The population of the town at this time must have been over 6,000.
- 3.2.13 The port was of importance, being one of the safest on the west coast, although it was the coal trade that was the greatest employer, there being 14 coal pits in the area at this time (1790s). Sail cloth and cordage for the boats were also manufactured at Workington in the late 1700s. Developments had been made to the town during the mid and late 18th century which included the construction of an Assembly Room, built by Mr Culwen, a Playhouse, built by Mr Stordy, a new square in the Upper Town where the corn market was held, consisting of twenty houses, a new bridge over the River Derwent and improvements had been made to the quays. By this time, the main settlement formed a strip along the southern bank of the River Derwent leading to the mouth (Fig 6).
- 3.2.14 During the 1800s, Workington Parish comprised the townships of Workington, Great Clifford, Little Clifford, Stainburn and Winscales, a total area of 8,310 acres

(Whellan 1860, 463). An award of inclosure of Workington and Winscales Common dated 1st March 1815 survives (Borough of Workington 1914: CROW 44 WOR), but does not appear to show the development site. The town of Workington saw a gradual rise in population up until around 1860. After this there was a population boom. In 1801 the population was 5,716. By 1851 this number had changed to 6,280, and this had increased to 10,785 in 1861. In 1871 the population number was 13,789 whereas in 1881 this had increased dramatically to 20,823. Bulmer (1883, 292) estimates that "no town, certainly in Cumberland, and few in England, has increased so rapidly in population as Workington has done during the last decade, especially in the two years since the last census". This would have had a vast impact on the settlement, with the town spreading south and south east very quickly in this period. "Very soon, if things go as they have done, Workington will be united with Mossbay" (Bulmer 1883, 293). This clearly shows that the Mossbay area, in the southern part of modern Workington, remained a largely unpopulated agricultural area until the late 1800s, except of course for the ironworks.

- The importance of the coal trade had diminished greatly by the 1880s. A trigger 3.2.15 cause for this decline must have been the loss of the Jane Pit Colliery (Site 4), which closed in 1875 when the sea broke into the mine, entombing 100 people. This wasn't the first occurrence of this type of event. In 1837 the Chapel Bank Colliery was destroyed by the sea, killing 27 people, at great financial loss to the owner Mr Curwen (Bulmer 1883, 301). Despite this decline of the coal industry, the Iron Industry, rising to the fore at this time, depended upon coal for the furnaces. Although the earliest record for iron ore mining in Cumberland seems to have been in the 12th century, it wasn't until the latter part of the 17th century that it was worked to a considerable extent, and that was at Langhorn, near Egremont (Fletcher 1880, 18). The earliest evidence for iron mining in the Whitehaven area is 1799 when the Lowca Iron Works were founded with the lease of the site from Mr J.C. Curwen, although these were abandoned after the foundations for two blast furnaces were laid. The lease included, "the right of working the thin bands of clay iron-stone of the coal measures which outcrop on the beach in Harrington Parish, as well as some other mineral rights" (Fletcher 1880, 17). It wasn't until the 1850s, however, that ironworks were comprehensively established in the area.
- 3.2.16 By 1883, there were five Iron Companies in the Workington area: The Workington Haematite Iron Company, The West Cumberland, The Moss Bay, The Lowther and The Derwent. The manufacture of iron, steel rails and tinplates had become the chief industry. Three ironworks were located on the south side of the River Derwent and three on the north. The earliest, the Workington Haematite Works were established in the late 1850s. The Moss Bay Haematite Iron and Steel Co. Limited (Site 5), began in 1872 (Bulmer 1883, 304). In July 1871 H.F. Curwen and Eldred V.C.M Curwen leased some of their land to Peter Kirk, Charles James Valentine, Henry Kenyon and Mary Gibson (Jackson and Jackson 1988, 41). The works were nearly equidistant from Workington to Herrington (Bulmer 1883, 304), at Moss Bay between the railway and the sea. They were transferred to a limited company in 1881. By 1883 they had four blast furnaces, and the steel works produced steel rails using the haematite pig iron through the Bessemer Process. In 1882, they produced 93,800 tons of pig iron, 88,000 steel ingots and 73,000 tons of steel rails. At this time they employed 1,000 men and paid £77,000 in wages (Bulmer 1883, 304).

Most of the products of the firm were shipped at the port of Workington to all over the world. "The Social History of the nineteenth-century ironworks is best reflected in the New Yard workers' suburb, grafted on to the earlier market town, and running south-west towards Moss Bay" (Marshall and Davies-Shiel 1977, 268).

- 3.2.17 In 1877, with the installation of three Bessemer converters, each with an eight tonne capacity, the Moss Bay Haematite Iron Company commenced its production of steel rails, a lucrative initiative at a time when the railway was expanding rapidly. In 1879 the Cleator and Workington Railway was opened, the station for which was situated in John Street. A Bill for the extension of this line to Seaton was passed in 1883, which was hoped to "be a great means of promoting and developing the several industries of the district through which it passes" (Bulmer 1883, 305). A summarised history of the works can be seen in Appendix 2.
- 3.2.18 *Modern:* a full history of Moss Bay ironworks is not strictly relevant to this report as they never extended into the development area, and it has been fully documented elsewhere (e.g. Byers 2004, 39-41; Lancaster and Whittleworth 1977, 66-80). A summary of the main changes within the ironworks is outlined in Appendix 2. Any developments relevant to the development site are outlined here.
- Evidence from published maps, particularly the Ordnance Survey Maps, show that 3.2.19 the development site itself was not significantly affected by the establishment of the Moss Bay ironworks in 1872. The First Edition map (Fig 7) shows the Whitehaven Junction Railway to the west of the development site, and Moss Bay road, although no further development has occurred by this time. By the publication of the Second Edition Ordnance Survey Mapping of 1900 (Fig 8), the Cleator and Workington Junction Railway (McGowan Graden 2004) had been established, running to the east and north of the site, which greatly served the ironworks. A track has been constructed across the development site, presumably as pedestrian access for workers from cottages that have been constructed on Moss Bay Road. The main ironworks were still located to the west of the Whitehaven Junction Railway track, although the development site presumably belonged to the works by this time. Between 1900 and 1909, a reservoir had been constructed to the north and west of the development site and can be seen in Plate 1. At some time between 1900 and 1925, a red brick office building was constructed in the south-west area of the development site, on the southern side of the track, close to the footbridge across the railway lines, shown by its presence on the Third Edition Ordnance Survey map of 1925. These offices have since been extended on several occasions.
- 3.2.20 At some time between 1936 and 1958 a rectangular two-storey building was constructed just to the north of the track close to the pedestrian bridge over the railway tracks, seen by Plates 2 and 3. This had been demolished and in its place, a car park had been created by 1999 (Plate 4), probably using the concrete foundations of the building.
- 3.2.21 During the Second World War, various pillboxes and anti-tank traps (Sites 11 and 12) had been installed in the area to form a part of the coastal defences of the West Coast. These did not extend into the development site.

4 ASSESSMENT RESULTS

4.1 Introduction

4.1.1 The assessment results are based on primary documents, most notably maps, and on the secondary sources used in *Section 3.2*. The results are presented according to the archive from which they were consulted. There are 16 HER records, which include 2 Listed Buildings for the study area immediately around the site, defined as a 1km radius, centred on the site. A full list of the sites identified by the assessment is given in the Gazetteer in *Appendix 1*.

4.2 HISTORIC ENVIRONMENT RECORD (HER)

- 4.2.1 HER: there were fourteen HER records within the study area, which is defined as a c.100m radius around the site (Fig 3). These include five entries of Post Medieval date, all of industrial type, including the Harrington Pottery (Site 7), the Cleator and Workington Junction Railway, Derwent Branch (Site 8), the Buddle coal Pit (Site 10), the Newyard Iron Works (Site 13) and the Salterbeck Saltworking Site (Site 15). These also include seven entries of 19th century date, including the Scheduled Ancient Monument site of the coal mine area around Jane Pit (Site 3), Jane Pit Colliery itself (Site 4), Moss Bay Iron Works (Site 5), Derwent Iron and Steel Works, Moss Bay (Site 6), Cleator and Workington Junction Railway (Site 9), Cleator and Workington Junction Railway, Mossbay Branch (Site 14) and the Marsh Pottery (Site 16). Two more modern sites dating to the Second World War period are included within the Historic Environment Records. These are the Moss Bay Shore Anti Tank Traps (Site 11) and the Pillbox near the former Workington Steelworks (Site 12). A full summary can be found in *Appendix 1*. An additional four sites were revealed by an on-line search of the Archaeology Data Service, which holds the archaeological records of the Arts and Humanities Data Service, located at www.ads.ahds.ac.uk. These sites have been added to Appendix 1 and their locations included in Figure 2. The additional sites include a findspot of a Neolithic flint flake (Site 20), a probable Iron Age or Romano British sub-circular enclosure surviving as a cropmark (Site 18), Roman, medieval and Post-medieval evidence uncovered at St Mary's Parish Church (Site 19), and medieval documentary evidence for a settlement at Workington dating to 1150 and 1308 (Site 17).
- 4.2.2 **Listed Buildings:** the listed building records, incorporated within the HER records (Appendix 1), show that 2 listed buildings exist within a 50m radius of the site. These are the Engine House at Jane Pit (Site 1) and the detached chimney also located at Jane Pit (Site 2). Both were constructed in 1843 and are Listed Grade II.

4.3 CUMBRIA RECORD OFFICE (CARLISLE)

4.3.1 Many of the relevant documentary records (e.g. county histories, local histories, trade directories etc.) were held at Carlisle Record Office.

4.4 CUMBRIA RECORD OFFICE (WHITEHAVEN)

4.4.1 Many of the specific relevant documentary sources, and the majority of cartographic sources of the area were held at Whitehaven Record Office.

4.5 CARTOGRAPHIC SOURCES

- 4.5.1 A search of maps recording Workington was carried out. Only those of direct relevance have been included.
- 4.5.2 Plan of Workington in 1569 from the English Papers Archive held at Kew (after Byers 1998, 121) (Fig 3): this is an early plan of Workington, showing the town as very much centred on Workington Hall and the Parish Church to the east of the town, with few buildings elsewhere, although a small row of fishing cottages can be seen closer to the river mouth.
- 4.5.3 **John Bill's Plan of Cumberland, 1626 (Fig 4):** this is a very large scale map of the whole county so no details can be deciphered. The spelling of the settlement of Workington at the time of publication was Wirkinton.
- 4.5.4 *L. Cowley's Plan of Cumberland, 1744 (Fig 5)*: it is clear from this county map that the name Workington had finally developed at some time between 1626, and the publication of Cowley's plan of 1744.
- 4.5.5 **W. Hutchinson's Plan of the Town and Harbour of Workington, 1794 (Fig 6):** this plan depicts a strip-like settlement following the south bank of the River Derwent spreading eastwards from its mouth. Workington Hall can be seen in the easternmost part of the settlement. Very little development has spread southwards or northwards, and the settlement is nowhere near the development site at this time, which is not depicted.
- 4.5.6 Ordnance Survey Map 1864, First Edition, 25" to 1 mile, Cumberland sheet LIII.15 (53:15) (Fig 7): the First Edition Ordnance Survey mapping of 1864 shows the site as centred on a field boundary between field 448 and 418, showing that the area was used for agricultural purposes at this time. The nearest buildings are farm buildings, one to the north and east, annotated as 'Westfield', and the other to the south, annotated as 'Salterbeck'. The site is situated roughly equidistant between the two.
- 4.5.7 Ordnance Survey Map 1900, Second Edition, 25" to 1 mile, Cumberland sheet LIII.15 (53:15) (Fig 8): this map shows the earliest developments in the area. Mossbay Road has been constructed since 1864. The two railway tracks, the Cleator and Workington Junction Railway (Derwent Branch) and the main West Coast Railway Line had been constructed between the publication of the First and Second Ordnance Survey maps. A track leading to the railway bridge across the centre of the development site is also in place by 1900, with a small bank towards the southeastern corner.
- 4.5.8 Ordnance Survey Map, 1925, Third Edition, 25" to 1 mile, Cumberland sheet LIII.4 (53:15) (Fig 9): the Third Edition Ordnance Survey map is very similar to the Second Edition Ordnance Survey mapping of 1900. The notable difference is

with the addition of buildings to the south of the track leading to the railway bridge, an early 20th century construction, dating to between 1900 and 1925. These buildings conform to a similar layout to the extant buildings on-site, although an additions have since been made to the south of the north-south aligned eastern building and to the east-west aligned western building. A reservoir is also depicted just to the north and east of the site.

4.6 **AERIAL PHOTOGRAPHY**

4.6.1 Aerial photographs pertaining to the study area were studied from various local publications held at the Cumbria Record Office at Whitehaven (CROW). Those of relevance can be seen in Plates 1-4 (Appendix 3), dating from between 1909 and 1999. They show little development to the development site, except the construction of a rectangular two-storey concrete building on the site of what is now a car park to the north of the trackway leading to the pedestrian bridge over the railway lines. This had been demolished by 1999.

4.7 ARCHAEOLOGICAL INVESTIGATIONS

4.7.1 The development site itself has not yet been subjected to archaeological investigation. A search of previous archaeological investigation was made of the ADS website, holding the AHDS records, providing the following results:

Ref.	Location	Date and Contractor	Result	Source
EHNMR- 646074	Nook Street, Workington	1977; not stated	A Post-Medieval well, pavement and drain	Council for British Archaeology Group 3: News bulletin 2/1997, 14-15
EHNMR- 1076981	St. Michael's Church, Workington	1996-7; Carlisle Archaeology Unit	Revealed surviving plan of Medieval Church	Journal for the Society of Medieval Archaeology 40/1996, 251. Church Archaeology 1, March 1997, 43-5

4.7.2 Neither of these sites are close to the development site, although they give interesting information on the potential for archaeology surviving sub-surface in the area.

4.8 SITE WALKOVER SURVEY

- 4.8.1 The site was visited on Monday 9th January 2007. This was to assess where any services and obstacles to the evaluation might be encountered, and to check for any surface evidence for archaeological features. A photographic record of the site as existing was compiled.
- 4.8.2 At the time of the walkover survey the study area comprised disused offices and tarmac car parking areas interspersed with waste grassland (Figure 10). The site entrance was from Mossbay Road to the east (Plate 5) along the route of the 19th century trackway (Plate 6). An embankment bounded the site on the east side, behind which were Jubilee Cottages (Plate 10).
- 4.8.3 The former Chorus Offices comprised a series of unremarkable redbrick two-storey modern buildings with slate roofing in a poor state of repair (Plate 7), surrounded by concrete car parking areas.
- 4.8.4 The area of the field evaluation (shown in blue) comprised 1.25ha of land at the northern end of the site. The majority of this area was located within a field of rough pasture (Plate 8). The southern end of this area contained a former bowling green, surrounded by concrete paths and car parking areas. Another car park, once the site of a building shown in the 1958 air photograph, was immediately south and west of the evaluation area (Plate 9).
- 4.8.5 No features of archaeological interest were encountered during the walkover survey, and all standing structures on site were modern.
- 4.8.6 No visible services were identified in the evaluation area. Service plans provided to North Pennines Archaeology Ltd. by the client showed a gas pipeline and BT cables crossing the south end of the evaluation area.

5 EVALUATION RESULTS

5.1 Introduction

5.1.1 The field evaluation was undertaken over a period of five days between 15th and 20th of January 2007. A total of 13 evaluation trenches were mechanically excavated to show a representation of the evaluation site (figure 10). The trenches were excavated to a health and safety required depth of 1.20m or to the natural substrate. Where possible a deep sondage was excavated at the end of some of the trenches to find the depth of the natural substrate. Unfortunately this was not possible in some of the trenches for health and safety reasons due to the amount of building rubble and debris in each of the trenches making them unstable. The building debris and rubble encountered in almost every trench to extreme depths made the sides of the trenches very unstable, this limited on site recording to photographic evidence only. One of the trenches was so unstable it had to be abandoned after just 3.5m. The natural substrate was only located in part of Trench 1 and all of Trench 4.

5.2 TRENCH 1

- 5.2.1 The trench was 30m long by 1.60m wide and orientated east-west at the northern edge of the evaluation area on the old football pitch (Plate 11). The maximum depth of the trench was 3m (sondage).
- 5.2.2 The topsoil was 0.30m deep, and consisted of a moderately compacted dark brown black sandy soil (100). This overlay moderately compacted light brown loamy sand subsoil (101), which sealed the natural substrate of orangey brown sand (102) present only at the western edge of the trench. Sealed beneath the topsoil (100) at the eastern edge of the trench from approximately 10m was a building debris and rubble deposit (103). This was possibly from the offices of the training facility for corus that was previously on the southern part of the site. Context (103) was made up of broken bricks, coursed bricks, scrap metal and broken lumps of concrete (Plate 12). The main part of the trench was excavated to a depth of 1.20m. The sondage was measured to a depth of 3m and the building debris and rubble (103) was still present at this depth.
- 5.2.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.3 TRENCH 2

- 5.3.1 The trench was 30m long by 1.60m wide and orientated north-south at the north-west boundary parallel with the public footbath situated next to the old football pitch (Plate 13). The maximum depth of the trench was 1.80m (sondage).
- 5.3.2 The topsoil was approximately 0.30m deep, and was the same as Trench 1 (100). Sealed beneath the topsoil was 0.90m of building debris and rubble (107) (Plate 14) similar to (103). In amongst the rubble were deposits of bluey grey clay (108). This

was present at the dig depth of 1.20m at the northern end of the trench from 10m in. A sondage was excavated at the northern end of the trench to a depth of 1.80m (107). The building and rubble debris was still present at this depth. Natural substrate was not observed.

5.3.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.4 TRENCH 3

- 5.4.1 The trench was 28m long by 1.60m wide and orientated east-west at the northern end of the old football pitch parallel to trench 1(Plate 15). The maximum depth of the trench was 1.70m (sondage).
- The topsoil (100) was 0.30m deep, and when stripped revealed more of the rubble and debris present throughout most of the site. The building debris and rubble deposit (113) was interspersed with tip lines of dark red gravel hardcore (117), redeposited natural sand (116) (Plate 16), mortar (114) and crushed brick dust (115) all of the tip lines were present in section and plan. The tip lines show (117) was tipped first then (116). Both (116) and (117) were approximately 2m wide and were still present at 1.20m deep. Tip lines (115) and (114) were both approximately 0.10m deep and were still present at 1.20m and located at the western end of the trench. A sondage was mechanically excavated at the western end of the trench to reveal the building rubble and debris (113) was still present at this depth. Due to the unstable nature of the trench 3 was recorded by photographic means only.
- No finds were observed in the trench and no archaeological features were observed in plan or section.

5.5 TRENCH 4

- 5.5.1 The trench was 30m long by 1.60m wide and orientated north-south at the eastern edge of the old football pitch (Plate 17). The maximum depth of the trench was 1.30m (sondage).
- 5.5.2 The topsoil (100) was 0.40m deep, and when stripped revealed the natural substrate of light brown orangey sand mixed with gravel (110) (Plate 18). The natural was present throughout the trench. A sondage was excavated at the northern end of the trench to a depth of 1.30m. This revealed the natural sandy gravel (110), which overlay a lighter sand at 1.20m. No rubble was observed in this trench.
- 5.5.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.6 TRENCH **5**

5.6.1 The trench was 28m long by 1.60m wide and orientated east-west in the middle of the old football pitch (Plate 19). The maximum depth of the trench was 1.60m (sondage).

- 5.6.2 The topsoil (100) was 0.30m deep and when stripped revealed the natural substrate at the eastern edge of the trench for 5m, before the building debris and rubble (111) was observed (Plate 20). The rubble in this trench was made up of large lumps of concrete, which was mixed with large sub-rounded boulders. Also in the rubble were coursed bricks, iron girders and large boulders. The main part of the trench was machined to 1.20m with a sondage excavated at the western edge of the trench to a depth of 1.60m. The rubble was still present at this depth. No natural substrate was observed.
- 5.6.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.7 TRENCH **6**

- 5.7.1 The trench was 30m long by 1.60m wide and orientated north-south, along the western boundary of the old football pitch, parallel with the public footpath (Plate 21). The maximum depth of the trench was 1.20m.
- 5.7.2 The topsoil (100) was 0.30m deep, and when stripped revealed the building debris and rubble deposit (112) was still present at 1.20m below ground surface. The building debris and rubble (112) was made up of large lumps of concrete, coursed bricks, loose bricks, sub-rounded boulders and dark brown soil (Plate 22). A sondage was not excavated in this trench as the rubble made the sections too unstable.
- 5.7.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.8 TRENCH 7

- 5.8.1 The trench was 30m long by 1.60m wide and orientated east-west along the southern edge of the old football pitch (Plate 23). The maximum depth of the trench was 1.30m.
- The topsoil (100) was 0.30m deep, and when stripped revealed the natural substrate (110) at the eastern end of the site to 4m along the trench. The trench then changes to a mid brown gravelly deposit (119) up to 11m. This area appears to be re-deposited. From 11m the building debris and rubble (120) was observed to a depth of 1.20m (Plate 24). The building debris and rubble (120) consisted of brick, concrete and scrap metal. A sondage was not excavated in this trench as the debria and rubble made the sections too unstable.
- 5.8.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.9 TRENCH 8

- 5.9.1 The trench was 10m long by 1.6m wide and orientated north-south along the north eastern edge of the old football pitch (Plate 25). The maximum depth of the trench was 1.20m
- 5.9.2 The topsoil (100) was 0.30m deep and when stripped revealed a mid brown sand with frequent rubble and cobble inclusions (125). The sand and rubble mix consisted of coursed bricks, concrete and large cobbles to the trench depth of 1.20m (Plate 26).
- 5.9.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.10 TRENCH 9

- 5.10.1 The trench was 30m long by 1.60m wide and orientated east-west along the northern edge of the bowling green (Plate 27). The maximum trench depth was 2.10m (sondage).
- 5.10.2 The topsoil (121) was 0.20m deep, and when stripped revealed a 0.10m layer of dark grey and black cinders and hardcore mix (122). Sealed beneath (122) was building debris and rubble deposits (124) similar to the deposits observed in the northern football pitch (Plate 28). The building debris consisted of coursed bricks, bricks and concrete, which was still present at 1.20m. In the eastern 3m of the trench a sondage was excavated to a depth of 2.10m to reveal a deposit of re-deposited mid brown natural subsoil (123). Natural substrate of light orangey brown (110) was observed at a depth of 2m in the sondage. The remainder of the trench was excavated to 1.20m.
- 5.10.3 No finds were observed in the trench, and no archaeological features were observed in plan and section.

5.11 TRENCH 10

- 5.11.1 The trench was 25m long by 1.60m wide and orientated north-south on the southern edge of the bowling green (Plate 29). The maximum trench depth was 1.50m.
- 5.11.2 The topsoil (121) was 0.20m deep, and as in Trench 9 when stripped revealed a 0.10m layer of dark grey and black cinders and hardcore mix (122). Sealed beneath (122) was a building debris and rubble deposit (126). The rubble consisted of coursed brick, concrete and scrap metal and was still present at 1.50m (Plate 30). The bricks were stamped with the names Broughton, Gillhead, Thistle, Harrington and Micklam. Natural substrate was not observed in this trench.
- 5.11.3 No finds were observed in the trench, and no archaeological features were observed in plan and section.

5.12 TRENCH 11

- 5.12.1 The trench was 17m long by 1.50m wide and orientated east-west and located north of the main car park (Plate 31). The maximum trench depth was 1.50m.
- 5.12.2 The topsoil (127) was 0.30m deep, and when stripped revealed 0.10m of a brick and tarmac mix (128). Sealed beneath this was a thin layer (0.10m) of concrete (129). The concrete (129) overlay building debris and rubble (130). At the base of the trench a highly compacted deposit of iron slag (131) was observed in one area of the trench in amongst the debris and rubble (Plate 32). Natural substrate was not observed in this trench.
- 5.12.3 No finds were observed in the trench, and no archaeological features were observed in plan and section.

5.13 TRENCH 12

- 5.13.1 The trench was 31m long by 1.70m wide and orientated east-west on the northern part of car park area (Plate 33). The maximum depth of the trench was 1.30m.
- 5.13.2 The topsoil (136) was 0.30m deep and when stripped revealed a 0.10m layer of concrete (137). Sealed beneath the concrete were two concrete columns (133) and (132). Both 1.20m wide by 1.20m deep, and probably used to support one of the buildings that were previously on the site. 10m in from the western edge of the trench were a thick concrete base (134) with an adjoining concrete wall (135). The base (134) was 1m long. 0.50m thick and the width of the trench. The adjoining wall (135) was 1m high, 0.20m thick and the width of the trench. The rest of the trench consisted of re-deposited light brown orange natural sand (138) (Plate 34).
- 5.13.3 No finds were observed in the trench, and no archaeological features were observed in plan or section.

5.14 TRENCH 13

- 5.14.1 The trench was 3.50m long by 1.50m wide and orientated north-south on the south-eastern boundary of the evaluation site (Plate 35). The maximum depth of the trench was 1.50m.
- The topsoil (139) was 0.30m deep, and when strip revealed building debris and rubble (140). The rubble (140) consisted of large concrete blocks with wood (Plate 36) attached. The trench was abandoned after 3.50m as the concrete blocks were so large the side of the trench were collapsing with the strain.
- 5.14.3 No finds were observed and no archaeological features were observed in plan or section.

6 CONCLUSIONS

6.1 ARCHAEOLOGICAL POTENTIAL

- 6.1.1 The desk-based assessment suggested there was potential for prehistoric archaeological remains to survive within the development site. Nearby late prehistoric settlement remains surviving as cropmarks (Site 18) added to a Neolithic flint find (Site 20) may suggest that communities have been utilising the area. The fact that much of the development site remained undeveloped, and had largely been left free of the industrial developments that has affected much of the town, meant that this development site provided a rare opportunity for surviving archaeology of an early period in this area to be evaluated and explored.
- 6.1.2 The potential for Roman archaeological remains surviving on the development site was uncertain. Archaeological deposits dating to this period have been encountered to the north of the town at Burrow Walls Roman Fort, and surviving remains of a road leading to that site could exist within the development site, especially with Roman remains being discovered at St Mary's Parish Church, located to the south of the development site (Site 19).
- 6.1.3 The potential for Early Medieval archaeological remains surviving on the development site was considered low. Early mapping and documentary evidence suggests that communities in this period utilised the area around the River Derwent and its mouth, rather than the area of the development site, which lies further south.
- 6.1.4 The potential for Medieval or Post Medieval archaeological remains surviving on the development site was considered low. The site lies outside the medieval core of the settlement of Workington, which is located further north, around Workington Hall and the River mouth. Although the onset of the industrial revolution did lead to increased populating of the south of the town, and the development of the railway and ironworks in the area, Ordnance Survey maps show that the development site itself remained unaffected.
- 6.1.5 The potential for Modern archaeological remains surviving on the development site was high. It was known from aerial photography that a building once existed on the west side of the development site, dating to between 1936 and 1958, that has since been demolished. Traces of this building, which was formerly used as the Corus training offices, could survive sub-surface.
- 6.1.6 The results of the evaluation show there is very little evidence for archaeological material of interest. In all thirteen trenches there was nothing to suggest a date earlier than the old Corus training offices that were previously on the site. The site has been heavily landscaped post demolition of the offices to make way for a football pitch and bowling green. On the south-eastern boundary of the site an open drain cover revealed a deep sewer pipe with two outlets. The larger of the outlets ran under the evaluation site to the north-west and the other to the west. The pipe was approximately 4m deep with a walkway to the right. This shows the site has previously been highly disturbed.

6.1.7 Although the desk based assessment showed the potential for archaeological remains. The site has been too disturbed and landscaped for any archaeological remains to have survived. There were no finds recovered from the site to use as dating evidence, the sheer amount of rubble and debris suggests the training offices were demolished, then used as part of the landscaping.

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APPENDIX 1: GAZETTEER OF SITES

Site No.	ID No.	Site	Grid Reference (NX)	Period
1	HER 22895	Jane Pit Engine House, Listed Building Grade II	99523 27777	1843
2	HER 22896	Detached Chimney at Jane Pit. Listed Building Grade II	99505 27786	1843
3	HER 27802	Jane Pit, coal pit area, Scheduled Ancient Monument	99510 27780	19 th century
4	HER 4165	Jane Pit, Workington	99520 27770	Victorian
5	HER 4664	Moss Bay Iron Works	98790 27270	1872
6	HER 4665	Derwent Iron and Steel Works, Moss Bay	98768 27779	1873
7	HER 6511	Harrington Pottery, nr Whitehaven	99000 26000	Post Medieval
8	HER 12390			Post Medieval
9	HER 12391	Cleator and Workington Junction 99770 27560 Railway		1879
10	HER 12392	Buddle Pit	99329 27708	Post Medieval
11	HER 12777	Moss Bay Shore Anti Tank Traps	98700 26500	Wartime
12	HER 12787	WWII Pillbox near former 98800 27500 Steelworks		Wartime
13	HER 40501	Newyard Iron Works/ Kirk Brothers and Company Limited	99000 27990	Post Medieval
14	HER 40774			Victorian (1867- 1900)
15	HER 41705			Post Medieval
16	HER 5044	The Marsh Pottery, Workington	99000 28000	Victorian
17	ADS NMR_NATINV- 932434	Workington Medieval Settlement, 99640 27860 Medieval NATINV- mentioned in 1150 and 1308		Medieval
18	ADS NMR_NATINV- 8582	TNV- Cropmarks of a sub-circular enclosure surrounded by a double ditch and rampart 99700 258		Probable Late Iron Age/ Romano-British
19	ADS NMR_NATINV- 8577	St Mary's Parish Church- has 12 th 99420 25690 Roman,		Medieval, Post Medieval
20	ADS NMR_NATINV- 8574	A flint flake found in 1931	Exact location unknown (99000 25000?)	Neolithic

APPENDIX 2: SUMMARISED HISTORY OF THE IRONWORKS

Date	Owner	Source/ Detail
1872	The Moss Bay Haematite Iron Company	The operation commenced at this time
1877	The Moss Bay Haematite Iron Company	Installation of 3 revolutionary Bessemer converters and commencement of production of steel rails
1881	The Moss Bay Haematite Iron and Steel Company Ltd	The company was refinanced at this date
1909	Workington Iron and Steel Company	Merger between the Moss Bay Company and Messrs Carswell's (Derwent Ironworks)
1912	Workington Iron and Steel Company	Pre-existing 8-ton capacity Bessemer converters upgraded to 16-ton capacity
1917	?	King George V and Queen Mary visit the ironworks, 17 th May 1917
1919	United Steel Companies	Cited as such in County Publishing (1958) The Cumberland Directory, page 96
1900-1925	Unclear	The construction of office buildings on the development site, shown on Second Edition Ordnance Survey Mapping of 1900
1930s	Bigrigg Mining Company Limited	Durham Mining Museum website citation (http://www.dmm.org.uk/colliery/m903.htm)
1967	British Steel	Nationalisation of the Steel Industry
1970s	British Steel	Installation of roller straightening machine and a walking beam gas reheating furnace
1974	British Steel	The last 2 Bessemer converters blew, meaning an end to steel-making in the town. Steel ingots brought-in from Teeside
1980s	British Steel	Investment in high-speed sawing and drilling machines, modernisation of rail bank, installation of rail heat treatment plant and investment in modern welding plant
1981	British Steel	Massive cuts of that year meant the end of iron-making at Mossbay
1999	Corus	Merger between British Steel and the Dutch company, Hoogovens
1990s onwards	Corus	Investment in modernising processes and quality control measures including adoption of computer modelling and introduction of Corus Rail's patented 'Perfect Weld' to produce lengths of rail up to 220m
Early 2000	Corus	168 redundancies announced
Oct 2000	Corus	Hatfield rail crash revealed deficiencies in Railtrack's laying of tracks resulting in a major programme of new track production
Feb 2005	Corus	Announcement of future transfer of business to Scunthorpe
August 2006	Corus	Closure of Moss Bay site

APPENDIX 3: FIGURES AND PLATES