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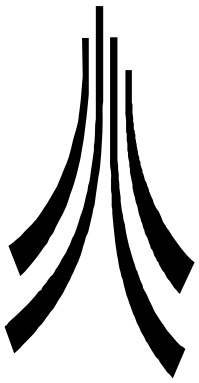

September 2001

STANLEY POND, WHITEHAVEN
CUMBRIA

Assessment Report

Commissioned by: Roxylight Agricultural Land (Cumbria) Ltd

Stanley Pond, Whitehaven
Cumbria

Archaeological Assessment Report

Report no 2000-2001/095/8154

Checked by Project Manager. ..... Date
Passed for submission to client. ..... Date

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September 2001

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SUMMARY

Following an application by Roxylight Agricultural Land (Cumbria) Ltd for a proposed open-cast coal extraction site at Stanley Pond, Whitehaven, Cumbria (centred on NGR NX 2988 5146), Lancaster University Archaeological Unit (LUAU) undertook a desk-based assessment and walk-over survey of the area in July 2001.

The Sites and Monuments Record contained seven sites within the study area, including a number of coal mines, bloomery sites, medieval field systems and an engine house adjacent to Stanley Pond. A search of the documentary sources yielded further evidence for post-medieval colliery sites within the area. No sites of prehistoric or Roman date are known from the vicinity, although there is some possibility that prehistoric sites are preserved within or associated with a wetland in the southern part of the study area. Such environments have the potential to preserve important archaeological sites such as Ehenside Tarn, to the south of Egremont, as demonstrated by a recent study of the lowland wetlands of Cumbria by LUAU on behalf of English Heritage.

The walk-over survey highlighted the remains of a number of medieval field systems, centred on the southern half of the survey area. Despite evidence from documentary sources, few colliery sites were recognised, even in the locations where they were known to have existed at one time; most appear to have been ploughed out or to have been filled in. At the Low Scalegill colliery, shafts linked to the site have disappeared within the last ten years, and the associated buildings have now been mostly swamped by vegetation: only the waggonways and spoil-heap survive to any extent. The walk-over survey identified only a few sites that had not previously been recorded from the documentary study, but these included a post-medieval bridge and a heck gate.

Within the study is an extant farm, Low Hall Farm, which was examined as part of the present study; this is thought to be of eighteenth century date, although the site may once have contained a medieval hall.

The excavation of the open-cast coal extraction site will impact not just the identified archaeological resource but also the situation and setting of a number of sites, such as Linethwaite Hall to the south of the study area. The excavation will remove a number of medieval field systems, and will damage both known and unknown late-medieval collieries, of which there are at least two in the area; it will also remove the old mineral line, which is currently used as a footpath. The development will impact on the wetland sites centred in the southern half of the survey area, which have the potential to preserve a significant archaeological resource.

It is recommended therefore that further archaeological investigation be undertaken in advance of the development, which should include a programme of survey to record the surface features, a programme of evaluation trenching to investigate below ground survival of archaeological remains, and environmental sampling in the wetland areas to investigate the potential for the survival of an archaeological / ecological resource.

ACKNOWLEDGEMENTS

Lancaster University Archaeological Unit (LUAU) would like to thank Roxylight Agricultural Land (Cumbria) Ltd for their assistance in implementing the project. We would like to extend our thanks to Bette Hopkins at the Cumbria Sites and Monuments Record Office, and Helena Smith, Assistant County Archaeologist of the Cumbria County Council Archaeology Service. The staff of the Cumbria Record Offices at Whitehaven and Carlisle are also thanked for their kind assistance, as are the staff at the Lancaster University library. Additional invaluable background information and support was provided by Ian Miller, Chris Wild and Caron Newman.

The desk-top assessment was undertaken by Matthew Town and the walk-over survey by Matthew Town and Ken Denham. The report was compiled by Matthew Town, with comments on the farm by Chris Wild. The drawings were produced by Emma Carter, and the report was edited by Jamie Quartermaine and Rachel Newman. The project was managed by Jamie Quartermaine.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Lancaster University Archaeological Unit (LUAU) conducted a desk-based assessment and walk-over survey of the area of pasture land adjacent to Stanley Pond (NGR NX 2985 5143), Whitehaven, Cumbria, during July 2001, on behalf of Roxylight Agricultural Land (Cumbria). The work was undertaken in advance of proposed open-cast coal extraction at the site and was intended to appraise rapidly the likely archaeological value of the study area, and to locate and record potentially interesting or important features in the landscape, whether or not they were visible as surface remains. The work was undertaken in accordance with a project design (*Appendix 1*) which was prepared by LUAU, in response to a verbal brief from the Cumbria County Council Archaeology Service.

1.1.2 The desk-based study consisted of a search of both published and unpublished records held by the Cumbria Sites and Monuments Record (SMR) in Kendal, the Cumbria County Record Offices in Whitehaven (CRO (W)), and Carlisle (CRO(C)), the library at LUAU, and the Lancaster University Library.

1.1.3 This report sets out the results of the work in the form of a short document which outlines the findings, followed by a statement of the archaeological potential of the area, an assessment of the impact of the proposed development, and recommendations for further work. This is complemented by a gazetteer of sites (*Appendix 2*) both new to the record and formerly known, and a bibliography.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 1*) was submitted by Lancaster University Archaeological Unit (LUAU), in response to a request from Roxylight Agricultural Land (Cumbria) Ltd, for an archaeological assessment and walk-over survey of the study area. This was in accordance with a verbal brief by the Cumbria County Council Archaeology Service, which recommended a programme of archaeological survey work in order to record the surviving earthworks and to allow informed decisions to be made in devising an appropriate mitigation strategy against the impact of the proposed development.

2.1.2 The project design was adhered to in full; the work undertaken by LUAU complied with current legislation and accepted best practice, including the Code of Conduct and the relevant professional standards of the Institute of Field Archaeologists (IFA). Due regard was given to the requirements of the client and his representatives in respect of site access.

2.2 DESK-BASED ASSESSMENT

2.2.1 A brief assessment of selected documentary material was made, which is outlined below (*Section 4*). The scope of this project did not allow for full consultation of all primary documentary sources, although these are a valuable resource for the future and may reveal the presence of new archaeological features or provide additional information regarding existing sites. The archives visited, in accordance with the project design were as follows:

2.2.2 ***Cumbria Sites and Monuments Record (CSMR):*** a brief record including grid reference and description was printed out for each site within the boundaries of the study area. Several sets of aerial photographs of the area were available for consultation. Archaeological reports and a number of secondary sources were also scanned for information.

2.2.3 ***The Cumbria Record Office, Whitehaven (CRO(W)):*** the Cumbria Record Office at Whitehaven was visited primarily to consult historic maps of the study area, including any tithe maps and early Ordnance Survey maps. A search was made for any relevant historic documentation, drawing on the knowledge of the archivists, and a number of secondary sources and archaeological or historical journals were also consulted. A list of the documents consulted is given in the bibliography.

2.2.4 ***The Cumbria Record Office, Carlisle (CRO(C)):*** the Cumbria Record Office (Carlisle) was visited in order to examine any additional historic maps and primary sources not obtained from the Record Office in Whitehaven and also to consult the Lowther Archive and Lawson Archives which are held in Carlisle.

2.2.5 ***LUAU Library:*** the archive and library at LUAU were examined as they contained pertinent primary and secondary sources and palaeoenvironmental data that was acquired in the course of the English Heritage-funded North West Wetlands Survey which investigated wetland areas in the locale of the study area (Hodgkinson *et al* 2000).

2.2.6 ***Lancaster University Library:*** the library at Lancaster University was examined for pertinent secondary sources.

2.2.7 ***Aerial Photographic Study:*** oblique photographs were located and studied in the Cumbria County Council Offices in Kendal, and also vertical air photographs were studied in the Record Office in Whitehaven; these collectively provided an important indication of historical land use and agricultural activity particularly within the southern part of the study area.

2.2.8 A search was requested from the National Monuments Record (NMR), although the results of that search have yet to be received.

2.3 IDENTIFICATION SURVEY

2.3.3 An identification survey was undertaken within the study area which extends over an area of 1.5sqkm. This rapid survey represented the minimum standard for an exploratory survey and served to identify and record the existence, location and extent of previously unrecorded sites. The survey was undertaken in systematic fashion, walking 30m wide transects and locating any sites with Global Positioning System (GPS) techniques. A brief written description and photographic record were also undertaken.

2.3.4 There is one post-medieval farm within the extent of the study area: Low Hall farm. The site survey consisted of an examination of the external fabric of the farm and farm buildings; access, however, was not possible to their interiors in order to assess the archaeological survival and architectural significance of the structures.

2.4 GAZETTEER OF SITES

2.4.1 All of the information concerning archaeological sites in the vicinity of the development site has been collated into a gazetteer (*Appendix 2*), which provides details of each site's location, origin, and character. Locations are given as eight-figure National Grid References where possible. A summary description of each site is provided in conjunction with a reference to the source of the information (SMR, cartographic and documentary), with references as appropriate, and an assessment has been given of the interpretation and archaeological potential of the site. The sites have been marked onto a digital map (Fig 8).

2.4.2 Other sites beyond the extent of the study area, which were considered to be of background relevance, are mentioned in the text with appropriate SMR references.

2.5 ARCHIVE

2.5.1 A full archive of the desk-based study has been produced to a professional standard in accordance with current English Heritage guidelines (English Heritage 1991). The archive will be deposited in the Cumbria Record Office, with a copy to the Cumbria Sites and Monuments Record, and a copy will be available for deposition to the National Monuments Record.

3. BACKGROUND

3.1 TOPOGRAPHY AND GEOLOGY

3.1.1 ***Topography and Location:*** the survey area is located within the historic township of Hensingham in the parish of St Bees. The area is enclosed pastureland within rolling countryside, centred on Pow Beck valley which runs north-north-east / south-south-west through the centre of the survey area, and is fed by a number of tributary streams. Stanley Pond itself is situated on Pow Beck and one of the streams, Scalegill Beck, runs north-east / south-west within the southern half of the survey area, its confluence with Pow Beck being approximately half a kilometre south of Stanley Pond.

3.1.2 The survey area is bounded to the east by the A595 Whitehaven to Egremont road; to the north by Mirehouse Road, which skirts the edge of Mirehouse estate; and to the west by the railway lines, originally known as the Whitehaven and Furness Junction Railway. The southern perimeter is formed by an access road from the A595 to Linethwaite Hall, which runs east-north-east / west-south-west, before turning south; the survey line leaves the road at the corner east of the hall and extends in a straight line until it connects with the railway line. Most of the fields within the survey area are improved grassland, with some areas of mire around Scalegill Beck and Pow Beck to the south of the area.

3.1.3 ***Geology:*** the underlying geology is fairly complex and is crossed by a number of faults (Moseley 1978, 181). The area is dominated by the Carboniferous Westphalian Coal Measures, which make up the West Cumberland coalfield (*op cit,* 179), but to the north is a small area of Carboniferous Namurian Limestone deposits, comprising Millstone Grit, known as Hensingham Grit (*ibid*). The coal measures dip under Millstone Grit deposits just north-east of the assessment area, where there is a fault, known as the Ingwell Fault (Eastwood *et al* 1931, 93). The area to the east is dominated by Triassic Permian New Red Sandstone with few shales, known as St Bees sandstone (OS Geological Survey of Great Britain - Sheet 28, 1976).

3.1.4 The drift geology is dominated by glacial deposits; glacial boulder clay overlies most of the survey area, with small deposits of glacial sands and gravels to the south. Generally the soils are deep well-drained coarse loamy brown earths, intermixed with gleyic brown earths and brown sands, derived from fluvio-glacial deposits. Small deposits of peat are recorded to the south of the survey area, concentrating in a number of hollows and shallow valleys around Scalegill Beck and Pow Beck (Hodgkinson *et al* 2000).

3.2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

3.2.1 ***Prehistory:*** no prehistoric finds or sites are listed within the Sites and Monuments record, but there is considerable potential for prehistoric activity within the area. The North West Wetlands Survey, undertaken by LUAU on behalf of English Heritage, examined the wetlands of the area, including an area in the southern part of the study area (Hodgkinson *et al* 2000, 69). It noted the existence of Mesolithic and Early Neolithic lithic assemblages to the south-west of the site within the dunes near the mouth of Pow Beck; these were the waste products from working beach

pebbles of flint (*ibid*). It also identified a number of ancient alder carrs along the beck, two of which fall within the survey area: at southern end, and directly in the centre of the survey area. Wetland sites frequently form the focus for prehistoric activity from the Mesolithic to Bronze Age periods, with seasonal camps or settlements being established along their margins, and the importance of these wetland sites is well attested in other parts of West Cumbria, such as at Ehenside Tarn, to the south of Egremont (*op cit,* 71). The preservation of organic material is excellent within these waterlogged conditions and finds from Ehenside Tarn have included worked wood (including two wooden paddles), the hafting for a stone axe, charcoal, nuts, leaves and wild animal bones, as well as a large flint assemblage (*ibid*).

3.2.2 The close proximity of the wetland sites at Pow Beck with the coastal resources would thus indicate a potential for prehistoric activity within the survey area.

3.2.3 ***Roman:*** evidence for Roman activity on the coastal plain comprises mainly military sites and scattered finds. The general dearth of identified rural settlement continues from the Iron Age, although there is a well-preserved Romano-British settlement at Barnscar on the western edge of the south-western fells adjacent to the coastal plain (Quartermaine and Leech forthcoming). Roman military activity was centred on the forts at Moresby, to the north of Whitehaven, and Ravenglass, to the south, which were linked by a Roman road that extended along the west coast (Bellhouse 1989, 64), although its exact location near Stanley Pond is unknown. There was no evidence of Roman finds from within the study area or its environs.

3.2.4 ***Early Medieval:*** there are few settlement remains from the early medieval period throughout Cumbria, but pollen evidence suggests considerable activity during this period. A recent reassessment (Walker forthcoming) and dating of an earlier pollen diagram from Ehenside Tarn to the south of Egremont (Walker 1966, 199) indicates that there was intensive forest clearance within the region during this period. Such forest clearance perhaps indicates an expansion of agricultural lands and may suggest new or expanded settlement, following some regeneration immediately after the Roman period.

3.2.5 Most of the evidence for settlement in the early medieval period on the West Cumbrian coastal plain is in the form of ecclesiastical sites, the most notable of which is the putative monastic site at St Bees (the study area is within the parish of St Bees), traditionally established by the Irish saint Bega during the mid seventh century; this is mentioned by the Venerable Bede in his writings (Colgrave and Mynors 1940). The site was traditionally destroyed by the Danes, who, under the leadership of Halfdan, landed at Tynemouth in AD 876 before fanning out throughout the kingdom of Northumbria (which at that time included Cumbria) (Whelan 1860). A priory was founded there in AD 1125, dedicated to St Bega; the name of St Bees derived from *Sancta Bega*, referring to the saint (Mills 1991, 281).

3.2.6 Considerable evidence of early medieval activity in West Cumbria comes in the form of pre-Conquest stone crosses from a large number of sites (Bailey and Cramp 1988, figs 2 and 3), which attest to the presence of early churches, and perhaps Anglian monastic settlements, throughout the region. Crosses which can be dated to the eighth to ninth centuries, with Northumbrian attributes, have been identified at Beckermet St Bridget, Irton, and Waberthwaite, and of these the cross at Irton is regarded as one of the finest examples of ninth century sculpture in the country (*op*

cit, 116-7). In addition a twelfth century tympanum has been recovered from the west end of the church (*op cit,* Appendix).

3.2.7 The number of sites producing sculpture with Scandinavian motifs of tenth and eleventh century date is much greater than those with Northumbrian attributes, with pieces not only from Irton, Waberthwaite and St Bridget Beckermet, but also Beckermet St John, Muncaster, Haile and St Bees; this perhaps indicates an expansion of church sites to support Christian communities (*ibid*). The greatest assemblage has been recovered from Gosforth, however, where the finest example of Scandinavian sculpture, the Gosforth Cross, still stands in its original position in the churchyard. This masterpiece clearly demonstrates an attempt to link Scandinavian myths to the Christian creed, a theme continued on other sculpture from the site, including a number of hogback tombstones (*ibid*).

3.2.8 The St Bees assemblage of cross fragments comprises two parts of a cross-shaft and head, one presently within the priory churchyard, the other at the east end of the south aisle; both belong to the spiral-scroll school of sculpture and date from the tenth century (*op cit,* 145-6). In addition, there are three fragments of cross-shaft, which are now lost, but were recorded in the nineteenth century; all three are of the spiral-scroll school and broadly date from the tenth to eleventh centuries (*ibid*).

3.2.9 ***Medieval / Post Medieval - Manorial History:*** the manor and township of Hensingham was a chapelry within the large medieval parish of St Bees. The name Hensingham may have early origins, the second part of the name probably deriving from the Old English *ingas*, which usually follows a personal name and means people of, or descendant of (Cameron 1977, 64). Hensingham therefore may mean the homestead, village or settlement (*ham)* of the descendants (*ingas*) of Hysinge (*op cit*, 70). The earliest recorded holder of the manor is known variously as Gillesbeuth (Whelan 1860, 437), Gillesby, Gilleby or Gillesbred (Hutchinson 1794, 38), who held the estate after the Norman Conquest. His sons, Roger and William, granted two bovates of land in Hensingham to the Abbey of St Mary's in York (Hutchinson 1794, 38; Whelan 1860, 437). By 1275-6, the de Moresbys held land in Hensingham, when it was recorded that the Branthwaites held a moiety, or portion, of the manor of Adam de Moresby (Whelan 1860, 437). The moiety passed from the Branthwaite family to the Whitrigs, the lords of Little Bampton, from whom it passed by marriage to the Skeltons of Branthwaite (*ibid*). The Skeltons continued to possess the moiety and, in the reign of Henry VI, in the second quarter of the fifteenth century, they held it of the Abbey of St Mary's in York as one fourth part of a knight's fee (Hutchinson 1794, 36-7). The rest of the manor may have remained with the de Moresby family until at least the mid-seventeenth century; in a settlement of 1658/9 by Sir Wilfrid Isel for the benefit of his six children, mention is made of the Manor of Hensingham, with the capital house and its land called Hensingham demesne (CRO(C) D/Law/4.5). In 1664/5, the manor was settled on Wilfrid, the second son of Wilfrid of Isel, as part of a marriage settlement to Sarah, daughter of Dorothy James (CRO(C) D/Law/4.6).

3.2.10 In 1688 the Skeltons sold their moiety to Sir Wilfrid Lawson, in whose family it remained until 1748, when it was sold to Anthony Benn Esq (Whelan 1860, 437). Low Hall, within the north of the survey area (NX 986 151), is specifically referred to as the capital, or main, mansion in 1754 when it was mentioned in a document of bargain and sale (CRO(C) D/Law/1.196), and had probably been the capital messuage of Hensingham manor since the medieval period. Although the Lawsons

sold their portion of the manor in 1748, they appear to have maintained rights to the Hall; in 1777 a series of documents record measures taken to recover debts from the tenant farmer, Robert Ritson, resulting in the eventual leasing of the hall and of his goods (CRO(C) D/Law/5.17). In 1779, the hall and lands were leased by Gilfrid Lawson to Thomas Asbridge of Ponsonby, with a clause requiring him to '*nourish and preserve the hedges*' (CRO(C) D/Law/3.5). From there, the moiety passed into the hands of the Earls of Lonsdale and, by 1777, the whole manor of Hensingham was in the possession of Sir James Lowther (Nicholson and Burn 1777, 46).

3.2.11 ***Medieval Settlement:*** the place names of two farms either within or immediately outside the study area, Scalegill Hall (to the east of the assessment area) and Low Scalegill farm (at NX 988 146), incorporate the Old Norse *skali* element within the their names. *Skali*, meaning a temporary hut or shieling, is usually associated with summer grazing in upland or moorland areas (Mills 1991, 287), or more probably a permanent dwelling that was only temporarily in use (the 'gill' referring to Pow Beck). Despite the Norse origin of the suffix, the word 'scale' was commonly used to refer to shielings through the earlier part of the high medieval period and does not necessarily indicate a pre-Conquest date; however, it does imply seasonal or temporary medieval settlement at the site.

3.2.12 ***Coal Mining:*** coal mining was the earliest industry to have a major effect on the economy and landscape of West Cumberland (Marshall and Davies-Shiel, 1977). The extent of the West Cumberland coalfield is very restricted, with the most important section covering only an area of 14 miles from Whitehaven to Maryport, approximately 4 - 6 miles wide inland from the coast. The coalfield has three major seams: the Bannock Band, the Main Band, and the Six Quarters Band. The coalfield was further sub-divided into two major parts: the Howgill colliery, which covered the tract of land between the sea and the St Bees valley, and the Whingill colliery to the north-east, which was separated from the former by a large fault in the underlying geology (LUAU 2000).

3.2.13 The first mention of the coalfield is in a charter from Nicholas de Langton, Prior of St Bees from 1256 to 1282, which mentions 'coal-mining at Arrowthwaite' (Hay 1979, 42); this lies north-west of the survey area. Other than this isolated reference, it appears that '*the monks made no great effort to exploit the mineral resources of the territory*' (*op cit*, 39). Following the Dissolution of the monasteries, the monastic lands passed to Sir Thomas Leigh in 1538, then to Sir John Chalconer in 1553. In 1560, Sir Thomas de Chalconer, his son, in granting leases upon his land, mentioned mining, when he reserved the right to dig for coal, giving liberty to his tenants to take coal for their own use at his pits (Galloway 1970, 118).

3.2.14 By the seventeenth century, coal was used for a number of industrial processes nationwide, including limeburning, saltmaking, glassmaking and the preparation of alum; however, two thirds of all consumption was for local domestic use (Beckett 1981, 38). Exceptions to this were the coalfields of West Cumberland and Tyneside, which used sea transport to establish long distance trade; the foremost market for the former was Ireland, which produced no coal itself. Small-scale trade is recorded from the harbour at Parton in 1605, ceasing when the pier was destroyed by a storm in the 1620s (*ibid*). By the time the pier was rebuilt, the trade had moved to Workington and Whitehaven.

3.2.15 One of the main coal entrepreneurs in the seventeenth century was Sir John Lowther, of Lowther. He bought land at Whitehaven belonging to the dissolved

monastery at St Bees in 1620 for his son Christopher, and restarted mining for coal on his estate for exportation to Ireland, building a small pier in 1634 to offer shelter to his ships (Fletcher 1878, 270f; Hay 1979, 26, 43). The Howgill Colliery worked the Bannock Band, which outcrops close to the town, though at this time it would only have been a small and primitive concern (Hay 1979, 44).

3.2.16 In 1644, Christopher Lowther died, and was succeeded by his son, Sir John Lowther (1642-1706), who applied himself to increasing the industry and developing the town of Whitehaven, with great success. He sunk his first pit in 1650, and in 1663 drove a level 900 yards into the Bannock Band from Pow Beck, draining a sufficient area to serve the needs of the area until the end of the century (Fletcher 1878, 275). In 1666, it was reported that Sir John was keen to acquire '*all the lands lying near this town*' for the purposes of mining (Beckett 1981, 21). By 1688, he had widened this area to four miles around the town and, by 1690, to five miles (*ibid*). By this time Sir John had '*almost all the valuable collieries…and has got an absolute command over most of the remaining collieries, it being in his power to open and shut them at his pleasure*' (*ibid*). By the end of the century, Lowther had sunk several vertical shafts into the Bannock Band, with further levels added. These shafts were unified into one large gravitationally drained colliery unit, formally named the Howgill Colliery (Marshall and Davies-Shiel 1977, 106).

3.2.17 After Sir John Lowther's death in 1706, the estate passed to his second son, Sir James Lowther (1674-1755). He further expanded the exploitation of the coalfield, developing the Whingill Colliery to the north-east of Whitehaven. Around this time John Spedding became steward to the Lowther estate, and his brother Carlisle Spedding became engineer. Both were instrumental in persuading Sir James Lowther to invest in 'fire engines' (specifically the Newcomen atmospheric steam engine, one of the first installed in the country) to aid in coal extraction (Hay 1979, 45-8; Fletcher 1878, 279). With Lowther's expansion of the collieries, and the use of the latest technologies, Whitehaven grew in both regional and national importance. Coal voyages tripled between 1707 and 1743, despite cyclical periods of boom and bust, and '*demand was continually threatening to outstrip supply*' (Beckett 1981, 59). Coal from the town was the most common in Dublin, but by the 1720s an increased share was being taken by Workington (*op cit*, 49).

3.2.18 Lowther perceived this as a major threat to business and began increasing production from his pits and mining below the sea, mainly at Saltom Pit (LUAU 2000). He also began energetically acquiring further mines in the area belonging to other small-scale mine owners. 'Lowther's land transactions depended on his deliberate exercise of financial pressure upon land-owners much poorer than himself (Wood 1988, 26); he lent them money and when they could not repay their loans he would take their land. This method was used to some effect on the Patrickson's mine at Scalegill (*Section 4.2.2*). This practice occurred despite the fact that Lowther had '*by far the largest profit of the West Cumberland entrepreneurs*'; his profits from coal were twice those from his rents and estate income (Beckett 1981, 81).

3.2.19 After Sir James' death in 1755, the estates passed to his son James, later made Earl of Lonsdale; Carlisle Spedding also died in the same year, and was succeeded by his son James as engineer (Fletcher 1878, 288). The Earl died in 1802 and, in 1845, the third Earl of Lonsdale, in order to further the expansion possibilities for the coalfield, obtained a parliamentary act to build the Whitehaven and Furness

Junction Railway, to aid in his movement of coal. Work on the line was started in 1847 and was completed in the 1850s, with the building of the Duddon crossing in 1872 to allow movement of coal by rail down to Barrow-In-Furness (Melville and Hobbes 1951, 38, 60). The railway forms the western boundary of the survey area, and is still in use today.

3.2.20 ***The Haematite Mines:*** at the same time as coal extraction was taking place, a parallel industrial evolution was occurring to the east of the study area, based around the haematite mines at Cleator Moor and Egremont, which has some minor bearing on the study area. Evidence of early and small bloomery sites exist throughout the area, mostly probably of medieval date, but some possibly dating back to the Roman period (Fletcher 1880, 5). Two bloomery sites are documented in the survey area (Sites 4 and 5).

3.2.21 The Lindows of Ingwell House (now Westlakes Science and Technology Park) located east of, and immediately adjacent to, the area, owned and operated a number of mines in the Cleator and Big Rigg area, with their main site at Longlands (LUAU 1999). Though there are no iron ore mines within the study area, the principal mineral line, which served the mines and ran between Whitehaven and Egremont, runs across the survey area to the north-west. The Cleator, Workington and Egremont Railway, as it was known, was opened in January 1855, and was taken over jointly by the London and North West Railway and the Furness Railway in 1879 (Marshall 1978, 165). The line finally closed in the twentieth century.

4. ASSESSMENT RESULTS

4.1 INTRODUCTION

4.1.1 There were 22 archaeological sites within or in the immediate environs of the proposed development site recorded during this assessment, and these are listed in detail in the site gazetteer (*Appendix 2*). Six CSMR records were identified within the study area, all of which date to the medieval period or later *(Appendix 2*). Seven sites were identified or recorded from aerial photographs held by the CSMR and the Record Office in Whitehaven (CRO(W)) which are discussed below (*Section 4.4*). The principal sites are described below on the basis of the data source.

4.2 DOCUMENTARY SITES

4.2.1 ***Scalegill Colliery (Site 08):*** Scalegill Colliery was run by Sir James Lowther from 1730 onwards. His main interest in acquiring the land in Hensingham was to dominate the extraction of coal, a policy that had been very successful elsewhere. Coal had been worked in the survey area in the seventeenth century by other parties, but the collieries within the survey area were not immediately considered for purchase until late in Sir James' career, his reticence probably reflecting their distance from Whitehaven, and the cost impact of transporting the coal.

4.2.3 The term 'Scalegill' is used as short-hand to describe all the coal workings within the area, and it is unclear which workings relate specifically to the Lowther colliery, as the evidence from a number of sources clearly indicates that other workings were also occurring in the area, both prior to and after the acquisition by Sir James Lowther. The exact location of the collieries is unclear, but it appears from later (nineteenth century) plans that they were situated at NX 2994 5147 (beyond the survey area in Westlakes Science and Technology Park) and at NX 2994 5145, within the survey area and adjacent to Holehouse, which may have taken its name from the mine (D/Lons/W7/1/21/2, D/Lons/W7/1/34/24; Site 08). However, Wood (1988, 24) shows the collieries as clustering to the south-east of Stanley Pond, with a pit to the north-west called Partis, which may correspond to the drift mine shown on modern OS maps (Site 07; *Section 4.2.9*). Further confusion is added when consulting the OS 1st edition map, which shows Scalegill farm associated with a number of pits; this latter may in fact be Low Hall colliery, the farm only being called Low Scalegill (*Section 4.2.1*). It is perhaps not surprising therefore that Fletcher (1878), in his list of Whitehaven pits, referred to the workings under the vague term of '*several pits working at Scalegill*', which he further subdivided into 'pits working in 1731' and 'pits working before 1750'; the former worked the Main Band and were sunk to six fathoms, while the latter worked the Six Quarters Band, and were sunk to 40 fathoms (Fletcher 1878, 309).

4.2.4 The Patricksons of Stockhow appear to have come into ownership of Scalegill (presumably Scalegill Hall at NX 2996 5143) in the seventeenth century: in 1646 Thomas Patrickson married Frances, youngest daughter of Thomas Benson of Scalegill. Upon his death in 1647, Scalegill passed, amongst other properties, to Frances his daughter, '*with the mill he bought in 1618*' (Littledale 1924, 216); also mentioned within the bequest is Linethwaite, bought originally in 1638-9 (*ibid*).

Thomas Patrickson, her son, is first mentioned as working coal at Scalegill from 1680 (Wood 1988, 26), and it appears he got the site through winning a legal dispute with his brother and sister, Richard and Jane (Littledale 1924, 216). The Patricksons do not appear to have been particularly adept at business, and correspondence with Sir John Lowther in April 1693 shows a precarious financial state, with Thomas Patrickson already mortgaging '*his estate at Scalegill and Linethwaite, with the mill and colliery there*' for £2500 (Hainsworth 1983, 11). In December of the same year, Patrickson died, and his estates passed to his younger son Anthony (born in 1652) (*op cit*, 87); a further letter mentions Anthony as owner of the colliery in 1696 (*op cit*, 346). Ten years later, a 'Mr. Patrickson' is again mentioned, who is said to send '*more coals to Whitehaven than all ye County Coal owners*' (Wood 1988, 26). However, he ran into financial difficulties in 1720 and mortgaged his estate to Sir James Lowther for £2000; Beckett states: '*Patrickson could not afford the cost of mining*' (Beckett 1981, 44). Following delays in repaying interest on the debt, Lowther began threats of foreclosure. In 1726, Patrickson had to surrender his Stockhow estate to Lowther for £2252 (Wood 1988, 26). Four years later he sold Scalegill and Linethwaite collieries to Lowther for £500, and died shortly after, leaving what remained of his estate to his son Thomas, born in 1706 (Littledale 1924, 220). It is unclear whether Lowther had a controlling interest in the colliery prior to the final purchase from Patrickson, documentary sources stating that in the early 1720s (after 1721 but before 1724) he appointed Carlisle Spedding as steward to a number of his small pits, amongst which is listed Scalegill (Beckett 1983, 133). This suggests that Lowther was working the pit from the moment the Patrickson estates were mortgaged to him.

4.2.5 The mention of a colliery at Linethwaite (Site 23), just south of the study area at NX 2990 5137, is the only available evidence for the presence of workings at that site; no cartographic evidence is available, and no workings are visible on the ground. Linethwaite is not mentioned in any Lowther transactions, other than a deed to build a road to it in 1736 (CRO(C) D/Law/3.18); it is therefore assumed that the site fell under the generic name of Scalegill following its sale, or was closed after 1736.

4.2.6 Following his acquisition of Scalegill, Lowther worked the site until 1776, when the mines flooded. '*Lowther expected to supply all the south part of the country from Whitehaven, but this proved to be uneconomic. A nailery to consume the surplus coal was suggested in 1737, and when this scheme came to nothing a waggonway was built to link the colliery with Quay staith in Whitehaven*' (Beckett 1981, 142). In 1736, Gilfrid Lawson leased some land in Low Hall demesne to Sir James Lowther, to enable him to make an access road to his collieries at Scalegill and Linethwaite (CRO(C) D/Law/3.18), the surface of which was owned by Thomas Patrickson; this probably related to the preliminary works for building the waggonway three years later. The waggonway facilitated the movement of coal from Scalegill, and the records show that the coal leaders (the men who filled the waggons and pushed them to the harbour, and who were paid by distance) were the best paid of all the area, receiving 4d per waggon, due to the distance of the Scalegill collieries (Wood 1988, 46). The easier movement as a result of the waggonway caused a threefold increase in profits from the mine, from £146.4.9½ in 1738, to £568.4.5½ in 1739 (Owen 1988, 311).

4.2.7 In 1749, a man was recorded as having drowned at the colliery (Beckett 1981, 66), and, from 1759, the colliery was recorded as only being worked for inland sale (Wood 1988, 116). After being 'totally lost' in 1776, the colliery was re-opened in

1806 when John Bateman, the manager of the Whitehaven collieries from 1781, sank a new pit called Henry Pit and installed a 30hp atmospheric winding engine. The pit soon repaid the cost of winning and opening it, as by the end of 1806 the 'little infant colliery' was making a profit of £30-40 per week. A new manager, John Peile, who succeeded Bateman in 1811, then ran the pit, which in 1814 employed 26 people and made a profit of £2052 (*ibid*).

4.2.8 Other mines also existed in the area at the same time that the Patricksons were working the Scalegill pits. The holders of the manor, based at Low Hall, are described as working pits to produce coal, and documentary evidence shows that Anthony Benn, of Low Hall, sold half his coal royalty to Sir John Lowther in 1684 (Wood 1988, 8). Between 1710 and 1730, Gilfrid Lawson, also of Low Hall, was raising coal from a number of pits in Hensingham, but not in any specified location; he was never very successful and his pits eventually stopped working (*ibid*). A colliery token for Low Hall Colliery (Site 01), dated 1797, is in the collection at Tullie House in Carlisle; this depicts a horse-gin at work, with a man keeping the ropes clear. Ferguson (1899, 14), in discussing the token, states that: '*Low Hall Colliery, in the township of Hensingham, in the Scalegill colliery area, formerly belonged to Sir Wilfred Lawson. It has long been abandoned, probably a hundred years ago*'. The colliery may relate to the pits (Site 01) shown on the 1st edition OS map (1863) clustering around the farm of Low Scalegill.

4.2.9 Also of note is the site of an old drift mine (Site 07), which is clearly marked as such on modern OS maps but not on the OS 1st edition map onwards. The mine-workings are clearly bisected by the Whitehaven and Furness Junction Railway, dating to 1847, and are shown as an outline defined by a contour line on early OS maps; this may be the site identified as 'Partis' by Wood (1988, 24), which is shown on the plan as being in this location, to the north-west of Stanley Pond. Fletcher (1878, 270) recorded the name, but provided little further detail, other than to state that the earliest coal workings were probably along the 'low road' to St Bees, where a number of coal seams outcrop. Partis Pit was located east of this road, and was recorded as working the Six Quarter Band, sunk to three fathoms (Fletcher 1878, 309); its location may suggest that the mine is of very early date.

4.2.10 ***Low Hall (Site 10):*** Low Hall farm has been shown by documentary evidence to have existed from at least the seventeenth century, when it was first mentioned (CRO(C) D/Law/3.18), but an earlier hall on the site is probable, as it is believed that it was the capital messuage for the township of Hensingham from the medieval period (Whelan 1860; LUAU 1999); the history of Hensingham, and by implication that of the hall, is discussed in greater detail in *Section 3.2.9*. Also of interest regarding the hall is that a lease of 1779 (CRO(C) D/Law/3.5) specifically referred to Low Hall's lime kiln, which was probably used to fertilise and improve the fields. The location of the lime-kiln is unknown, and it is presumed to have been long-destroyed.

4.2.11 ***Stanley Pond Engine House (Site 03):*** this is the site of an engine house which was noted adjacent to Stanley Pond on the 1926 3rd edition 6" to 1 mile OS map (NX 2983 5143), but on all other maps appears to be adjacent to the railway lines. This may be an old pumping station which is mentioned in a letter, dated 1892, from the Whitehaven Colliery Co regarding the ceasing of pumping of water from Stanley Pond and replacing this source with water from the ponds at Gameriggs. The pumped water supplied Lord Lonsdale's farms, and it appears that the new source

was accepted, under the stringent conditions whereby the company installed the pipes, and the pipes became Lonsdale property (CRO(C) D/Lons/W7/1/381).

4.2.12 ***Agricultural Landscapes:*** the fields within the study area all appear to be of relatively early origin, as they display idiosyncrasies of shape common with piecemeal enclosure rather than planned parliamentary enclosure of the eighteenth / nineteenth centuries. Exceptions to this appear to be some of the fields west of Low Hall, and certain fields north of Linethwaite, which appear to have been realigned.

4.2.13 The earliest obvious enclosure appears to be a sub-circular intake (Site 02) immediately north of Linethwaite, which, on place name evidence, may have had early medieval origins (*thwaite* being of Scandinavian derivation for 'clearing' – Mills 1991). It seems likely, therefore, that this was amongst the first intake from the wasteland in the valley; aerial photographs appear to show an early field system within the south field of the enclosure (*Section 4.4*). Running west from this enclosure, and abutting Pow Beck, is a series of strip fields, containing ridge and furrow, which follow the beck and extend south beyond the survey area. It is unclear whether the fields were being used as turbaries during this period, though peat is certainly present along the beck (Hodgkinson *et al* 2000).

4.2.14 The rest of the fields are probably the result of subsequent piecemeal enclosure, though some possible ridge and furrow was noted adjacent to curvilinear field boundaries to the south-east of Low Hall.

4.3 CARTOGRAPHIC EVIDENCE

4.3.1 The maps consulted consisted of the tithe maps and enclosure maps; early estate plans and colliery plans; and a full sequence of OS maps, either 25" and 6" to 1 mile, which were examined from the 1st, 2nd, and 3rd editions. The maps are reproduced in Figures 2 and 4-7.

4.3.2 ***Hodgkinson and Donald Map of Cumberland 1770/1*** (Fig 2): the earliest available map is Hodgkinson and Donald's Map of Cumberland published in 1770/1. No features were noted on the map, with little detail marked, other than the valley of Pow Beck (with the beck unnamed) and the turnpike road which became the A595.

4.3.3 ***Enclosure Award and Map for Hensingham Commons, St Bees Parish, 1768 (CRO(C) QRE/1/48); and St Bees Tithe Map and Award 1838 (CRO(W) YPR 42/136)*** (not reproduced): neither the enclosure map nor the tithe map covered the survey area at all, both relating to areas beyond. The enclosure map deals with land to the north-east of the site, which suggests that the land within the survey area had already been enclosed by this time. The only tithe map available relates specifically to the township of St Bees, some way to the south of the present survey area; none exists for Hensingham township.

4.3.4 ***OS 1st Edition 6" to 1 mile (1863)*** (Fig 4) ***and 25" to 1 mile (1863)*** (Fig 5): the OS 1st edition map of 1863 shows that the area had a very similar layout to the current landscape, with the fields almost identical to those of the present day. Stanley Pond is clearly marked as such, without an adjacent engine house (it being west of the railway lines). Scalegill farm, also known as Low Scalegill, is shown as a small rectangular building with a wood to the rear; to the west of the building are shown an air-shaft, shaft and chimney for an 'Old Coal Pit' (greater detail being provided on the 25" map) (Site 01). Several trackays are shown radiating from the farm in a

north-easterly direction, under the Whitehaven Cleator and Egremont railway (Site 09) towards the A595. Low Hall (Site 10) is clearly marked, with rectangular buildings ranged around the north and south of a courtyard. A drift mine (Site 07) marked on the modern maps may have been in existence at this time, as it is marked by a contour line which fits the modern boundaries of the mine shown on the map; this mine is bisected by the Whitehaven and Furness Junction Railway, built in 1847, and therefore must be earlier.

4.3.5 ***OS 2nd and 3rd Edition 6" to 1 mile (1900 and 1926) and 25"to 1 mile (1899 and 1925)*** (Fig 6): the 2nd and 3rd editions show little change to the landscape in the years subsequent to the OS 1st edition map (1863). Stanley Pond is still named, though the engine house (Site 03) marked on the earlier maps has moved adjacent to and to the west of the pond on the 3rd edition map. Scalegill farm is still shown as extant on the 2nd and 3rd edition maps (called Low Scalegill), but was demolished subsequent to the 3rd edition map (1926). The coal workings are no longer marked, but a large spoil-heap is visible to the north-west of the farm, and is still visible on modern maps. The trackways are also still visible, probably still serving as the access roads to the farm; the modern maps, however, show these to have vanished, only marked as a field boundary to the north-east of the Whitehaven Cleator and Egremont mineral railway (Site 09); this railway is still marked as extant, only becoming obsolete later in the twentieth century. Low Hall (Site 10) has seen expansion on its north side by the 2nd edition map, maintaining the same layout on the 3rd edition map; by the time of the modern mapping the buildings on the north of the farm have been broken up, with a central section demolished. The drift mine (Site 07) is still not marked and is again shown only as a contour line; it is only identified as a drift mine on the modern maps. The only other new features are two tanks marked inside a field to the north of Linethwaite farm, which had been removed by the time the modern maps were surveyed; these are of uncertain purpose, possibly for dipping sheep. No other significant features are visible.

4.3.6 ***Plans of Scalegill Colliery (undated but nineteenth century) (D/Lons/W7/1/21/2)*** (not reproduced)***:*** this set of plans for the collieries is not dated but is believed to be from the nineteenth century; given the lack of precise dating, it is therefore hard to include them within the regression analysis for the area. However, the workings marked, which cluster in two groups, north-west of Foul Yeat (Site 08), and west of Holehouses respectively, must predate the Ordnance Survey of 1863, as they are not shown on the OS 1st edition maps.

4.4 AERIAL PHOTOGRAPHIC EVIDENCE

4.4.1 ***Whitehaven Record Office (CRO(W)):*** one set of aerial photographs was available for consultation at the Record Office, consisting of a run of vertical colour photographs taken at approximately 1:25,000 scale. This served to show little detail other than a general overview of the area and no clear features were discernible even where sites had previously been seen on other aerial photographs.

4.4.2 ***Cumbria Sites and Monuments Record (CSMR):*** three sets of aerial photographs were available for consultation at the SMR, consisting of oblique black and white photographs taken at low altitude.

4.4.3 *CL 1891/35-40:* Photograph 39 clearly shows the ridge and furrow (Site 06) described in CSMR 16649, along with possible trackways and enclosures. Also

shown is Site 02, a possible field system located within the south half of an apparently early circular enclosure. A series of shafts is visible in a line running from this latter enclosure up to Low Scalegill farm (Site 22; CSMR 2749/16590). Photographs 35-8 and 40 show the demolished remains of Low Scalegill farm (Site 01), consisting of the outlines of walls, as well as a rectangular enclosure on its eastern side. Several pits and shafts, as well as a large spoil-heap, are also shown clustering around the farm, replicating information from the OS 1st edition map. Possible rectangular enclosures are also shown a short distance to the east of the farm, visible as faint stone alignments. A whole series of waggonways (Site 14) radiates out north-east from the farmstead, running beneath the disused railway lines. Possible ridge and furrow (Site 13) is also visible in a field north-east of the farmstead.

4.4.4 *CL 8/33-35a:* these photographs also show the farmstead (Site 01), along with its associated shafts and spoil-heaps. A fenced-off air-shaft (Site 21) is also visible to the south-east of the woodland which is east of Low Hall farm.

4.4.5 *CL9/1a-4a:* these photographs show further detail of the waggonways (Site 14) which run up to the A595, and now form a modern field boundary. A small fenced off area, adjacent to the railway lines and waggonways, may be a further shaft (Site 24).

4.5 IDENTIFICATION SURVEY

4.5.1 The study area is known to have been used extensively for small-scale mining exploration from the seventeenth century, centring on at least three collieries: Scalegill, Low Hall and Linethwaite. Despite the known positions of a number of these sites, and previously identified evidence from aerial photographs and other sources, little new evidence was recovered during field-walking; in many cases documentary sites are now no longer visible. Of the other evidence recovered, the greatest related to the medieval field systems in the southern half of the survey area. The detailed results of the survey are presented within the survey gazetteer (*Appendix 2*), and the summary descriptions are presented below.

4.5.2 ***Low Hall Colliery / Low Scalegill Farm (Sites 01, 14):*** of the three known collieries, only this site survives to any extent; Linethwaite has not been definitely located, and Scalegill colliery has been ploughed out. Documentary sources record the site as Low Scalegill farm (OS 1st edition map), and show the presence of shafts, spoil-heaps and waggonways leading to the site; documentary sources (Ferguson 1899) indirectly record a horse-gin working on the site. This site has been tentatively identified as Low Hall Colliery, due to its proximity and obvious relation to the former hall. It was worked by the Lawson family, amongst others, until at least the late eighteenth century.

4.5.3 The site has sustained considerable decay since the oblique aerial photographs (OAP: CL8133/35a) were taken (1980s) which show features that are no longer evident on the ground, including a number of shafts still open within the vicinity of the site, as well as remains of the farm (shown as a low wall) and associated enclosures. All these elements have now largely disappeared, either engulfed by vegetation or having collapsed. The elements that do survive include the large spoil-heap associated with the farm, and a series of waggonways and tracks which radiate north-eastwards towards the A595. The spoil-heap is partially eroded but is

extensive, measuring approximately 30m in length and 15m in width, and is aligned east/west. The principal waggonway runs straight from the farm to the road, and consists of a broad 3m wide platform with a drain on its south-east side; the track is entirely grass covered. At the intersection with the mineral line, a further track bows out northwards, curving round to rejoin the waggonway in front of the farm. This track is less formally defined, appearing as a 5m wide flattened strip of land, while other tracks radiate from this track up to Low Hall, and down towards the south-west.

4.5.4 ***Agricultural Field Systems (Sites 02, 06, 15, 17, 18 and 19):*** the potentially early field systems in the southern half of the survey area, that were identified from aerial photography, were examined as part of the identification survey. The most notable of these was a series of putative boundaries within the southern part of the sub-circular enclosure (Site 02) to the north of Linethwaite; however, the field survey revealed no upstanding earthworks or features corresponding to the cropmarks.

4.5.5 To the west of this enclosure is a series of five strip-fields, which run east/west and extend up against Pow Beck to the west. Two of these fields (Sites 06 and 18) contain large areas of boggy ground adjacent to the beck, but have clearly been cultivated in the past as they contain faint indications of ridge and furrow. The ridge and furrow of Site 06 was edged to the east by a broad linear mound (Site 17) which was apparently the associated headland, but had also served as a trackway.

4.5.6 These small and somewhat irregular fields to the north of Linethwaite contrast markedly with those to the north and east of the sub-circular enclosure, which are large with, for the most part, straight boundaries. The latter fields appear to be the product of parliamentary enclosure and clearly reflect a later episode of enclosure in comparison with the intake associated with Linethwaite.

4.5.7 The survey identified a small number of new sites that relate to agricultural activities, including a heck gate (Site 16), comprising two sandstone gate-posts spaced approximately 4m apart, and set within a field-boundary of probably post-medieval date. There were also the remains of a bridge crossing Scalegill Beck (Site 11); hoewever, only the north wall survives intact and the beck now runs through a culvert at its base. The bridge relates to a track which extends beneath the mineral line (Site 09), and appears to predate it; the bridge is probably of late eighteenth to early nineteenth century date.

4.5.8 ***Low Hall (Site 10):*** Low Hall is referenced in documentary sources (CRO(C) D/Law/3.18) from at least 1736. A brief assessment of the exterior of the farm was possible, but access was not available to the interior of the building.

4.5.9 The farmhouse consists of a two-storey central section with a three-storeyed extension to the west and a two-storeyed extension to the east. The present layout of the buildings corresponds to that depicted on the OS 1st edition map (1863) and it is clear that the extensions predate the map. The building has an arched window to the rear, and a decorative flat hood supported by scrolled consoles over the main doorway. The windows are conventional single-light vertical sashed windows with plain jambs and projecting sill. The design of the detail would suggest a late eighteenth or earlier nineteenth construction (Brunskill 1978, 137). The building has been provided with 14 chimneys set in three stacks and their large number would suggest that it was provided with a fireplace in every room; this, coupled with the

ornate front door and the three storeys of the western extension, would indicate that the house had a high status.

4.5.10 To the rear of the farm were two adjoining buildings, one of which is the stables, which was constructed of randomly coursed irregular sandstone blocks, and has retained its original slate roof. The other is a single storeyed outbuilding of brick construction with an asbestos roof, and is of relatively recent (twentieth century date). On the opposite (northern) side of the central courtyard were two further buildings. The western building was probably the cow-house with a granary above, and was constructed of randomly coursed stone with dressed quoins and projecting corbels on each corner of the building; under the roof-line was a series of quatrefoil vents. The building has been extended on the north side with an outshut, and on the west it is abutted by a piggery. A similar structure was observed to the east, which was aligned north/south, with vents on the gable end, and has a blocked second floor doorway. The farm buildings appear to be broadly contemporary with the farm and would appear also to be of approximately late eighteenth / early nineteenth century date.

5. DISCUSSION

5.1 CONCLUSIONS

5.1.1 The walk-over survey, when coupled with the aerial photography, demonstrated the remains of some potentially early field systems, centred, for the most part, on the southern half of the survey area. Despite evidence from documentary sources, few colliery sites were confirmed in the field, even in those locations where they were known to have existed at one time; most appear to have been ploughed out or filled in. An example of this is Scalegill colliery (Site 08), the location of which was shown on cartographic sources probably from the nineteenth century (D/Lons/W7/1/21/2), but the physical evidence is not visible as the site has been ploughed out; it is now a wheat-field. The colliery that was most clearly defined on historic mapping was Low Scalegill (Site 01), and even there the shafts associated with the site have disappeared within the last 10 years, becoming overgrown and / or plugged with vegetation. The associated buildings have also become overgrown and although the aerial photographs showed extant wall-stubs these could not be located during the survey. The waggonways and spoil-heap, however, survive well, the former being quite extensive.

5.1.2 A few new sites were identified during the present study, which included a post-medieval bridge (Site 11) and a heck gate (Site 16), both of which relate to the use of the landscape in the post-medieval farming period. Low Hall farm is thought to be of late eighteenth century date, and this was borne out by the structural evidence; however, this does not rule out a medieval hall having once stood on the site, as suggested by documentary sources (Whelan 1860).

6. IMPACT AND RECOMMENDATIONS

6.1 IMPACT

6.1.1 The excavation of the open-cast coal extraction site will have a considerable impact on the identified, and as yet unidentified, archaeological resource within the study area, and will affect the situation and setting of a number of sites, such as Linethwaite Hall and Low Hall Farm itself, which will be preserved on an island in the centre of the open-cast site. The extraction will result in the loss of a series of early field systems which cluster in the southern half of the survey area, and also some late medieval / post-medieval collieries, of which there are at least two in the area (Scalegill (Site 08), as yet unlocated; and the remains of Low Hall (Site 01)). It will also result in the removal of part of the old Whitehaven, Cleator and Egremont mineral line (Site 09), which is currently being used as a footpath.

6.1.2 The proposed development will also have both a direct and an indirect impact upon the wetland sites which centre on the southern half of the survey area; the north-eastern part of the wetlands will be directly affected by the extraction process and the water levels in the south-western section of the wetland area, outside the study area, may well change, leading to deterioration, as a result of water draining into the extraction pit and the altering of the overall drainage pattern. Such wetlands contain an important ecological resource, but also have the potential to preserve important archaeological remains, particularly of prehistoric date, as has been demonstrated at other sites in West Cumbria such as Ehenside Tarn (Darbishire 1873). The North West Wetlands Survey (NWWS) briefly examined this area, but no detailed assessment of individual mires was made; however, the area was highlighted as being important for future research (Hodgkinson *et al* 2000).

6.2 RECOMMENDATIONS

6.2.1 It is recommended that, prior to any development works, a programme of landscape survey, evaluation trenching, and environmental analysis be undertaken across the whole area to establish in detail the value of the archaeology before it is affected by the open casting. The survey would provide a mitigative record of all surface features that will be directly affected by the extraction. The evaluation programme should centre on the known locations of the collieries, and the field systems; it should also examine the peripheries of the wetlands in order to identify any possible prehistoric activity in the locality. The wetlands should be subject to palaeoecological sampling and an assessment should be made of the likely impact upon surrounding wetland sites of the proposed development.

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APPENDIX 1
PROJECT DESIGN

Lancaster University Archaeological Unit

June 2001

STANLEY POND POTENTIAL OPENCAST COAL SITE

WHITEHAVEN MOOR

CUMBRIA

ARCHAEOLOGICAL ASSESSMENT

Proposals

The following project design is offered in response to a request from Roxylight Agricultural Land (Cumbria) Ltd for an archaeological assessment at the Stanley Pond potential open-cast coal site.

1. INTRODUCTION

1.1 LUAU has been invited by Roxylight Agricultural Land (Cumbria) Ltd to submit a project design and costs for an archaeological assessment of an area of pasture land at Stanley Pond, to the south of Whitehaven, West Cumbria, in advance of proposed open-cast coal extraction.

1.2 There is potential for prehistoric activity within the wetlands along Pow Beck at the south-western end of the study area (Hodgkinson *et al* 2000) and there is a number of coal extraction sites across the study area. The present proposal is submitted in anticipation of a requirement for an archaeological assessment to inform the planning process.

1.3 The Lancaster University Archaeological Unit has considerable experience of the evaluation and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 20 years. Evaluations and assessments have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. LUAU undertook an assessment, landscape survey and evaluation on the Kidburngill site (LUAU 1997a and b) and the Keekle Head site (LUAU 1998) both in advance of open cast developments. LUAU has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. LUAU and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct and LUAU is a registered organisation of the IFA (No 27).

2. OBJECTIVES

2.1 The following programme has been designed in accordance with a verbal brief by Helena Smith, development control officer for Cumbria County Council, to provide an accurate archaeological assessment of the designated area, within its broader context. The principal purpose of the assessment is to collate existing information about the archaeology of the site, to determine the significance of the identified archaeological resource and to provide recommendations for any further archaeological investigation. The required stages to achieve these ends are as follows:

2.2 ***Desk Top Survey***

To accrue an organised body of data to inform the field inspection.

2.3 ***Identification Survey***

An identification survey to record the character of any extant earthworks within the study area and provide an assessment of the archaeological significance of the physical remains.

2.4 ***Assessment Report***

A written assessment report will assess the significance of the data generated by this programme within a local and regional context. It will advise on the requirements for further evaluation or recording measures as necessary.

3. METHODS STATEMENT

3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above.

3.2 **DESK TOP SURVEY**

3.2.1 The following will be undertaken as appropriate, depending on the availability of source material. The level of such work will be dictated by the timescale of the project.

3.2.2 ***Documentary and cartographic material:*** this work will rapidly address the full range of potential sources of information. It will include an appraisal of the Cumbria Sites and Monuments Record, as well as appropriate sections of County histories, early maps, and such primary documentation (tithe and estate plans etc.) as may be reasonably available. Particular attention will be paid to field and place names recorded on early cartographic sources as these often provide important evidence of archaeological activity. Any photographic material lodged in either the County Sites and Monuments Record or the County Record Offices will also be studied. Published documentary sources will also be examined and assessed. This work will involve visits to the County Record Offices in Carlisle and Whitehaven.

3.2.3 ***Aerial photography:*** a survey of the extant air photographic cover will be undertaken. This may indicate the range and survival of archaeological and structural features in the designated area, and if appropriate coverage is available, allow an assessment of the rate and progress of erosion of archaeological features. It will also facilitate the rapid recognition and plotting of archaeological features including those no longer visible at ground level. Aerial photographic work may entail liaison with the Royal Commission on the Historical Monuments (England), although, within the timescale available, it is unlikely that prints will be forthcoming from this body for inclusion in this report.

3.2.4 ***Physical environment:*** a rapid desk-based compilation of geological (both solid and drift), pedological, topographical and palaeoenvironmental information will be undertaken. This will not only set the archaeological features in context but also serves to provide predictive data, that will increase the efficiency of the field inspection.

3.3 FIELD INSPECTION

3.3.1 ***Access:*** liaison for basic site access will be undertaken through Roxylight Agricultural Land (Cumbria) Ltd.

3.3.2 It is proposed to undertake a level 1 survey of the study area which extends over an area of 1.5sqkm. This is a rapid survey undertaken alongside a desk top study as part of a site assessment. It is an initial site inspection which helps the local planning authority to consider fully the archaeological implications of a development and also serves as the basis for undertaking and planning further archaeological work on the site. It represents the minimum standard of record and is appropriate to exploratory survey aimed at the discovery of previously unrecorded sites. Its aim is to record the existence, location and extent of any such site. The emphasis for the recording is on the written description which should record type and period and would not normally exceed *c*50 words. The extent of a site is defined for sites or features greater than 50m in size and smaller sites are shown with a cross.

3.3.3 The reconnaissance will be undertaken in a systematic fashion, walking on approximately 30m wide transects within the extent of the defined study area. It is proposed to use Global Positioning System (GPS) techniques to locate and record the features. GPS instrumentation uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude which can be converted mathematically to Ordnance Survey National Grid. The use of GPS techniques has proved to be an essential and extremely cost effective means of locating monuments, which can achieve accuracy of better than +- 1m.

3.3.4 A photographic record will be undertaken simultaneously. An early surface inspection such as this is highly recommended, as such work can frequently double the amount of archaeological information for an area. This fieldwork will result in the production of plans at a scale of 1:2,500 or any other scale required, recording the location of each of the sites listed in the gazetteer. All archaeological information collected in the course of field inspection will be recorded in standardised form, and will include accurate national grid references. This will form the basis of a gazetteer, to be submitted as part of the report.

3.3.6 LUAU provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1991) and risk assessments are implemented for all projects.

3.4 ASSESSMENT REPORT

3.4.1 ***Archive:*** The results of Stages 3.2-3.3 will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*The Management of Archaeological Projects, 2nd edition, 1991*). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of any features and finds recovered during fieldwork. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.

3.4.2 This archive can be provided in the English Heritage Central Archaeology Service format, both as a printed document and on computer disks as ASCii files (as appropriate), and a synthesis (in the form of the index to the archive and the report) will be deposited with the Cumbria Sites and Monuments Record. A copy of the archive will also be available for deposition in the National Archaeological Record in London. LUAU practice is to deposit the original record archive of projects (paper, magnetic, and plastic media) with the appropriate County Record Office, and a full copy of the record archive, should any material be recovered, with the material archive (artefacts, ecofacts, and samples, at this stage from surface collections) with an appropriate museum.

3.4.3 ***Collation of data:*** The data generated by 3.2 and 3.3 (above) will be collated and analysed in order to provide an assessment of the nature and significance of the known surface and subsurface remains within the designated area. It will also serve as a guide to the archaeological potential of the area to be investigated, and the basis for the formulation of any detailed field programme and associated sampling strategy, should these be required in the future.

3.4.4 ***Assessment Report:*** One bound and one unbound copy of a written synthetic report will be submitted to the Client, and a further copy submitted to the Cumbria County Archaeologist. The report will include a copy of the project brief, this project design, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme detailed above and will include a full index of archaeological features identified in the course of the project, together with appropriate illustrations, including a map and gazetteer of known or suspected sites identified within or immediately adjacent to the study area. It will also include a complete bibliography of sources from which the data has been derived, and a list of further sources identified during the programme of work, but not examined in detail. The report will also include a complete bibliography of sources from which data has been derived, and a list of further sources identified during the programme of work, but not examined in detail.

3.4.5 This report will identify areas of defined archaeology, an assessment and statement of the actual and potential archaeological significance of any features within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, which can be tailored to the specific requests of the client (eg particular scales etc), subject to discussion. The report will be in the same basic format as this project design; a copy of the report can be provided on 3.5" disk (IBM compatible format).

3.4.6 ***Proposals:*** The report will make a clear statement of the likely archaeological implications of the intended development. It will also make recommendations for any further evaluation of the identified archaeological potential deemed necessary or desirable for individual sites. It will seek to achieve, as a first option, the preservation *in situ* of all significant archaeological features, and possible strategies for the mitigation of the development, including design modifications, will be considered. Where conservation is neither possible, nor practical, it may be appropriate to recommend a further stage of more intensive archaeological work in order to mitigate the effects of development.

3.4.7 ***Confidentiality:*** The assessment report is designed as a document for the specific use of the client, for the particular purpose as defined in the project brief and this project design, and should be treated as such; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

3.5 **PROJECT MONITORING**

3.5.1 ***Roxylight Agricultural Land (Cumbria) Ltd:*** LUAU will consult with the Client regarding access to land within the study area. This consultation will include, if required, the attendance of the Cumbria County Archaeologist.

4. TIMETABLE AND RESOURCES

The phases of work will comprise:

4.1 ***Desk Top Study***

A three day period is required to collate all the available data.

4.2 ***Field Inspection***

A two day period is required for the identification survey.

4.3 ***Prepare Assessment Report***

A three day period would be required to complete this element.

4.4 LUAU can execute projects at very short notice once an agreement has been signed with the client.

4.5 ***Staff:*** The project will be under the management of **Jamie Quartermaine, BA, Surv Dip, MIFA** (Unit Project Manager) to whom all correspondence should be addressed. All Unit staff are experienced, qualified archaeologists, each with several years professional expertise.

APPENDIX 2
GAZETTEER OF SITES

Site number **01**
Site name Low Scalegill
NGR NX 2988 5146
SMR No 2749 / 16590
Site type Mine and Farmstead
Period Post-Medieval
Source SMR; OAP: CL8133/35a (CSMR); Identification Survey

Description

A small farmstead with associated coal workings, comprising a number of shafts, spoil-tips, waggonways, and fields. It is shown as disused on the OS 1st edition map but is visible on aerial photographs held by SMR (CL8133/35a). It is not thought to be the 'Scalegill Colliery' which lies to east of survey area, but was potentially 'Low Hall Colliery', given its proximity to the hall; this colliery dates to at least 1797. Waggonways predate the mineral line (1855) (Site 09). Two shafts are clearly visible on the oblique aerial photograph (CL8133/35a) at NX 2990 5149 (Site 24) and NX 2988 5150, but are no longer visible now. Most of the field evidence now appears lost: the buildings are scarcely visible and the adjacent features are overgrown with bushes and are no longer visible. Only the waggonways and spoil-heap survive well.

Assessment

The site lies within the assessment area.

Site number **02**
Site name Linethwaite earthworks
NGR NX 2990 5140
SMR No 9502
Site type Cropmarks
Period Medieval?
Source SMR; OAP: CL8133/35a (CSMR); Identification Survey

Description

A series of earthworks clearly shown on oblique aerial photographs (CL8133/35a); the main features within it may be drainage channels, but a definite field system exists. The site lies within the south field of a circular enclosure, which is possibly medieval in date and probably associated with Linethwaite farm, the name suggesting early origins. A series of tanks is also shown on the 2nd and 3rd edition OS maps at NX 2990 5140, but not on the 1st edition. No evidence for the tanks was identified whilst fieldwalking.

Assessment

The site lies within the assessment area.

Site number **03**
Site name Stanley Pond Engine House
NGR NX 2984 5143
SMR No 11918
Site type Engine House
Period Nineteenth Century
Source SMR; CRO(C) D/Lons/W/7/381

Description

The site of an old engine house, which on early maps appears adjacent to and west of railway lines, but by the time of the 3rd edition OS is sited next to Stanley Pond. The site may be that referred to in a letter regarding the pumping of water from the pond (dated 1892), which may suggest its purpose. The site could equally be related to mining as it is close to a drift mine located at NX 2983 5145 (Site 07). No access was available to this site.

Assessment

The site lies within the assessment area.

Site number **04**
Site name Low Walton Wood, Bigrigg
NGR NX 2987 5137
SMR No 15902
Site type Bloomery
Period Medieval?
Source SMR

Description
The site of a bloomery, which is to the east of the bridge. Access was not available to site on the occasion of the site visit.

Assessment
The site lies south of the assessment area.

Site number **05**
Site name Scalegill
NGR NX 2992 5142
SMR No 15903
Site type Bloomery
Period Medieval?
Source SMR

Description
The site lies beneath cables, and is immediately adjacent to the medieval enclosure at Linethwaite. Despite searching the site was not found during the identification survey.

Assessment
The site lies within the assessment area.

Site number **06**
Site name Stanley Pond Field System
NGR NX 2987 5140
SMR No 16649
Site type Earthworks
Period Medieval
Source SMR; Hodgkinson *et al* 2000; OAP: CL8133/35a (CSMR); Identification Survey

Description
Extensive traces of ridge and furrow shown radiating east/west from the Linethwaite enclosure (Site 02), as shown clearly on oblique air photographs, along with a series of boundaries and trackways. This may not have been reclaimed for agriculture due to a number of boggy areas at the western end of the field, hence its survival. The field was walked by the NWWS. This site relates to Site 17, which was probably the headland for the ridge and furrow. Fieldwalking showed that the ridge and furrow was 0.25m in height, with approximately 6m between ridges.

Assessment
The site lies within the assessment area.

Site number **07**
Site name Woodend Gardens
NGR NX 2983 5145
SMR No -
Site type Drift Mine
Period Post-Medieval?
Source OS maps; Fletcher 1878; Wood 1988; Identification Survey

Description
The site of an old drift mine which is clearly marked as such on modern OS maps but not on the early OS maps. The mine-workings are clearly bisected by the Whitehaven and Furness Junction Railway, dating to 1847, and the site is outlined, by contour lines only, on the early OS maps. This may be the site identified as

'Partis' by Wood (1988). Fletcher (1878) records the name, but provides little further detail. The site was not visited, being outside the study area.

Assessment

The site lies immediately to the west of the assessment area.

Site number **08**
Site name Scalegill Mine
NGR NX 2993 5146 and 2994 5147
SMR No -
Site type Mines
Period Post-Medieval
Source CRO(C) D/Lons/W7/1/21/2; LUAU 1999; Identification Survey

Description

The location of Scalegill mines, as marked on nineteenth century plans of the area (CRO(C) D/Lons/W7/1/21/2). A trackway is clearly shown extending south-westwards from the A595 opposite the track to Foul Yeats, adjacent to Holehouses (hence name), and mine-workings are shown. Further workings are also shown north-west of Foul Yeat within Westlakes Science and Technology Park (outside the study area); these may be earthworks that were identified by LUAU (1999) but which were not recognised as coal workings. The site was worked from the seventeenth century by the Patrickson Family; it was taken over in 1730 by the Lowthers and worked until the nineteenth century. The term 'Scalegill' may have become a collective term for a number of workings at this time, including Site 01.

The southernmost site was field-walked but no evidence was found; the field is ploughed and has been cultivated for wheat.

Assessment

The site lies within and east of the assessment area.

Site number **09**
Site name Whitehaven Cleator and Egremont Railway (section)
NGR NX 2984 5153 to NX 2997 5142
SMR No -
Site type Railway (mineral) line
Period Nineteenth century
Source Marshall 1978

Description

This is a long section of the mineral line which supplied the Cleator Moor and Egremont haematite mines, bringing ore to Whitehaven. It extends as a curvilinear line across the length of the survey area, north-west to south-east. It was opened on 11 January 1855 and closed in the twentieth century. The site now serves as a cycle way / footpath from the Mirehouse estate to Egremont.

Assessment

The site lies within the assessment area.

Site number **10**
Site name Low Hall
NGR NX 2986 5151
SMR No -
Site type Farm/Hall
Period Medieval
Source LUAU 1999; CRO(C) D/Law/3.18; Identification Survey

Description

Low Hall farm has been shown by documentary evidence to have existed from at least 1736, when it is first mentioned (CRO(C) D/Law/3.18). It is likely, however, that the hall dates back to the medieval period, as it is believed that it was the capital messuage for the township of Hensingham from a very early period (LUAU 1999). An external record was made of the farm, but internal access was not possible.

Assessment

The site is within the assessment area.

Site number **11**
Site name Scalegill Beck Bridge
NGR NX 2992 5143
SMR No -
Site type Bridge
Period Post-Medieval
Source Identification Survey

Description

The remains of a bridge crossing Scalegill Beck adjacent to the track which runs east beneath the railway up to Scalegill Hall. Only the north wall survives intact, the south wall having collapsed some time ago. The walls are built from dressed sandstone in irregular courses, and the wall is capped with triangular sandstone coping. The beck runs through a culvert at the base; rectangular drain holes are visible in the surviving wall, above a shallow ledge which originally supported the timber decking. The holes would have allowed water to drain from the surface. The track runs beneath the mineral line, and appears to predate it. The bridge is probably of late eighteenth to early nineteenth century date.

Assessment

The site is within the assessment area.

Site number **12**
Site name Needless Beck
NGR NX 2994 5142
SMR No -
Site type Spoil-heap
Period Nineteenth century
Source Identification Survey

Description

A series of turf-covered spoil-heaps tipping from the corner of the mineral line, adjacent to Needless Beck, into the beck itself. These are likely to relate to the construction of the mineral line in 1855 (Site 09).

Assessment

The site is within the assessment area.

Site number **13**
Site name Westlakes Lodge
NGR NX 2991 5148
SMR No -
Site type ?Colliery
Period Post-Medieval
Source OAP: CL8133/35a (CSMR); Identification Survey

Description

A possibly dubious interpretation of an area of damp ground within a field to the south-west of Westlakes lodge. The site consists of a large area of marshy ground within a field of wheat, measuring approximately 50m by 25m in diameter. From aerial photographs some patches of vegetation within the marsh appear very 'rectangular' as though growing within the imprints of buildings and/or shafts but otherwise no other evidence exists for workings. It lies some way north of the known location of Scalegill colliery, which was not found in the survey and is assumed to have been ploughed out.

Assessment

The site is within the assessment area.

Site number **14**
Site name Low Hall Colliery
NGR NX 2991 5151
SMR No 2749 / 16490
Site type Waggonway
Period Post-Medieval

Source SMR; Identification Survey

Description

This site lies to the north-west of the mineral line (Site 09), running in a north-east/south-west direction, and relates to Site 01. The track consists of a very straight raised bank, approximately 3m wide, with a drainage ditch running along its north-eastern side. A small platform, approximately 5m wide, is visible approximately 30m from the north-east end of the track on the north-west side, which may have held a hut, though no building evidence was visible.

Assessment

The site is within the assessment area.

Site number **15**
Site name Stanley Pond
NGR NX 2985 5145
SMR No -
Site type Ridge and Furrow
Period Medieval
Source Field

Description

A series of ridge and furrow lynchets in a field immediately north of Stanley Pond. The field is curvilinear on its north side, and the cultivation marks probably originally extended upslope as far as Woodend Gardens, until truncated by the modern railway and drift mine (Site 07). The cultivation marks are very faint, approximately 8m wide and 0.5m high, running in an east/west direction. The exact number of ridges is uncertain.

Assessment

The site is within the assessment area.

Site number **16**
Site name Low Hall
NGR NX 2986 5146
SMR No -
Site type Heck Gate
Period Post-Medieval
Source Identification Survey

Description

A heck gate, comprising two sandstone gate-posts spaced approximately 4m apart; both posts measure approximately 1.5m by 0.5m by 0.25m. The north post has three rectangular recesses cut into the stone to accommodate the posts; the south has two L-shaped grooves which are open to allow the movement of the posts (the lower one resting on the ground). The gate is within a field-boundary of probably post-medieval date; it seems likely, therefore, that this gate was contemporary.

Assessment

The site is within the assessment area.

Site number **17**
Site name Linethwaite
NGR NX 2985 5140
SMR No -
Site type Headland/Track
Period Medieval
Source OAP: CL8133/35a (CSMR); Identification Survey

Description

The remains of a raised trackway which runs north-north-east/south-south-west and forms the western boundary of the circular enclosure north of Linethwaite. The track may have originally run south as far as the corner west of Linethwaite Bower. The track consists of a raised pathway approximately 1.5m in height and 10m wide, which is slightly sunken in the centre. The track runs adjacent to Scalegill Beck to the east, and

west of the track a series of ridge and furrow marks (Site 06) run westwards. The site probably also served as the headland for the ridges.

Assessment

The site is within the assessment area.

Site number **18**
Site name Linethwaite
NGR NX 2987 5141
SMR No -
Site type Ridge and Furrow
Period Medieval
Source OAP: CL8133/35a (CSMR); Identification Survey

Description

A series of at least six ridges and associated furrows running north-east / south-west within the triangular part of a field. These appear to abutt lynchets to the south running east/west, though the latter are less clear due to the mass of vegetation in the field. The earthworks may originally have extended northwards, following the contours of the low hill which lies at the centre of the survey area. The ridges are slight, no more than 0.35m in height and are 4m wide.

Assessment

The site is within the assessment area.

Site number **19**
Site name Linethwaite
NGR NX 2988 5143
SMR No -
Site type Field Boundaries
Period Medieval?
Source Identification Survey

Description

A series of hedges running around the edge of the low hillock in the centre of the survey area, consisting of low earth banks topped with hedges. A further off-shoot boundary runs west from the main enclosure adjoining the Linethwaite enclosure to the south-west. At the junction, a small section of walling is visible in the boundaries, adjacent to an opening which provides access from a track. Nearby to the north-west lies a large dressed stone, possibly the remains of a gate, which is not *in situ*.

Assessment

The site is within the assessment area.

Site number **20**
Site name Low Scalegill
NGR NX 2987 5148
SMR No -
Site type Ridge and Furrow
Period Medieval
Source OAP: CL8133/35a (CSMR); Identification Survey

Description

An area of possible ridge and furrow noted adjacent to curvilinear field boundaries to the south-east of Low Hall.

Assessment

The site is within the assessment area.

Site number **21**
Site name Low Scalegill
NGR NX 2988 5149
SMR No -
Site type Mine Shaft
Period Post-Medieval
Source OAP: CL8133/35a (CSMR)

Description
A mine shaft to the south-east of Low Hall; it was possibly part of the Low Scalegill farmstead and coal workings.
Assessment
The site is within the assessment area.

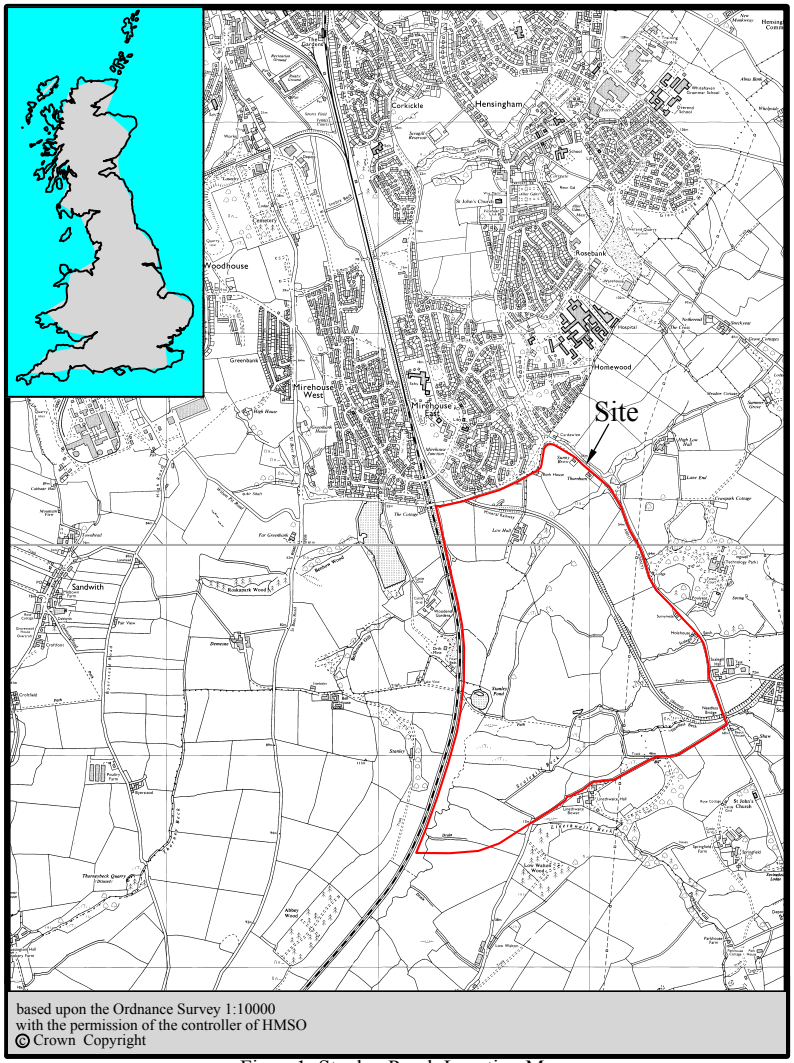
Site number **22**
Site name Low Scalegill
NGR NX 2987 5145 to 2987 5142
SMR No 2749 / 16590
Site type Mine Shafts
Period Post-Medieval
Source SMR; OAP, CL1891/35-40 (CSMR); Identification Survey
Description
An alignment of three mine shafts running north from field system Site 02 to Low Scalegill Farm. It was possibly part of the Low Scalegill farmstead and coal workings.
Assessment
The site is within the assessment area.

Site number **23**
Site name Linethwaite
NGR NX 2990 5137
SMR No -
Site type Mine Shafts
Period Post-Medieval
Source Littledale 1924, 220; CRO(C) D/Law/3.18; Identification Survey
Description
A colliery is mentioned at Linethwaite, just south of the study area, and is the only available evidence for the presence of workings at that site; no cartographic evidence is available, and no workings are visible on the ground. Linethwaite is not mentioned in any Lowther transactions, other than a deed to build a road to it in 1736 (CRO(C) D/Law/3.18).
Assessment
The site is just to the south of the assessment area.

Site number **24**
Site name Low Scalegill
NGR NX 2990 5149
SMR No -
Site type Mine Shaft
Period Post-Medieval
Source OAP, CL9/1a-4a (CSMR); Identification Survey
Description
A fenced-off enclosure around a former shaft, which was identified from oblique aerial photographs and surface observations.
Assessment
The site is within the assessment area.

ILLUSTRATIONS

PLATES



based upon the Ordnance Survey 1:10000
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Figure1: Stanley Pond: Location Map

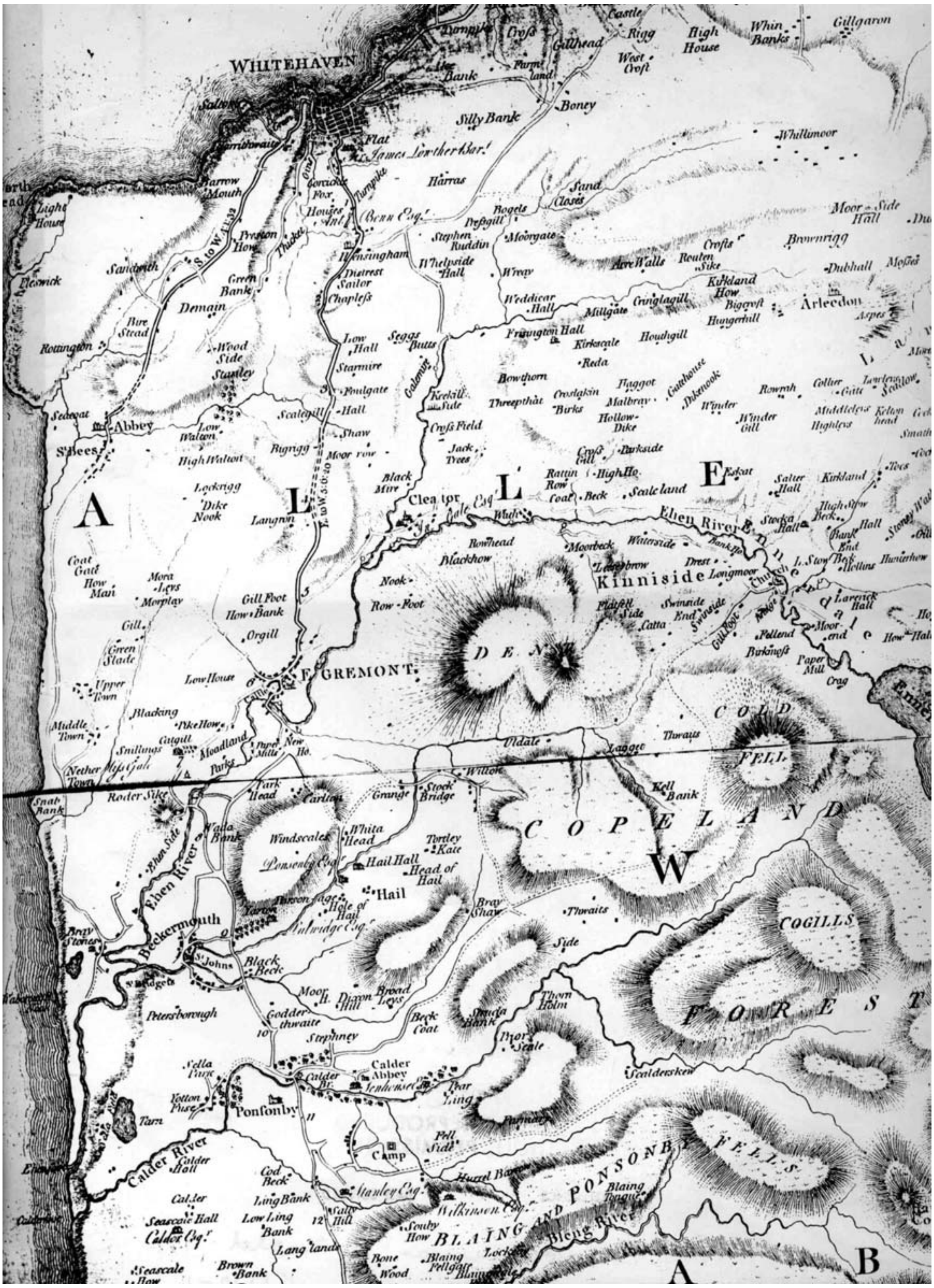

Figure 2: Hodgkinson and Donald map of 1770-1

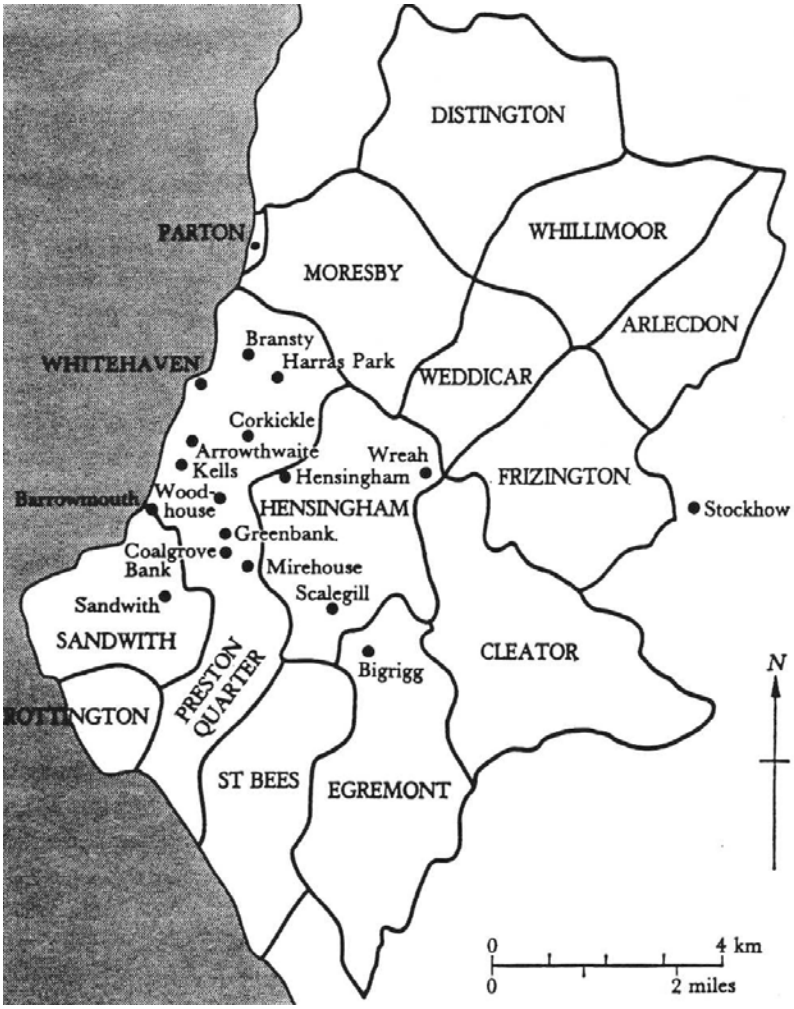

Figure 3: Sir James Lowther's major properties around Whitehaven

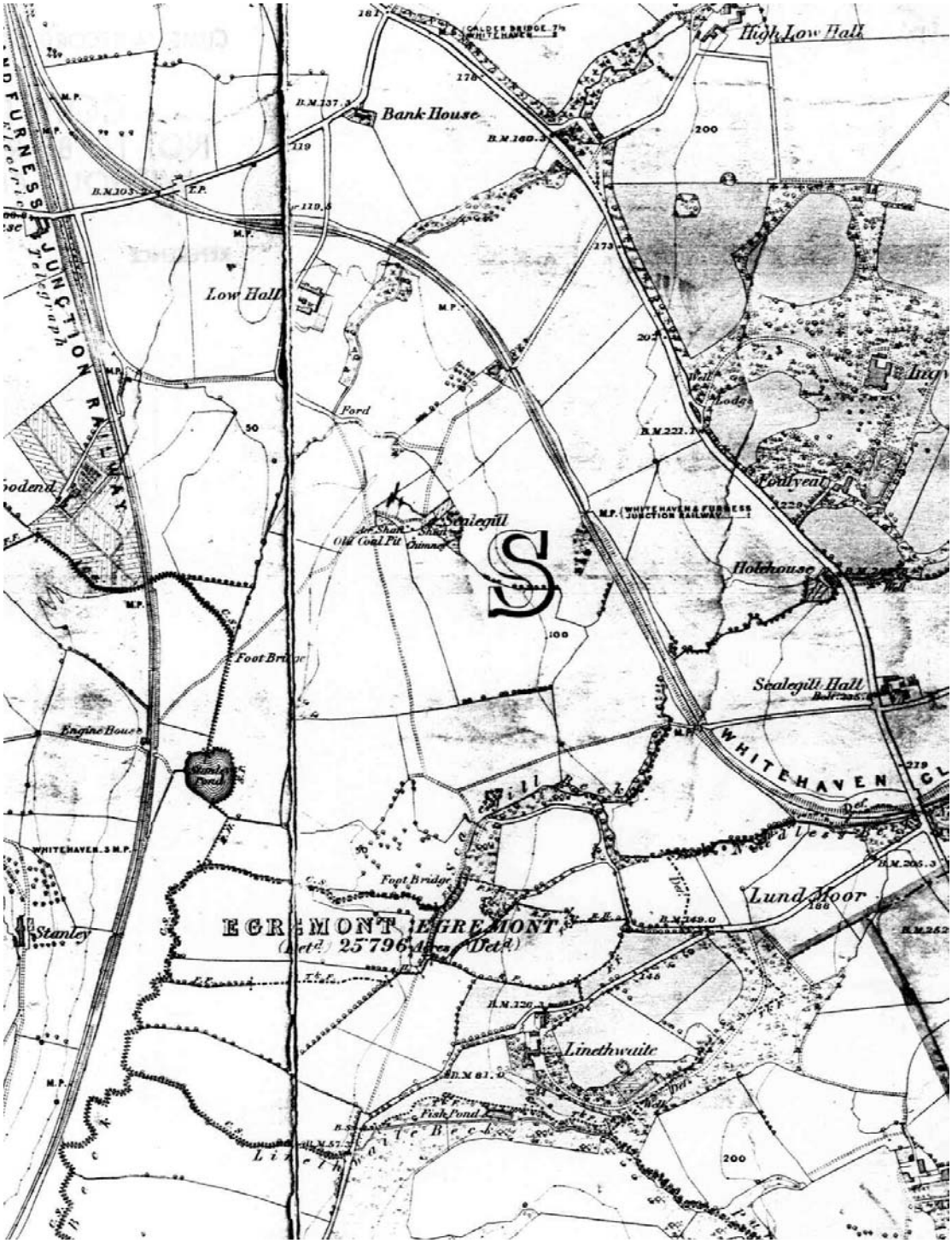

Figure 4: OS 1st Edition 6" to 1 mile map, 1863

Plate 1: Scalegill Bridge (Site 11), north facing elevation

Plate 2: Waggonway to Low Hall Colliery (Site 14), facing south-west

Plate 3: Heck Gate (Site 16), north post, facing east

Plate 4: Low Hall Farm House (Site 10) from the south-west

Plate 5: Low Hall Farm Buildings (Site 10) viewed from the north-west

Plate 6: Low Hall Cow House (Site 10) viewed from the north

Plate 7: Low Hall Farm Stable Block (Site 10) from the north-east