



PLANTING AREAS 1 AND 4 - BIRKETT COMMON

**UPPER EDEN
VALLEY,**

CUMBRIA

**Documentary and
Landscape Survey
Report**



June 2015

Hugh Brown

Issue No: 2015-16/1647
OA North Job No: L10857
NGR: NY 773 030

Document Title: Planting Areas 1 and 4, Birkett Common, Cumbria

Document Type: Documentary and Landscape Survey Report

:

Client Name: Hugh Brown

Issue Number: 2015-6/1647

OA Job Number: L10857

National Grid Reference: NY 773 030

Prepared by: Helen Quartermaine Peter Schofield
Date: June 2015 June 2015

Checked by: Jamie Quartermaine Signed.....
Position: Senior Project Manager
Date: June 2015

Approved by: Alan Lupton Signed.....
Position: Operations Manager
Date: June 2015

Oxford Archaeology North

Mill 3, Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t: (0044) 01524 541000
f: (0044) 01524 848606

w: www.oxfordarch.co.uk
e: info@oxfordarch.co.uk

© Oxford Archaeology Ltd (2015)

Janus House
Osney Mead
Oxford
OX2 0EA
t: (0044) 01865 263800
f: (0044) 01865 793496

Oxford Archaeology Limited is a Registered Charity No: 285627

Disclaimer:

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees, and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.

CONTENTS

CONTENTS.....	1
SUMMARY	2
ACKNOWLEDGEMENTS.....	3
1. INTRODUCTION	4
1.1 Circumstances of Project.....	4
1.2 Location and Geology	4
2. METHODOLOGY	6
2.1 Project Brief.....	6
2.2 Desk-Based Research	6
2.3 Landscape Survey.....	7
2.4 Archive	7
3. HISTORIC BACKGROUND.....	9
3.1 Introduction	9
3.2 General Historical and Archaeological Background.....	9
3.3 Map Regression	15
4. SURVEY RESULTS	18
4.1 Introduction	18
4.2 Area 1	18
4.3 Area 4	21
5. CONCLUSIONS AND RECOMMENDATIONS.....	23
5.1 Conclusions	23
5.2 Recommendations	23
6. BIBLIOGRAPHY	25
6.1 Cartographic Sources.....	25
6.2 Secondary Sources.....	25
APPENDIX 1: PROJECT BRIEF	27
APPENDIX 2: GAZETTEER OF SITES.....	33
ILLUSTRATIONS	37
Figures.....	37
Plates	37

SUMMARY

Oxford Archaeology North (OA North) were invited by Hugh Brown to undertake desk-based research and an archaeological landscape survey of two areas proposed for woodland planting on Birkett Common, Cumbria (NY 773 030) (Fig 1). The work was carried out to provide an assessment of the archaeological impact of these proposals; it was undertaken in accordance with a project brief prepared by Cumbria County Council (*Appendix 1*) and entailed the provision of a documentary study and identification survey of Areas 1 and 4 as defined on the project brief map.

The study area for the desk-based research comprised an area of 500m in radius around the two proposed areas (Areas 1 and 4). The field survey was undertaken as an enhanced Level 1-type survey (English Heritage 2007) over an area of 115ha and comprised systematic field walking across the two areas, recording any archaeological monuments identified.

In total, 17 sites of archaeological interest were identified across the survey areas. Eight sites (Sites **01-04**, **07-09** and **11**) were identified through consultation of the HER, three sites were identified through examination of air photos (Sites **05**, **06** and **10**), and six sites (Sites **12-17**) were identified through the landscape survey.

The earliest sites identified within the study area are of probable Bronze Age date, and include a funerary round cairn (Site **09**) and two findspots (Sites **01** and **02**). There was also a possible burnt mound (Site **12**), though this interpretation has yet to be confirmed. There is a number of sites identified during the field survey which are of uncertain function and date. Such monuments, from their surviving character would appear to be of substantial age, but a more precise dating can not be ascribed. These include an oval mound (Site **06**), a square (three-sided) enclosure (Site **07**), a sub-circular enclosure and a linear earthwork (Site **10**), which may be the remains of a track (Site **10**).

The remaining sites are of nineteenth century date and include a group of features associated with the construction of the Settle-Carlisle railway line. These include features forming part of the line, such as the Birkett Tunnel portal (Site **04**), and two bridges (Sites **13** and **14**). However, there was also a construction camp (Site **03**) for the railway, a building platform (Site **15**), and an access track (Site **05**) extending out from the southern portal of the tunnel. Other industrial features include a drainage level (Site **11**) and a roadside quarry (Site **17**).

Of the 17 sites recorded by the survey, 10 were within the areas proposed for woodland planting. These comprised eight sites in Area 1 (Sites **01-03**, **05-06**, **12**, **15-16**) and two sites in Area 4 (Sites **07** and **10**). In Area 1 it is recommended that the extent of the area of the construction camp and the putative burnt mound (Sites **03**, **15** and **12**) be marked on the ground and should be excluded from the planting. In Area 4, the rectangular enclosure (Site **07**) has the potential to be of archaeological significance, and again it should be marked on site and excluded from the planting.

In addition to the direct impacts outlined above, the proposed areas should also be considered with regards to indirect impacts of the proposed scheme. An assessment should be made of the impact of transportation onto the fells of vehicles, and care should be taken to avoid the movement of plant, machinery and vehicles across the construction camp (Site **03**) and the former tarn (Site **16**) when accessing the site from the fell road.

ACKNOWLEDGEMENTS

OA North would like to thank Hugh Brown for commissioning the project. Thanks are also due to Mark Brennand and Jeremy Parsons at Cumbria County Council Historic Environment Record (CCCHER), and to the staff at Cumbria County Record Office in Kendal.

The desk-based research was undertaken by Helen Quartermaine, the walkover survey by Peter Schofield, and the drawings were produced by Anne Stewardson. The project was managed by Jamie Quartermaine, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Oxford Archaeology North (OA North) were invited by Hugh Brown to undertake desk-based research and an archaeological landscape survey of two areas proposed for woodland planting on Birkett Common, Cumbria. (NY 773 030) (Fig 1). The work was carried out to provide an assessment of the archaeological impact of these proposals; it was undertaken in accordance with a project brief prepared by Cumbria County Council (*Appendix 1*) and entailed the provision of a documentary study and identification survey of Areas 1 and 4 as defined on the project brief map.
- 1.1.2 The study area for the desk-based research comprised an area 500m in radius around the two proposed areas (Areas 1 and 4). The research comprised a search of both published and unpublished records held by the Cumbria Historic Environment Record (HER), the National Monument Record (NMR), first edition maps held at the Cumbria Record Office, Kendal, and the archives and library held at OA North.
- 1.1.3 The survey was undertaken as an enhanced Level 1-type survey (English Heritage 2007) over an area of 115ha and entailed systematic field walking across the two areas, recording any archaeological monuments with a GPS; Area 1 is 0.088 sqkm in extent, and Area 4 is 0.026sqkm in extent.
- 1.1.4 This report sets out the results of the work in the form of a short document, outlining the findings, followed by a statement of the archaeological significance of the areas, and an assessment of the impact of the proposed woodland planting.

1.2 LOCATION AND GEOLOGY

- 1.2.1 **Location:** Mallerstang in Westmorland is defined by the long escarpment of the Mallerstang Edges to the east of the dale formed by the upper River Eden (Plate 1); at its northern end, to the west is Wild Boar Fell, Kirkby Stephen Common, Birkett Common and Wharton Fell. The parish of Mallerstang was centred on Outhgill to the south of Kirkby Stephen and contained the townships of Castlethwaite, Hanging-Lund, Outhgill, Shortgill and Southwaite. The dale now has three communication lines, the River Eden, the railway from Settle to Carlisle, and modern road (the B6259) going north from Hawes to Kirby Stephen.
- 1.2.2 Survey Area 1 is on the moorlands to the west of the present-day railway line on the north side of High Intake Gill *c* NGR 377300 503000. Survey Area 4 is along Stony Gill *c* NGR 377700 503100 north of Pendragon Castle. The actual documentary study area takes in a wider extent.



Plate 1: General view of Survey Areas 1 and 4, comprising an area of undulating moorland set above the valley floor of the Upper Eden

- 1.2.3 ***Geology and Historic Landscape Characterisation:*** the geology of the survey areas comprised east/west bands of limestone within the bedrock of the Alston formation (of limestone, sandstone, siltstone and mudstone) laid down in the Carboniferous period. Prior to this, the area had been under shallow carbonate seas. The superficial deposits were of Devensian-Diamicton Till laid down after previous ice-age conditions (www.mapapps.bgs.ac.uk/geologyofbritain). The Cumbria Landscape Character Guidance included the survey areas to the north as type 'Moorlands and Commons' comprising broad open grazing common with heather moorland punctuated by limestone pavement, scars and screes and to the south were the 'Fells', comprising moorland, rough grasses and bracken.
- 1.2.4 There were few settlements and the area comprised mainly unenclosed common lands and uplands; any enclosures were generally during the early nineteenth centuries (Cumbria Landscape Character Guidance 2011). The Historic Landscape Characterisation indicates that enclosures within the valleys were, however, largely ancient fields including intakes, but that parts of the old field systems of Mallerstang were developed as a result of the landscaping of former deer parks, as at Pendragon and Wharton. East of Mallerstang, the upland fells had even fewer settlements and very little common arable land (Historic Landscape Characterisation (HLC) 2009).

2. METHODOLOGY

2.1 PROJECT BRIEF

2.1.1 The survey was undertaken in accordance with a project brief produced by Cumbria County Council (*Appendix 1*), which was used as the basis for this investigation. This required that a landscape survey of the areas be undertaken to enhanced Level 1 standards (English Heritage 2007). The work was consistent with the relevant IfA and English Heritage guidelines (Institute for Archaeologists 2012 *Code of Conduct*; Institute for Archaeologists, 2011 *Standard and Guidance for Archaeological Desk-based Assessments*; English Heritage, 2006 *Management of Research Projects in the Historic Environment* (MoRPHE)) and generally-accepted best practice.

2.2 DESK-BASED RESEARCH

2.2.1 Current policy and guidance relating to proposed development and the historic environment (National Policy Planning Framework (NPPF), DCLG 2012) denotes sites of archaeological or cultural heritage significance as ‘heritage assets’ (*ibid*). These are viewed as being an ‘*irreplaceable resource*’, and their conservation can bring ‘*wider social, cultural, economic and environmental benefits...*’ (*op cit*, Section 12.126).

2.2.2 The aim of the desk-based research is not only to give consideration to the heritage assets in and around the two areas proposed for woodland planting, but also to put the study area into its archaeological and historical context. All statutory and non-statutory sites within a 500m radius of the two areas were identified and collated into a gazetteer (*Appendix 2*), and their locations were plotted on Figure 2. The principal sources of information consulted were the first edition maps of the study area, and published and unpublished secondary sources, including the following:

2.2.3 **Digital Sources:** the main sources consulted were the Historic Environment Record (HER) records found in the Cumbria County Council HER offices and online, the Historic Landscape Characterisation by Cumbria County Council and the Historic England online records of Scheduled Ancient Monuments and Listed Buildings. Tithe Maps from the Kendal Archives were also consulted.

2.2.4 Background sources for the historical background included the Rev W Nicholls study of *The History and Traditions of Mallerstang Forest* (Nicholls 1883). Online archival catalogues for the National Archive and Cumbria Archives were also consulted. The study examined Ordnance Survey maps accessed via the National Library of Scotland, Old-Maps, and historic maps from *Old Cumbria Gazetteer* (www.geog.port.ac.uk). Online geological and geographical sources at British Geological Survey and Cumbria County Council were also studied. Modern and historic aerial photographs from the British Geological Survey and NMR were also consulted.

2.2.5 Secondary sources included Angus Winchester's *Landscape and Society in Medieval Cumbria* (Winchester 1987), volumes of the Transactions of Cumberland and Westmorland Antiquarian and Archaeological Society (CWAAS) and the Northern Mines Research Society (NMRS). Recent Archaeological work was

undertaken by Annie Hamilton-Gibney on a *Prehistoric Hilltop Enclosure on Birkett Knott, Mallerstang* (Hamilton-Gibney 2011).

2.3 LANDSCAPE SURVEY

2.3.1 The survey was undertaken as an enhanced Level 1-type survey, following the guidelines for Level 1 surveys as defined by English Heritage (2007). The survey area encompassed an area of 1.15km² and comprised five elements:

- reconnaissance;
- mapping;
- description;
- photography.

2.3.2 **Reconnaissance:** the reconnaissance consisted of close field walking, with line intervals varying between 10m and 20m wide, dependent on visibility and safety considerations. The survey identified, located and recorded sites and features of archaeological interest on the ground. Those sites already identified by the archival study were checked against their entry, which was enhanced, where appropriate.

2.3.3 **Survey Mapping:** a Satellite Global Positioning System (GPS) was utilised to conform to English Heritage (2007) Level 1 survey requirements. The GPS is a Leica differential system and achieves much greater accuracy than can be achieved with a hand-held GPS. The accuracy of the OA North GPS system is capable of +-0.02m and provides a quick and effective means of recording the position and extent of sites. The GPS techniques were used to record the extent of the sites. All sites of archaeological interest were recorded as point data, with any features exceeding 3m in diameter being recorded with line or polygon data.

2.3.4 **Photographic Survey:** a digital photographic archive was generated in the course of the field work, comprising landscape and detailed photography. This recorded all features and sites of archaeological interest. Detailed photographs were taken of all sites using a scale bar. All photography was recorded on photographic *pro forma* sheets which detail the subject, orientation, and date. Digital imagery was used for the photographic recording and 16 megapixel resolution was used as a minimum. A full image catalogue was produced as part of the archive.

2.3.5 **Description:** a descriptive record of all features was created. The data was input on site into a palm computer, and was then transferred into an Access 97 compatible database. The description incorporated a provisional interpretation of each feature's function and a provisional interpretation of the site's chronology.

2.4 ARCHIVE

2.4.1 The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Research Projects in the Historic Environment*, 2006). The original record archive of the project will be deposited with the Cumbria HER for reference purposes.

2.4.2 The Arts and Humanities Data Service (AHDS) online database *Online Access to index of Archaeological Investigations* (OASIS) will be completed as part of the archiving phase of the project.

3. HISTORIC BACKGROUND

3.1 INTRODUCTION

3.1.1 The following section presents a summary of the historical and archaeological background of the general area. This is presented by historical period, and has been compiled in order to place the study area into a wider archaeological context.

Period	Date Range
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 4,000 BC
Neolithic	4,000 – 2,500 BC
Bronze Age	2,500 – 700 BC
Iron Age	700 BC – AD 43
Romano-British	AD 43 – AD 410
Early Medieval	AD 410 – AD 1066
Late Medieval	AD 1066 – AD 1540
Post-medieval	AD 1540 – c1750
Industrial Period	cAD1750 – 1901
Modern	Post-1901

Table 1: Summary of British archaeological periods and date ranges

3.2 GENERAL HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.2.1 **Historical Background:** the data provided by the Historic Environment Record demonstrated the broad scope and long chronology of activity and settlement at this north end of the Mallerstang, where the valley lands widen around the meanders of the Eden River.

3.2.2 **Prehistory:** Survey Area 1 is located on the fells to the west of the valley and Eden River, and is an area now known as Sunny Brow. Recorded to the north and north-west of this area were two findspots of prehistoric flint (Sites **01** and Site **02**); one of which was a scraper or flake. In Survey Area 4 were two sites of unknown date which may have been prehistoric or associated with post-medieval mining remains at (Site **11**): these three sites were an approximately square enclosure (Site **07**); a sub-oval enclosure (Site **08**); there was also a probable prehistoric burial mound (Site **09**). The findspots in Survey Area 1 and possible earthworks of Survey Area 4 may form part of a general landscape of prehistoric activity, evidenced by a number of early sites to the north and north-east of Survey Area 1 and Survey Area 4. Nearly one kilometre north of Survey Area 4, on Birkett Knott, on the northern edge of Birkett Common is the possible site of a Neolithic causewayed enclosure HER 43765, measuring c 140m x 120m with six entrances or causeways through the enclosure bank (Hamilton-Gibney 2011) (Plate 2).

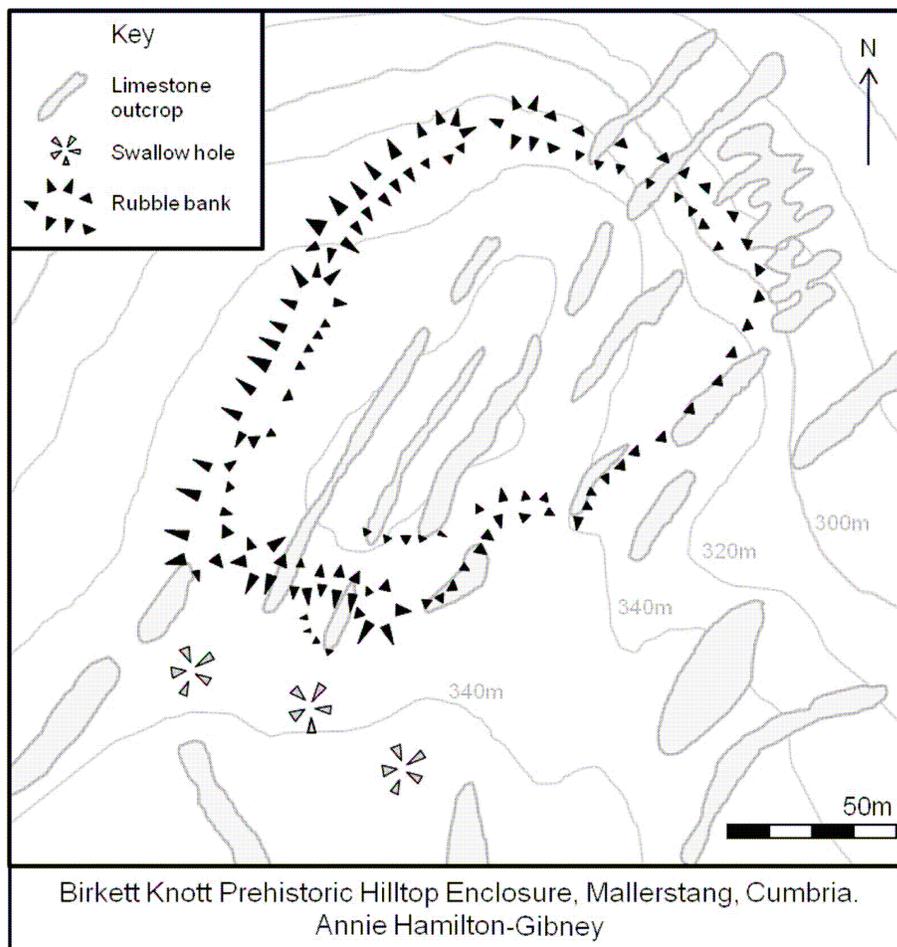


Plate 2: Plan of the putative causewayed enclosure (after Hamilton Gibney 2011)

- 3.2.3 Around half a kilometre to the north and north-east of Survey Area 1, on the very top of Birkett Common, is a probable Bronze Age cairn at Bracken Holme (HER 43762). Further north and east, and just south of White Brackens House on a small area of flat lands south of a meander of the Eden River, are the remains of three round funerary cairns dating to the Bronze Age (Scheduled Monument 1007224 and HER 2021, 2022 and 2023), one of which contained a small pygmy cup and the cremated bones of a child. On the southern slopes of the Great Bell was a possible hillfort (HER 2004), observed on aerial photographs.
- 3.2.4 **Roman and Early Medieval Periods:** north of Pendragon Castle, and just south of White Brackens House on a small flat area south of a meander of the Eden River, (in the same 'haugh' as the prehistoric cairns Scheduled Monument no 1007224 and HER 2021, 2022 and 2023), was a small settlement of hut circles and earthworks known as the Round Hill Settlement (HER 1999), which is dated to the Roman period. There are no recorded sites of the Roman or Early Medieval period in the HER record in Survey Areas 1 and 4.
- 3.2.5 **Medieval Period:** Mallerstang and Birkett Commons on the Eden Valley were close to the border between England and Scotland. Two castles, Pendragon Castle and Lammerside Castle, were within the narrower limits of the Eden Valley and potentially belonged to a linear series of fortifications along this section of the Eden Valley, which was built and maintained during the long-running battles and wars between Scotland and England up until the sixteenth century. Mallerstang and

Birkett Commons are sited close to Pendragon and Lammerside and also to Wharton Hall and Hartley Castle, both of which had large manorial holdings. The usage and extent of these manorial holdings may have impacted on the use of the Mallerstang and Birkett Commons and thus the Survey Areas 1, and 4.

- 3.2.6 Pendragon Castle was perhaps one of the earlier 'guard-posts' of this part of the Eden Valley and built as a tower or keep at the end of the twelfth century (Scheduled Monument 1007156; RCHME 1936, 162-5). There may have been another site close to Pendragon, at Castlethwaite, where there are reported to have been earthworks for a fortification comprising a ditch and vallum (Wilson 1876, 1870-2) and where earthworks for a field system (HER 4217) of unknown date have been observed from air photographs but not on the ground. Earthworks, possibly medieval or post-medieval, have also been observed to the west of Castle Bridge at HER 43821. Both these sites may be the remains of farmsteads (or vaccaries) operated from Pendragon Castle.
- 3.2.7 **Mallerstang Forest:** by the end of the thirteenth century Pendragon and Mallerstang were held through marriage, by the Clifford family (Nicholls 1883, 20). In the later medieval period Pendragon Castle held the Forest of Mallerstang (*op cit*, 48). During the thirteenth century Mallerstang Forest was said to have been 'much decayed' by the establishment of a number of vaccaries (*op cit*, 19). A documentary reference of 1314 indicates that there was a vaccary associated with Pendragon Castle and another reference of 1327 implies that there was more than one vaccary in the Forest of Mallerstang (*op cit*, 25-6). There were, in fact, eleven vaccaries, listed in 1323, in Mallerstang Forest (Winchester 2010, 122). It is not evident, however, where these vaccaries were located or the extent of their buildings, arable lands and grazing pastures, but three were cited at Southwaite, Castlethwaite and Sandpot (*ibid*). Two of these vaccaries may be co-incident with the sites of earthworks at Castlethwaite (HER 4217) and to the west of Castle Bridge (HER 43821). These three vaccaries were within easy reach of Pendragon and the uplands of Birkett, and Mallerstang Commons may have been utilised as upland pasture.
- 3.2.8 By the fourteenth century the baronial estates seem to have established upland 'parks' in addition to the lowland 'parks', giving further emphasis to stock-rearing or dairy grazing grounds (Winchester 2007, 165, 169 and 177; Winchester 2010, 115-6). Documentary references for such formal arrangements included citations of 'herbage' (the grazing of livestock belonging to men other than the landlord) or 'agistment' (the grazing of livestock, in a specific place and/or at a particular season, in return for monetary payment) (Winchester 2010, 116-7). There are examples of agistments for perhaps summer grazing in Lancashire where the vaccaries were sited in steep-sided valleys and needed access to pastures on the high moor and in the Pennine moorlands for upland pastures beyond the vaccaries fringing the Forests of Arkengarthdale (Winchester 2010, 117). Such a system of over-wintering and summer pastures may parallel the lowland vaccaries at Castlethwaite, Southwaite and Sandpot and the Birkett and Mallerstang fells north of Pendragon, although this report has, as yet, found no definite evidence for this in the documentary search.
- 3.2.9 It has been suggested that the practice of agistment enabled the protection of other areas of the forest for deer, game and hunting (Winchester 2010, 118). Some evidence has been found for there being deer (or a deer park) at Pendragon: firstly

The Friths (Low Frith and High Frith) (HER 43705) to the west of Pendragon Castle (Winchester 2007, 173) (and immediately south of Survey Area 1). 'Frith' was a place name associated with woods, deer forests and hunting. Secondly, Ridding House at Kitchen Gill (of seventeenth century date or older) was said to have been held by the last deerkeeper 'from which he could see a large portion of the forest' (Nicholls 1883, 11) and may have been at the northern edge of one of the farmsteads or parks.

- 3.2.10 Other evidence for a landscape akin to a deer park is that of a warren on the small area of flatter lands south of a meander of the Eden River to the north of Pendragon Castle and Birkett Common (in the same small area of land as the prehistoric cairns Scheduled Monument 1007224 and HER 2021, 2022 and 2023 and the possible Roman or early medieval settlement HER 1999). Here are what used to be known as Giant's Graves but which are now understood to be four sub-rectangular pillow mounds for a well managed medieval rabbit warren (Scheduled Monument 1007225 and HER 2662).
- 3.2.11 **Other Castle Sites of the Medieval Period:** north of Pendragon was Lammerside Castle built as a pele or tower in the fourteenth century, and later held by the Whartons; it was rebuilt in the sixteenth century but abandoned by the seventeenth century (Scheduled Monument 1019580; Old Cumbria Gazetteer 2015). A further castle site from the surrounding area was Wharton Hall, which was originally a castle built by the Querton (Wharton) family in the fifteenth century. The building of a deer park in 1540s by Thomas Wharton led to the re-landscaping of the old manorial village of Wharton (Winchester 2007, 178; Scheduled Monument 1007132; listed as 1137207; *Old Cumbria Gazetteer* 2015).
- 3.2.12 There are no recorded sites of the medieval period in the HER record in Survey Areas 1 and 4; however, it is of interest to note the proximity of Survey Area 1 on Birkett Common to possible areas for upland grazing which were perhaps used by either the vaccaries at Castlethwaite, and Southwaite and Sandpot, or perhaps deer based at The Friths. These were managed from Pendragon Castle, although such pastures may also have been managed by the estates of Lammerside Castle or the parks or the deer parks of Wharton Hall.
- 3.2.13 **Post-Medieval Period:** maps drawn up in the sixteenth to eighteenth centuries clearly show the locations of Wharton Park, Hartley Castle and Pendragon, to the south. The name Mallerstang Forest was in large bold lettering. Saxton's map of 1579 (Plate 3) and Speed's map of 1611 (Plate 4) both show the paled or enclosed parks of Wharton and Hartley and to the south Pendragon Castle without a park (Old Cumbria Gazetteer 2015). Pendragon Castle had been ruined by the Scots in 1541 and thus was probably non-functioning when the maps were drawn up; Lammerside Castle was not noted on any of these maps.



Plate 3: Saxton's map of 1579 showing Wharton Hall, Pendragon Castle and Hartley Castle

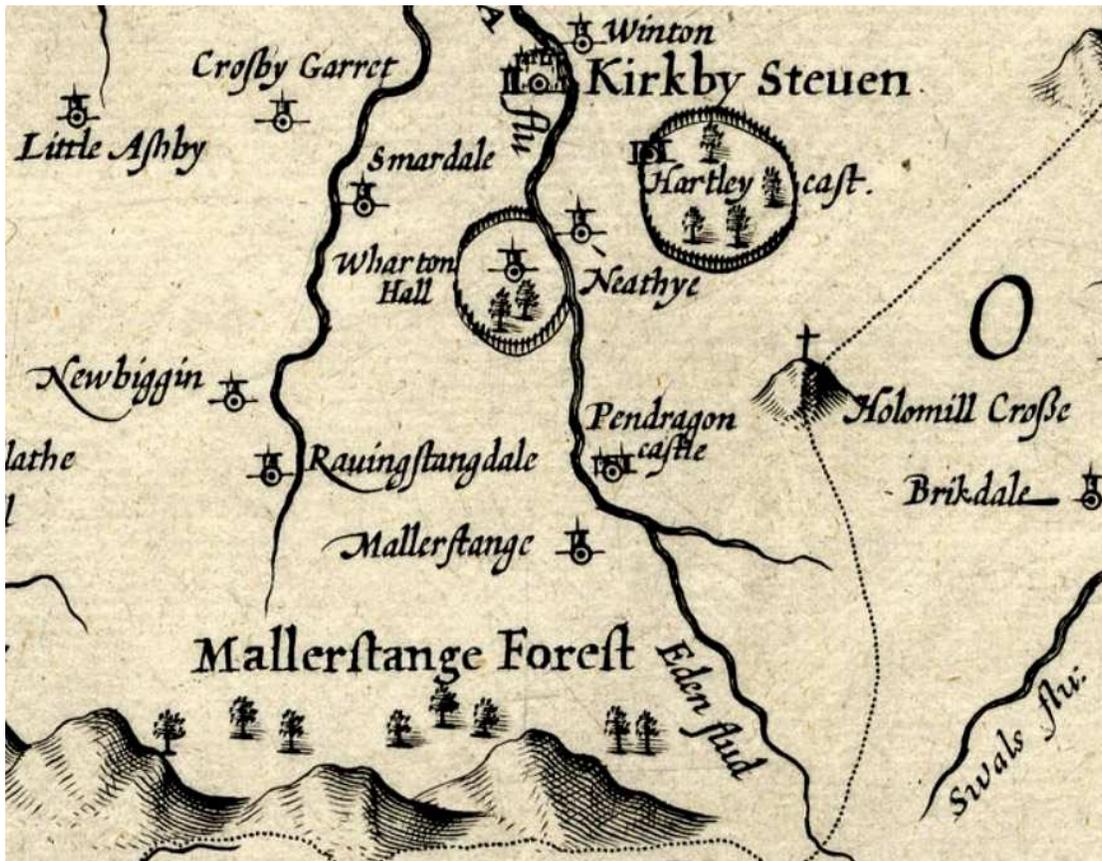


Plate 4: Speed's map of 1611 also showing Wharton Hall, Pendragon Castle and Hartley Castle

- 3.2.14 **Land Use in the Post-Medieval Period:** this area must have been dominated by a number of parks and estates south of Kirkby Stephen. Birkett Common (Survey Areas 1 and 4) was south of Wharton Park and north of Pendragon. To the north of the northern part of Mallerstang Common (Survey Areas 6 and 7) was Hartley Castle. Pendragon Castle, although ruined in 1541, was still part of the Clifford holdings, as were the Mallerstang Forests (Nicholls 1883, 10 and 28).
- 3.2.15 A tithe award of Mallerstang Parish dated to 1836-7 demonstrated the huge proportion of Common land, 3,000 acres, whereas there was 1053 acres of pastures and 851 acres of meadow with three acres for arable farming (Nicholls 1883, 84).
- 3.2.16 **Industrial Workings of the Post-Medieval Period:** there was quarrying and mining in this area of Mallerstang. Fothergill Pit (HER 15596) was an isolated quarry to the north-west of Survey Area 1. Black Hill Hollow Quarry and Limekiln (HER 15587) were located to the north-east of Survey Area 4.
- 3.2.17 There is documentary evidence for lead mining on Birkett Common when in 1731 the Earl of Thanet granted a lease for six meers of ground at Birkett: 'The meers were to be 32 yards in length and 40 yards wide and to be bounded with crosses and meerstones of wood or stone' (Smith and Murphy 2011, 174)
- 3.2.18 **Nineteenth Century Works:** the Great Cove Quarry (HER 15588) was close to the Stony Gill Drainage Level (Site **11**) and the Fothergill Workings (HER 15590). All these may have been associated with the complex of mine workings on Fothergill Syke Vein, 250m north of the northern entrance to the location of the later Birkett Tunnel (Site **04**). One level for this vein was driven at NY 774 033 (op cit, 173-4) close to the approximate location of HER 15588. In accounts of the construction of the railway, there is a reference to a fine vein of lead ore found in the cutting at the south end of Birkett Tunnel 'and a company are now driving levels underneath the railway to work it out' (Mitchell 2005, 35). It is possible that these three sites (HER 15588, Site **11** and HER 15590) were associated with sites further to the east on Stony Gill - a sub-circular enclosure and rectangular enclosure (Site **08** and Site **07**), although these sites may well be much earlier (perhaps prehistoric) in date.
- 3.2.19 The railway line for the Midland Railway (Plate 5), opened in 1875-6 (later the Settle-Carlisle Railway), is likely to have disturbed earlier landscapes on Birkett Common and indeed on Survey Area 1. The Birkett Tunnel (Site **04**) is north of Survey Area 4 and the Birkett Tunnel Construction Camp (Site **03**) was sited just on the north-eastern corner of Survey Area 1. No documentary evidence or secondary sources for the development of the Construction Camp or the building of the Tunnel has been located to date. Survey Area 4 includes the post-medieval site of Stony Gill Level (Site **11**).



Plate 5: The 'Duke of Gloucester' hauling the Cumbrian Coast Explorer on Birkett Common

3.3 MAP REGRESSION

- 3.3.1 **Introduction:** the historic Ordnance Survey (OS) maps of the area were consulted for further sites of archaeological interest, and comprise the first and second edition OS maps dated 1859, 1862, 1897 and 1915.
- 3.3.2 **Tithe map for Mallerstang 1842:** Survey Area 1 was outside the confines of the tithe award in the outlying Commons north of the enclosed fields bordering High Intake Gill. Similarly, Survey Area 4 was to the west of Mallerstang tithe award.
- 3.3.3 **OS 1:2,500 map of 1859:** the earliest Ordnance Survey map was a 1:2,500 map of 1859, showed High Intake Gill and Stony Gill with the track crossing to Birkett Tarn in an area of rough pasture.
- 3.3.4 **OS 1:10,560 map of 1862 (Plate 6):** Survey Area 1 is bounded to the south by High Intake Gill extending northwards as a narrow plot of land over Sunny Brow and High Crossing to Birkett Tarn. The 1862 map showed no built features, only the road from Cocklakes to Fothergill. The road from Cocklake to High Crossing was south of Survey Area 4; there were no built features or depictions of ruins within the Survey Area, and nor was the Stony Gill Level (Site 11) depicted.

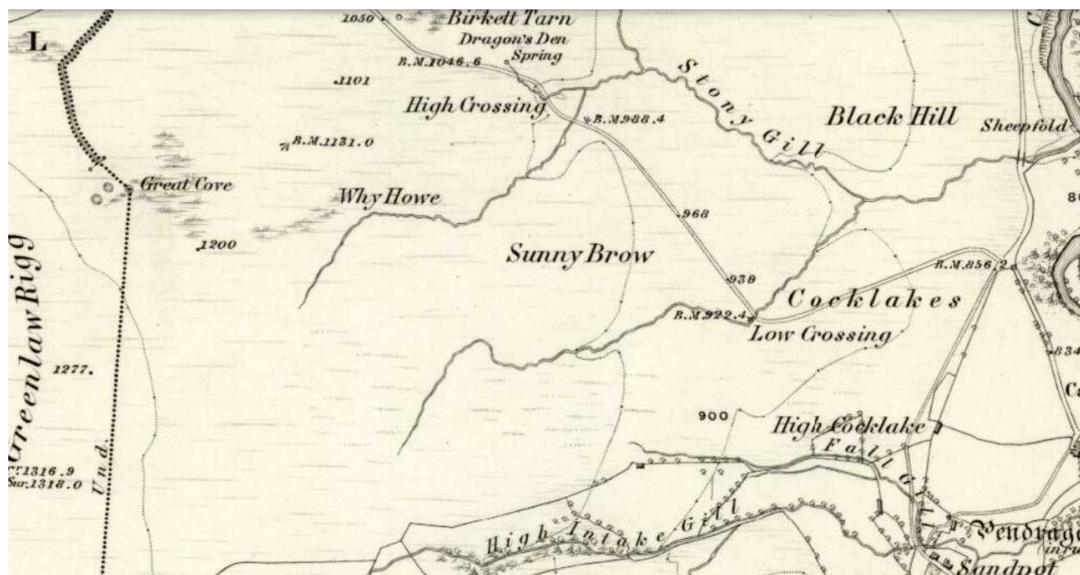


Plate 6: First Edition Ordnance Survey map (1862) showing Survey Areas 1 and 4

- 3.3.5 **OS 1:2,500 map of 1898 (Plate 7):** by now the north/south Midland Railway (Settle Carlisle Railway) had been constructed within its cutting; it entered a tunnel at the north end of the survey area. At the south end of the survey area the railway had a bridge crossing over it. There was no other denotation and no evidence for the Construction Camp (Site 03) which had been there in 1871-74. Birkett Tarn was shown at the northern end of the survey area. The southern beck leading from the west into Stony Gill had been re-routed underneath the cutting for the railway. Stony Gill was shown flowing through rough pasture to the east with no development of the area, and Stony Gill Level (Site 11) was not depicted.
- 3.3.6 **OS 1:2,500 map of 1915 (not illustrated):** there were no apparent changes for Survey Areas 1 and 4 as shown on the OS 1:2,500 map of 1915.

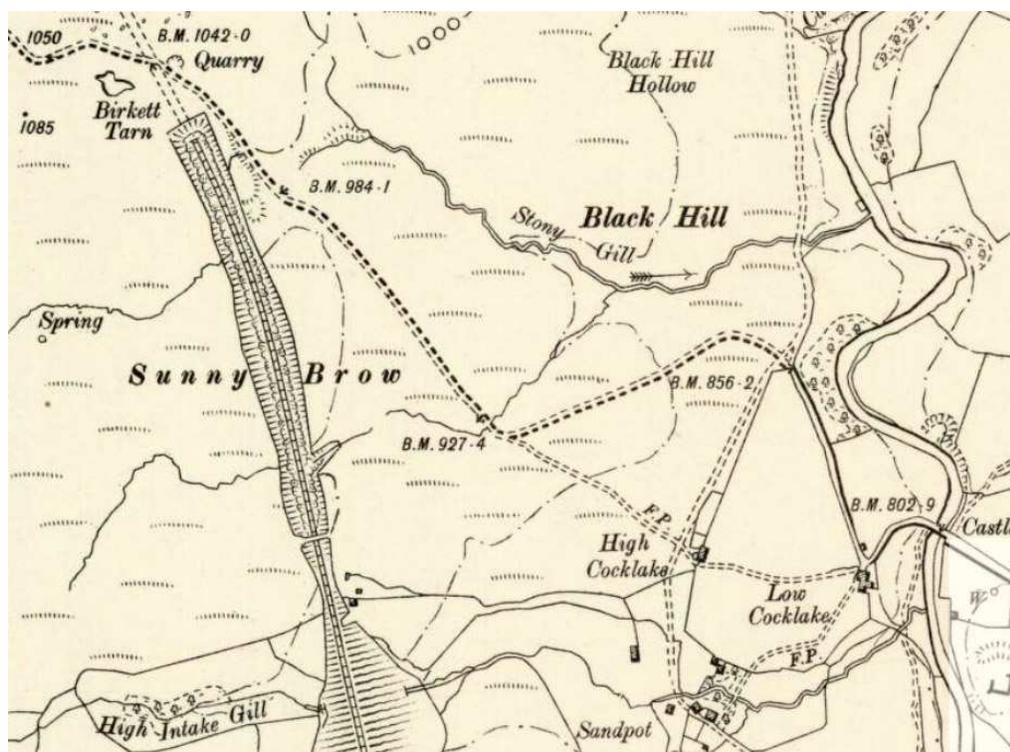


Plate 7: Ordnance Survey First Edition 1:2,500 (1897) for Survey Areas 1 and 4

- 3.3.7 ***Aerial Photographs - Survey Area 1:*** at the north end of Survey Area 1 on modern aerial photographs (Geology of Britain Viewer 2015) there was evidence of a faint delineation of a track (Site **05**) extending south from the tunnel's southern portal, and was perhaps an access road for the construction camp (Site **03**); on either side are possible linear and rectangular features. The southern end of the track may have been at NGR 377233 503013. In the south of the area was a possible oval feature (Site **06**) NGR 377324 502724, but this could not be confirmed by the ground survey.
- 3.3.8 ***Aerial Photographs - Survey Area 4:*** a straight linear feature (Site **10**) was observed on the north side of Stony Gill (377648 503132 to 377715 503107) on modern aerial photographs (Geology of Britain Viewer 2015).

4. SURVEY RESULTS

4.1 INTRODUCTION

4.1.1 The landscape survey was undertaken as an enhanced Level 1-type survey (English Heritage 2007) over an area of 115ha and entailed systematic field walking across the two areas, recording any archaeological monuments with a GPS; Area 1 is 0.088 sqkm in extent, and Area 4 is 0.026sqkm in extent (Figs 1 and 2). In total, 17 archaeological sites were enhanced or discovered as a result of the landscape survey.

4.2 AREA 1

4.2.1 The study area is located to the immediate west of the Settle-Carlisle railway line and the majority of the sites identified relate to some extent to this communication feature. However, there is a limited number of features that seemingly predate the construction of the railway. Prehistoric activity is reflected by the finding of two, probably Bronze Age, flint tools in the northern part of the Survey Area 1 on Sunny Brow (Sites **01** and **02**). These have the potential to be casual losses and do not, necessarily, reflect the existence of Bronze Age settlement in the area. Another intriguing site is Site **12** in the southern part of the study area, which comprises a turf-covered teardrop-shaped mound (Site **12**) (Plate 8) adjacent to a boggy area on Sunny Brow at the base of a 6m wide stream gully. The mound measures approximately 12m in diameter by 0.5m high. It was evidently of anthropogenic origin, and its location, adjacent to water is suggestive of a prehistoric burnt mound. However, such monuments most typically have a horse-shoe shape, reflecting the deposition of a mound of burnt stone around a central trough. This can not be confirmed as a prehistoric feature, but if it were a burnt mound it would be of considerable significance.



Plate 8: The putative burnt mound (Site **12**) located at the edge of a mire

- 4.2.2 **Railway Features:** the majority of the sites within, or adjacent to the study area, relate to the railway line which extends past the eastern side of Survey Area 1. The railway line adjacent to the site is either set within a cutting, or within a tunnel (Site **04**). The interior of the Birkett tunnel was not examined, but the southern portal was recorded (Plate 10). The southern portal has a large funicular arch with brick voussoirs, and a keystone at its top. It is supported on stone springers, and the surround of the arch is constructed of rough-dressed masonry. Above the keystone is a date stone inscribed in embossed lettering '1875'. On either side of the arch are pilasters constructed of partly-ressed stone, with ashlar, squared Doric capitals.
- 4.2.3 The survey recorded two of the bridges (Sites **13** and **14**) over the railway, which were located just outside the study area. Bridge **13** carried the railway over a gill and Bridge **14** carried a farm track over the railway (Plate 9). The latter is a well-constructed bridge with a flattened arch, incorporating limestone part-ressed voussoirs and incorporates a mixture of sandstone and limestone in the spandrels. As a decorative feature, the top of the parapet is constructed with a distinctive red sandstone.



Plate 9: Bridge 14 crossing the railway

- 4.2.4 The construction of the tunnel required the use of a substantial workforce, and a construction (navvy) camp (Site **03**) (Plate 11) was established on top of the tunnel and immediately adjacent to the moorland road that crosses Black Hill. The surviving evidence for the camp consists of a turf-covered sub-triangular, platformed area of close-cropped grass measuring approximately 70m by 30m in extent. There are traces of three rectangular possible buildings on each platform (each 15-20m in size), which are each orientated north/south and are delineated by small ditches/drainage gullies. The easternmost building is slightly platformed on the west side. There are extensive terraced earthworks/spoil mounds located downslope to the south-east of the southern tunnel mouth of Birkett Tunnel (outside of Survey Area 1). A further platformed building (Site **15**) is located *c* 30m west of the construction camp and may, potentially, also have related to the construction of the railway.



Plate 10: A view of the southern portal of Birkett Tunnel (Site **04**) of the Settle and Carlisle Railway



Plate 11: The site of the Birkett Tunnel Construction Camp (Site **03**)

4.2.5 Immediately adjacent to the construction camp (Site **03**) was a sub-oval boggy area (Site **16**) which was originally a tarn (approximately 80m by 40m in size). It has now been drained by the construction of a large embanked cutting/drain on the east side. Despite its proximity to the construction camp, it was still depicted as a tarn

on the 1897 OS map, and had therefore not been drained in the course of the construction of the railway. It may, however, have served as a water source during the construction process, but that did not entail the construction of a dam as there is not one evident.

4.3 AREA 4

4.3.1 There were four sites identified either within or adjacent to Survey Area 4, and at least one of these was of prehistoric date (Site **09**). Two (Sites **08** and **07**) were of uncertain date and two (Sites **10** and **11**) were of post-medieval (nineteenth century) date.

4.3.2 Site **09** is a large sub-circular turf-covered mound located on a flat section of land near the summit of Black Hill on Birkett Common, and measures approximately 9.5m in diameter by 0.8m high (Plate 12). The HER suggests that it may have been associated with mining remains; however, the site is more likely to be a funerary cairn than spoil associated with Stony Gill trial level (Site **11**), given that they are spatially separated and that there is no sign of an adit or shaft in the immediate vicinity of the mound. In terms of its size and prominence it has the potential to be a prehistoric funerary round cairn.



Plate 12: The large, round profiled, mound (Site **09**) which has the potential to be a prehistoric burial cairn

4.3.3 Adjacent to the cairn was a sub-circular enclosure defined by a narrow ditch (Site **08**), and which had an approximate diameter of 12m. Its function was uncertain, being dissimilar to conventional enclosures, and consequently its date is also uncertain. The possibility exists, however, that it could be of prehistoric or medieval date.

4.3.4 At the north-western end of the study area is a three sided, sub-rectangular enclosure located on steeply sloping ground and extending out from Stony Gill (Site **07**). It comprises embanked boundary walls and measures approximately 32m

long by 27m wide. It was probably a stock enclosure, and given that it extends down to the Gill, there exists the possibility that it also served as a sheep wash; whereby sheep would be forced to escape by the stream and were washed in the process.

- 4.3.5 To the west of the study area is Stony Gill Level (Site **11**) (Plate 13), which has a channel draining into Stony Gill on Birkett Common, and an associated spoil tip for the extraction of probably lead ore. Given the run-off into the gill, and its relatively small size, it was probably a drainage level for a larger mining operation. It was first depicted on the OS 1897 map, which did not show any other mining remains in the immediate vicinity.



Plate 13: The spoil heap of the Stony Gill level (Site **11**)

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

- 5.1.1 In total, 17 sites of archaeological interest were identified across the survey areas. Eight sites (Sites **01-04**, **07-09** and **11**) were identified through consultation of the HER; three sites were identified through examination of air photos (Sites **05**, **06** and **10**); and six sites (Sites **12-17**) were identified through the landscape survey.
- 5.1.2 **Prehistory:** the earliest sites identified within the study area are of probable Bronze Age date, and include a funerary round cairn (Sites **09**) and two findspots (Sites **01** and **02**). There was also a possible burnt mound (Site **12**), although this interpretation has yet to be confirmed. Burnt mounds typically comprise a water trough, surrounded by mounds of fire-cracked stones. The water was heated by inserting heated stones into the trough; however, there is still considerable uncertainty as to what the heated water was used for. The monuments are mostly of Bronze Age date and invariably located away from settlements, but near to a water source. They usually have a horse-shoe shape, with the trough in the middle and the discarded stone piles forming an arc around; however, there are examples where this diagnostic shape has not survived through to the present.
- 5.1.3 **Undated:** there are a number of sites identified during the field survey, which are of uncertain function and date. Such monuments, from their surviving character, would appear to be of some substantial age, but a more precise dating can not be ascribed. These include an oval mound (Site **06**), a square (three sided) enclosure (Site **07**), a sub-circular enclosure (Site **08**) and a linear earthwork (Site **10**) which may be the remains of a track (Site **10**).
- 5.1.4 **Nineteenth Century:** the remaining sites are of post-medieval, and more specifically, nineteenth century date. In particular, there is a group of features associated with the construction of the Settle-Carlisle railway line. These include features forming part of the line, such as the Birkett Tunnel portal (Site **04**), and two bridges (Sites **13** and **14**). However, there was also a construction camp (Site **03**) for the railway, a building platform (Site **15**), and an access track (Site **05**) extending out from the southern portal of the tunnel. Other industrial features include a drainage level (Site **11**) and a roadside quarry (Site **17**).

5.2 RECOMMENDATIONS

- 5.2.1 Of the 17 sites recorded by the survey, 10 were within the areas proposed for woodland planting. These comprised eight sites in Area 1 (Sites **01-03**, **05-06**, **12**, **15-16**) and two sites in Area 4 (Sites **07** and **10**).
- 5.2.2 Of the two areas proposed for woodland planting, Area 1 is of the greatest archaeological significance, due to the location of the features relating to the railway construction and the putative burnt mound.
- 5.2.3 It is recommended that the extent of the areas of the construction camp and the burnt mound (Sites **03**, **12** and **15**) be clearly defined on the ground, with a buffer zone surrounding them, and they should be excluded from the planting.

- 5.2.4 In Area 4, the rectangular enclosure (Site **07**) has the potential to be of archaeological significance, and again it should be marked on site, incorporating a buffer zone, and should be excluded from the planting.
- 5.2.5 In addition to the direct impacts outlined above, the proposed areas should also be considered with regards to indirect impacts of the proposed scheme. An assessment should be made of the impact of the movement of vehicles onto the fells, and care should be taken to avoid the movement of plant, machinery and vehicles across the construction camp (Site **03**) and the former tarn (Site **16**) when accessing the site from the fell road.

6. BIBLIOGRAPHY

6.1 CARTOGRAPHIC SOURCES

6.1.1 *Cartographic Sources*

Ordnance Survey, 1862, 6": 1 mile, Westmorland Map, First Edition
Ordnance Survey, 1859, 25": 1 mile, Westmorland Map, First Edition
Ordnance Survey, 1897, 6": 1 mile, Westmorland Map, First Edition
Ordnance Survey, 1899, 6": 1 mile, Westmorland Map, Second Edition
Ordnance Survey, 1898, 25": 1 mile, Westmorland Map, First Edition
Ordnance Survey, 1915, 25": 1 mile, Westmorland Map, Second Edition
Tithe Award Map for Mallerstang 1842, Kendal Archives WDRC/8/12

6.1.2 *Aerial Photographs*

Geology of Britain Viewer, 2015 www.mapapps.bgs.ac.uk/geologyofbritain, accessed 12 April 2015

6.2 SECONDARY SOURCES

Department of Communities and Local Government (DCLG) 2012 *National Planning Policy Framework (NPPF)*

English Heritage, 2006 *Management of Research Projects in the Historic Environment* (MoRPHE), Swindon

English Heritage, 2007 *Understanding the Archaeology of Landscapes: a guide to good recording practice*, Swindon

Hamilton-Gibney, A, 2011 Prehistoric Hilltop Enclosure on Birkett Knott, Cumberland *Westmorland Antiquarian and Archaeological Society Newsletter*, **68**, 6

Institute for Archaeologists, 2011 *Standard and Guidance for Archaeological Desk-based Assessments*, Reading

Institute for Archaeologists, 2012 *Code of Conduct*, Reading

Mitchell, WR, 2005 *How they built the Settle Carlisle Railway*, Weymouth

Neil, N, and Thurnhill, R, 2013 *Deer Parks in the Forest of Bowland*, Area of Outstanding Natural Beauty, Dunsop Bridge

Nicholls, Rev W, 1883 *The History and Traditions of Mallerstang Forest and Pendragon Castle*, Manchester

Quartermaine, J, and Leech, R, 2012 *Cairns, Fields and Cultivation, Archaeological landscapes of the Lake District Uplands*, Lancaster

Royal Commission on the Historic Monuments of England (RCHME), 1936 *An inventory of the ancient and historical monuments in the county of Westmorland*, London

Smith, R, and Murphy, S, 2011 *Mines of the West Pennines*, Northern Mine Research Society, Nelson

Wilson, JM, 1876 *The Imperial Gazetteer of England and Wales, vol 2*, Edinburgh

Winchester, A, 1987 *Landscape and Society in Medieval Cumbria*, Edinburgh

Winchester, A, 2007 Baronial and Manorial Parks in Medieval Cumbria, in R Liddiard (ed), *The Medieval Park: new perspectives*, Macclesfield

Winchester, AJL, 2010 Vaccaries and Agistment: Upland Medieval Forests as Grazing Ground, in J Langton and G Jones (eds) *Forests and Chases of Medieval England and Wales c 1000-c1500*, Oxford

Online sources

Cumbria County Council, *Historic Environment Record Online*, www.cumbria.gov.uk, accessed 11 April 2015

CASCAT, www.cumbria.gov.uk/archives/Online_catalogues, accessed 11 April 2015

Cumbria Landscape Character Guidance 2011, www.cumbria.gov.uk, accessed 12 April 2015

Cumbria Historic Landscape Characterisation, 2009 www.cumbria.gov.uk, accessed 12 April 2015

Scheduled Monument no. 1007156 and

Old Cumbria Gazetteer, 2015 www.geog.port.ac.uk, accessed 10 April 2015

National Archives, 2015 www.discovery.nationalarchives.gov.uk, accessed 11 April 2015

Old Maps, 2015 www.old-maps.co.uk, accessed 12 April 2015

National Library of Scotland, 2015 www.maps.nls.uk, accessed 12 April 2015

APPENDIX 1: PROJECT BRIEF

BRIEF FOR AN ARCHAEOLOGICAL WALKOVER SURVEY OF LAND AT BIRKETT AND MALLERSTANG COMMONS, CUMBRIA

Date of Brief: 08 October 2014

SUMMARY

Site Name: Birkett & Mallerstang Commons

Grid References & Extent of Survey Areas:

- compartment 1: NY 773 030 c 9 ha
- compartment 4: NY 777 031 c 2 ha
- compartment 6: NY 787 041 c 12 ha
- compartment 7: NY 791 036 c 4ha

Detailed specifications are invited from appropriately resourced, qualified and experienced archaeological contractors to undertake the archaeological project outlined by this brief and to produce a report on that work.

1 INTRODUCTION

- 1.1 A non-destructive archaeological survey of four compartments of land at Birkett and Mallerstang Commons is required prior to the proposed planting of woodland. The compartments are numbered 1, 4, 6 and 7 on the enclosed map. The surveys will be tied in to the National Grid and will include descriptions, photographic records and a report on the archaeological and historical features in these areas.

2 ARCHAEOLOGICAL BACKGROUND

- 2.1 A number of industrial remains are recorded on the Historic Environment Record within the four compartments in question including: the site of Great Bell Lead Mine; Bell Quarry; Southwaite Coal Level; Birkett Tunnel Construction Camp; and limekilns. An undated mound, two enclosures and the site of a possible hillfort have also been identified from aerial photographic evidence.

3 AIMS OF THE PROJECT

The aims of this project are to:

- a) gather sufficient information to establish the location, extent, character, period, condition, fragility and potential of the surviving or previously extant archaeological and historical features within the areas of the proposed woodland planting;
- b) provide an accurate Level 1 Survey of all identified archaeological and historic features. (See 4.1 for definition of Level 1 Survey);
- c) provide a preliminary grading of all recorded sites and features to indicate relative significance;
- d) provide a basis for the preparation of detailed management prescriptions by the Natural England.

4 SCOPE OF THE PROJECT

4.1 Survey

An archaeological survey, accurate at 1:10,000 scale, is required of the four compartments numbered 1, 4, 6 and 7 on the enclosed map. The sphere of interest includes all archaeological and historical sites and features, including field boundaries, up to a terminal date of 1945. Standing buildings are to be recorded where they are considered to form part of an archaeological site. The work will comprise:

- Documentary Research. All relevant cartographic and written sources are to be consulted for details of the evolution of the landscape and of both surviving and non-extant archaeological and historical features. Sources should include the Cumbria County Historic Environment Record (HER), estate maps and other relevant archives held the County Records Office, tithe maps, early edition Ordnance Survey maps and pictorial records. The Record Offices at Kendal will need to be checked.
- Air photographs. Examine all available air photography to identify archaeological sites and other historical features. Possible sources include the Cumbria County Council HER, the National Library of Air Photographs held by English Heritage and the Cambridge University Collection of Air Photographs.
- Topographic survey. A Level 1 Survey, accurate at 1:10,000 scale, is required of the four compartments numbered 1, 4, 6 and 7 on the enclosed map. The objective of the field survey is to investigate and record all currently or previously extant archaeological sites and features (known or encountered).

The Level 1 Survey should comprise:

- Close field walking of the entire survey area where physically possible;
- Recording of location and extent of all archaeological and historic features at scale of 1:10,000 using appropriate Global Positioning System equipment (to an accuracy of within 10m of the OS National Grid);
- A written description and assessment of each site;
- A photographic record where appropriate;

Close field walking survey of the areas is to be carried out where physically possible to identify archaeological sites and features on the ground. All sites

listed above as recorded in the Cumbria County HER within the survey areas should be investigated. Any areas of inaccessible scree, cliff and exposed rock are to be excluded from field walking.

The survey control must be located to an accuracy of +/- 10 metre in respect to the Ordnance Survey National Grid. Due to the landscape character of the areas, the use of optical instruments would be difficult. It is therefore specified that appropriate Global Positioning System equipment must be used and a detailed statement describing the proposed equipment and methodology must be included with the project design.

4.2 **Written account**

This should include:

- Outline of landscape development. An outline description of the historic development of the landscape using available information derived from all sources examined, together with field evidence. This should also include a consideration of the chronology of field boundaries within the survey areas.
- Description of archaeological remains. A structured gazetteer should be compiled for archaeological sites and features to include a summary description and interpretation of extant remains. The following information should be recorded:
 - location (including ten figure grid references);
 - land use on and around site
 - extent;
 - character;
 - period;
 - condition;
 - fragility;
 - potential;
 - rarity;
 - documentation;
 - group value;
 - diversity;
 - level of significance (see below)

Pro-forma record formats should be used and examples of the proposed format should be submitted with the project design. Design of the recording system should take into account the requirement to identify levels of relative significance (see below).

- Grading.

All recorded archaeological sites and features should be evaluated and assigned a Preliminary level of relative significance. Although it is anticipated that this will involve a degree of subjectivity, it is expected that a

valid pattern of significance will become apparent which will be taken into account in the formulation of management prescriptions. The evaluation should utilise all recorded attributes (see above) and all sites should be assigned to one of the following categories:

Significance Level 1. Archaeological and historical sites and features of the highest importance. This should normally include all Scheduled Ancient Monuments and other sites considered to be of national significance.

Significance Level 2. Archaeological sites and features of regional significance.

Significance Level 3. Archaeological and historical sites and features of local significance.

Significance Level 4. Non-extant archaeological and historical sites and features or those which are not authentic.

Details of the proposed system of evaluation should be submitted with the project design.

4.3 **Photographic records**

Record photographs will be taken of a selection of significant sites or features and an appropriate scale should be included in each view. All photographs should be clearly numbered and labelled with the subject, orientation, date taken and photographer's name and cross-referenced where applicable to film and frame numbers. All photographic materials should be suitably stored to current archival standards, with a methodology set out within the submitted project design.

5 **PROJECT DESIGN**

5.1 Before the project commences a project proposal must be submitted to and approved by Cumbria County Council.

5.2 Proposals to meet this Brief should take the form of a detailed project design prepared in accordance with the recommendations of *The Management of Archaeological Projects*, 2nd ed. 1991, and must include:

- A description of the recording system to be used
- A detailed methods statement indicating the proposed survey methodologies, accuracy levels, survey controls and equipment to be used
- Details of the organisation of and data categories within the project archive
- Details of key project staff, including the names of the project manager, any other specialist sub-contractors to be employed and relevant experience
- Details of on site staffing, e.g. the number of people to be employed on site per day
- A projected timetable for all site work through to the publication of results
- Breakdown of costs

6 **REPORTING AND PUBLICATION**

- 6.1 The archaeological work should result in a report, this should include as a minimum:
- A site location plan, related to the national grid
 - A front cover/frontispiece which includes the national grid reference of the site (centred)
 - A concise, non-technical summary of the results
 - Description of the survey areas
 - A description of the methodology employed, work undertaken and the results obtained
 - Gazetteer of sites and features incorporating description, interpretation, recorded attributes and grading
 - Assessment of potential impact on the identified remains and recommendations for mitigation
 - Plans, drawings and photographs at an appropriate scale
 - A list of the archive contents and a bibliography
 - The dates on which the project was undertaken

6.2 Assessment of potential for future work

The report should include a brief assessment of the survey results in relation to the proposals for woodland planting. The assessment should identify any further work required for management purposes and potential avenues for mitigation to protect any historic environment features.

- 6.3 One paper and one digital copy of the report should be deposited with the County Historic Environment Record within two months of completion of fieldwork. This will be on the understanding that the report will be made available as a public document through the County Historic Environment Record.

- 6.4 Cumbria HER is taking part in the Online Access to Index of Archaeological Investigations (OASIS) project. The online OASIS form at <http://ads.ahds.ac.uk/project/oasis> must therefore also be completed as part of the project. Information on projects undertaken in Cumbria will be made available through the above website, unless otherwise agreed.

7 THE ARCHIVE

- 7.1 An archive must be prepared in accordance with the recommendations of *The Management of Archaeological Projects*, 2nd ed. 1991, and arrangements made for its deposit with an appropriate repository. A copy shall also be offered to the National Monuments Record.
- 7.2 The County Historic Environment Service must be notified of the arrangements made.

8 FURTHER INFORMATION

For further information regarding the archaeological requirements of this brief, contact:

Mark Brennand

Cumbria County Council

County Offices

Kendal

Cumbria LA9 4RQ

Tel: 01539 713428

Email: Mark.brennand@cumbria.gov.uk

APPENDIX 2: GAZETTEER OF SITES

Site Number 01
Site Name Flint Find, Sunny Brow
NGR c 377260 503115
HER 43769
Site Type Find spot
Period Bronze Age?
Source Pers comm, A Hamilton-Gibney, 2011
Description Scraper or flint flake.

Site Number 02
Site Name Flint Find, Sunny Brow
NGR 377179 503113
HER 43770
Designated no
Site Type Find spot
Period Bronze Age?
Description A flint flake from a bi-facially worked tool, and several chert lithics.
Source Pers comm, A Hamilton-Gibney, 2011

Site Number 03
Site Name Birkett Tunnel: Construction Camp
NGR 377290 503247
HER 43764
Site Type Construction Camp
Period Nineteenth century
Sources OA North Walkover Survey 2015; M Brennan (CCC); A Hamilton-Gibney 2011
Description A construction camp for those working on the Birkett Tunnel (HER 43763) dated 1871-4. Some building platforms were observed, alongside ditches. Photographs show these as large rectilinear features regularly laid out. Finds of post-medieval pottery, glass, a hand-made nail and clay-pipes were seen (HER 43764).
 The surviving evidence for the camp consists of a turf-covered sub-triangular platformed area of close-cropped grass measuring approximately 70m by 30m in extent. It is located on the west side and partially within the fabric of the road crossing the common at Birkett Tunnel. The camp is immediately north of the southern tunnel mouth of Birkett Tunnel (Site 04). There are traces of three possible rectangular buildings on the platform, which are each orientated north/south and are delineated by small ditches/drainage gullies. Each building measures up to 15m-20m long by 8m wide. The easternmost building is slightly platformed on the west side. There are extensive terraced earthworks/spoil mounds located downslope to the south-east of the southern tunnel mouth of Birkett Tunnel (outside of Area 1).
Assessment The site is immediately outside Area 1 of the proposed scheme, but may be impacted by it.

Site Number 04
Site Name Birkett Tunnel, Birkett Common
NGR 377200 503450
HER 43763
Site Type Railway Tunnel
Period Nineteenth century
Source OS map, 1:2,500, 1898; OA North Walkover Survey 2015
Description Birkett Tunnel completed 1875. The southern portal has a large funicular arch with brick voussoirs, and a keystone at its top. It is supported on stone springers, and the surround of the arch is constructed of rough dressed masonry. Above the keystone is a date stone inscribed in embossed lettering 1875. On either side of the arch are pilasters constructed of rough dressed stone, with ashlar, squared Doric capitals.

Assessment The site is outwith the proposed scheme and will not be impacted by it.

Site Number 05
Site Name Birkett Tunnel: Construction Camp: access track
NGR 377248 503190 to end 377233 503013
HER -
Site Type Track
Period Nineteenth century
Source www.mapapps.bgs.ac.uk/geologyofbritain; OA North Walkover Survey 2015
Description At the north end of the site the modern aerial photographs shows the faint delineation of a track going south from the tunnel's southern portal, perhaps an access road for the construction camp (Site 03) on either side are possible linear and rectangular features. Despite searching it was not seen on the ground.

Site Number 06
Site Name Oval feature: Sunny Brow
NGR 377324 502724
HER -
Site Type Earthworks? (Oval Feature)
Period Unknown
Source www.mapapps.bgs.ac.uk/geologyofbritain; OA North Walkover Survey 2015
Description A possible oval feature identified from aerial photographs. Despite searching it was not seen on the ground.

Site Number 07
Site Name Stony Gill
NGR 377611 503165
HER 43766
Site Type Enclosure: Square
Period Unknown
Source HER; OA North Walkover Survey 2015
Description A small sub-rectangular embanked enclosure located on the top break of slope on the northern bank of Stony Gill. There was no observed evidence of internal features and it is on steeply sloping ground. It measures approximately 32m long by 27m wide. It is of unknown date and function but could potentially be of medieval origin (OA North 2015).
Assessment The site is within the footprint of the proposed planting in Area 4 and will be impacted by it

Site Number 08
Site Name Stony Gill
NGR 377615 503230
HER 43767
Site Type Sub-Circular enclosure
Period Unknown
Source HER
Description A sub-circular enclosure defined by a narrow ditch with an approximate diameter of 12m. It was perhaps associated with the nearby lead mining to the west (Site 11); however a significantly earlier date cannot be ruled out. It is not a typical house, animal enclosure or funerary monument.

Site Number 09
Site Name Burial Mound, Black Hill, Birkett Common
NGR 377587 503215
HER 43768
Site Type Funerary Cairn
Period Prehistoric?
Source HER, OA North Walkover Survey 2015

Description The site consists of a large sub-circular turf-covered mound located on a flat section of land near the summit of Black Hill on Birkett Common. It measures approximately 9.5m in diameter by 0.8m high. The HER suggests that it may be associated with mining remains; however, the site is more likely to be a funerary cairn than spoil associated with Stony Gill trial level (Site 11), given that they are spatially separated and there is no sign of an adit of shaft in the immediate vicinity of the mound.

Assessment The site is outwith the proposed scheme and will not be impacted by it.

Site Number 10
Site Name Stony Gill
NGR 377641 503137 to 377715 503107
HER -
Site Type Earthwork: Linear
Period Unknown
Source www.mapapps.bgs.ac.uk/geologyofbritain; OA North Walkover Survey 2015
Description A straight, linear feature was observed on the north side of the Gill on the modern aerial photographs. Despite searching it was not seen on the ground.

Site Number 11
Site Name Stony Gill Level, Birkett Common
NGR 377440 503190
HER 15589
Site Type Drainage Level
Period Industrial
Source HER; OS map, 1:10,000, 1979; OA North Walkover Survey 2015
Description Stony Gill Level draining into Stony Gill on Birkett Common, which was observed as a level and a spoil tip. Given the run-off into the gill, and its relatively small size, it was probably a drainage level. It included a spoil mound located downslope on the north bank of Stony Gill (OA North 2015).
Assessment The site is outwith the proposed scheme and will not be impacted by it.

Site number 12
Site name Mound, Sunny Brow, Birkett Common
NGR 377587 503215
Site type Earthwork
Period Unknown
Sources OA North Walkover Survey 2015
Description A turf-covered, teardrop-shaped mound sited adjacent to a boggy area on Sunny Brow and located at the base of a 6m wide stream gully. The mound measures approximately 12m in diameter by 0.5m high. The site may relate to mine activity, or alternatively it could be a burnt mound.
Assessment The site is within the footprint of the proposed planting in Area 1 and will be impacted by it.

Site number 13
Site name Railway Bridge, High Intake Gill, Birkett Common
NGR 377471 502705
Site type Railway Bridge
Period Industrial
Sources OA North Walkover Survey 2015
Description A small arched stone railway bridge carrying the railway line over High Intake Gill to the south of Birkett Tunnel (Site 04).
Assessment The site is outwith the proposed scheme and will not be impacted by it.

Site number 14
Site name Railway Bridge, Sunny Brow, Birkett Common
NGR 377449 502791
Site type Railway Bridge

Period Industrial
Sources OA North Walkover Survey 2015
Description A tall arched stone railway bridge carrying a farm access track over the railway line to the south of Birkett Tunnel (Site **04**).
Assessment The site is outwith the proposed scheme and will not be impacted by it.

Site number 15
Site name Building Platform, Sunny Brow, Birkett Common
NGR 377250 503233
Site type Building Platform
Period Industrial?
Sources OA North Walkover Survey 2015
Description A possible sub-square turf-covered building platform located c 30m west of the construction camp at Birkett Tunnel (Site **03**). It measures approximately 8m square by 0.3m high on the east side.
Assessment The site is within the footprint of the proposed planting in Area 1 and will be impacted by it

Site number 16
Site name Reservoir, Sunny Brow, Birkett Common
NGR 377236 503271
Site type Reservoir
Period Industrial
Sources OA North Walkover Survey 2015
Description A sub-oval boggy area located immediately west of the construction camp at Birkett Tunnel (Site **04**). It was originally a tarn that was drained by the construction of a large embanked cutting/drain on the east side adjacent to the construction camp (Site **03**). The overall area measures approximately 80m by 40m. Despite its proximity to the construction camp, it was still depicted as a tarn on the 1897 OS map, and had therefore not been drained in the course of the construction of the railway. It may, however, have served as a water source during the construction process, but that did not entail the construction of a dam as there is not one evident.
Assessment The site is partially within the footprint of the proposed planting in Area 1 and will be impacted by it

Site number 17
Site name Quarries, Sunny Brow, Birkett Common
NGR 377317 503292
Period Quarry
Sources Nineteenth Century
Description A series of small, semi-circular scooped roadside quarries located on the craggy outcrops on the north side of the road crossing the common near Birkett Tunnel (Site **04**). They were depicted on the OS 1897 map but not on the earlier 1862 map. They were all presumably for road stone or local farm purposes, and were not necessarily related to the railway construction as they are relatively small.
Assessment The site is outwith the proposed scheme and will not be impacted by it.

ILLUSTRATIONS

FIGURES

- Figure 1: Site location
- Figure 2: Gazetteer sites across Areas 1 and 4

PLATES

- Plate 1: General view of Survey Areas 1 and 4, comprising an area of undulating moorland set above the valley floor of the Upper Eden
- Plate 2: Plan of the putative causewayed enclosure (after Hamilton Gibney 2011)
- Plate 3: Saxton's map of 1579 showing Wharton Hall, Pendragon Castle and Hartley Castle
- Plate 4: Speed's map of 1611 also showing Wharton Hall, Pendragon Castle and Hartley Castle
- Plate 5: The 'Duke of Gloucester' hauling the Cumbrian Coast Explorer on Birkett Common
- Plate 6: First Edition Ordnance Survey map (1862) showing Survey Areas 1 and 4
- Plate 7: Ordnance Survey First Edition 1:2,500 (1897) for Survey Areas 1 and 4
- Plate 8: The putative burnt mound (Site **12**) located at the edge of a mire
- Plate 9: Bridge 14 crossing the railway
- Plate 10: A view of the southern portal of Birkett Tunnel (Site **04**) of the Settle and Carlisle Railway
- Plate 11: The site of the Birkett Tunnel Construction Camp (Site **03**)
- Plate 12: The large, round profiled, mound (Site **09**) which has the potential to be a prehistoric burial cairn
- Plate 13: The spoil heap of the Stony Gill level (Site **11**)