

# MELMERBY MOOR, MELMERBY,

# NORTH YORKSHIRE

## Archaeological Landscape Survey



## **Oxford Archaeology North**

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## **Yorkshire Peat Partnership**

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Oxford Archaeology North (OA North) was invited by Yorkshire Peat Partnership, to undertake a landscape survey and assessment of re-wetting on four areas of Melmerby Moor, North Yorkshire (SE 045 843, SE 049 849; SE 067 860; SE 074 861). The programme of work in accordance with a brief by Miles Johnson of Yorkshire Dales National Park Authority (YDNPA) and was undertaken in order to provide an assessment of the archaeological impact of a programme of peat restoration and corresponding cutting of heather. The survey was undertaken as an enhanced Level 1-type survey (English Heritage 2007) and encompassed four discrete areas with a combined area of 0.43km<sup>2</sup>.

Nine sites of archaeological interest were identified during the survey, which can be divided into five broad categories consisting of quarries, a putative lime kiln, cairns, features associated with game shooting, and a possible structure. Animal disturbance, which might be mistaken for a site created by human action was also encountered. The sites are likely to range in date from at least as early as the early post-medieval period to the present day. The structure could, however, date to as early as the medieval period and the generic form of the cairns is recognisable from as early as the Neolithic period and continued in use until the modern period.

It is recommended that the peat and heather operations avoid the identified archaeological remains, which are relatively localised in extent.

## ACKNOWLEDGEMENTS

Oxford Archaeology North would like to thank Tessa Levens of the Yorkshire Peat Partnership for commissioning the project, and Miles Johnson of Yorkshire Dales National Park Authority (YDNPA) for advice and the provision of Historic Environment Record data.

The landscape survey was undertaken by Jamie Quartermaine and Mairead Rutherford and the palaeoenvironmental sampling and assessment was undertaken by Mairead Rutherford. The report was written by Alastair Vannan, and Mairead Rutherford and the illustrations were by Anne Stewardson. The report was edited by Jamie Quartermaine, who also managed the project.

## 1. INTRODUCTION

## 1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 Oxford Archaeology North (OA North) was invited by Yorkshire Peat Partnership, to undertake a landscape survey and assessment of re-wetting on four areas of Melmerby Moor, North Yorkshire (SE 045 843, SE 049 849; SE 067 860; SE 074 861). The programme of work was in accordance with a brief by Miles Johnson of Yorkshire Dales National Park Authority (YDNPA) and was undertaken in order to provide an assessment of the archaeological impact of a programme of peat restoration and corresponding cutting of heather.

## **1.2** LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 The area where the peat restoration has been proposed consists of four regions of elevated heather-covered blanket peat, which combine to measure 0.43km<sup>2</sup>, on Melmerby Moor in the Yorkshire Dales. The area occupies part of a south-east-facing slope that varies in height between 340m and 365m (aOD) at the eastern side of the Pennine uplands and overlooks the valley of the River Cover. This part of the Pennines has alternating bands of carboniferous limestone, sandstones, and shales, which are known collectively as the Yoredale Facies (Countryside Commission 1998). The local, and wider, environment has been re-deposited in some areas (*ibid*). The current character of the study area, like much of the uplands of the northern Dales, comprises heather moorland, which is presently managed for game shooting.

## **1.3 HISTORICAL BACKGROUND**

- 1.3.1 Historically, Melmerby was a township in the parish of Coverham, which lay within the union of Leyburn. Leyburn was part of the wapentake of Hang-West, in the North Riding of York (Lewis 1848). Two manors were held at Coverham prior to the Norman Conquest and these were held as demesne lands by Count Alan in 1086, at which time Eldred the Saxon held the manor of Melmerby as a tenant of Alan (Page 1914, 214-225). The forest of Coverdale was an apputenance of the manor of Carlton at least as early as 1270 and was last mentioned in 1613 (*ibid*).
- 1.3.2 During the medieval period Melmerby was mentioned in the context of licensing, rights, or establishment of a chapel, chantry, and free warren, and tenements were granted in Melmerby to Coverham Abbey in 1328 (*ibid*). Coal and lead mining were undertaken in the general area during the medieval and post-medieval periods and mill stones were recorded as being quarried at Melmerby in 1257 (*ibid*). The hilltop, upon which Melmerby Moor is located, has remained as unenclosed moorland through to the present day, although much of the surrounding slopes were subject to enclosure, sub-division and improvement for agriculture

## 2. METHODOLOGY

## 2.1 INTRODUCTION

- 2.1.1 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 study area encompassed four discrete areas with a combined area of 0.43km<sup>2</sup> and the survey comprised five elements:
  - reconnaissance;
  - mapping;
  - description;
  - photography
  - environmental assessment.

## 2.2 LANDSCAPE SURVEY

- 2.2.1 **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. The survey took considerable care to examine areas of disturbance through the peat, erosion scars from vehicle damage, and all other peat exposures.
- 2.2.2 *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. The locations of areas of environmental sampling were also recorded.
- 2.2.3 *Site Description and Assessment:* the data was directly input on site into a palm computer, and was then incorporated into an Access-compatible database. The data was backed up onto a portable computer running Access is suitable for direct import to the YDNPA HER. The input into the system was guided by a *pro forma* to ensure uniformity and consistency of input, and included the following core fields:
  - whether the site was exposed within peat exposures;
  - the depth at which it was revealed.
- 2.2.4 Where possible, the descriptions incorporate provisional interpretations of the function, purpose, and chronology of each site.
- 2.2.5 *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 *proforma* sheets which detail the subject, orientation, and date. Digital imagery was used for the photographic recording and 10 megapixel resolution was used as a minimum. A full image catalogue was produced as part of the archive.

2.2.6 *Ecological and Artefact Retrieval:* the retrieval of ecofacts was confined to small targeted samples that were either suitably diagnostic for species identification, or were substantial and well-preserved enough to be suitable for obtaining radiocarbon dating. Large areas of tree remains exposed in hag sections were recorded and individual exposed artefact finds of significance were collected, catalogued, and stored. Environmental sampling was undertaken in order to specifically examine evidence for finds or structural entities within any sections and the interface between the peat and the mineral soil. An assessment of the character of the peats and environment was based on the site investigation by an experienced palynologist.

## 2.3 ARCHIVE

- 2.3.1 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 Yorkshire Dales National Park Authority.
- 2.3.2 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

## 3.1 INTRODUCTION

3.1.1 The landscape survey was conducted across 0.43km<sup>2</sup> of Melmerby Moor in order to identify, locate, and record sites and features of archaeological interest (Fig 1). Although four discrete areas (M1-M4) were targeted for survey, features of archaeological interest were only identified within two of these areas (M3 and M4; Fig 2). A total of nine sites were identified (M3.1-7 and M4.1 and 2; *Appendix 2*; Fig 2). In addition an assessment was made of the peats and ecology at each of the four areas (*Section 3.2*).

## **3.2** CHARACTER OF THE PEATS AND ECOLOGY AT EACH AREA

- 3.2.1 *Area M1 Adjacent to Howden Lodge:* the peat was difficult to observe due to heather growth although in places where the heather had been cut back, no exposed sections of peat were observed. The area has been artificially drained and *Sphagnum* moss growth was common adjacent to the wetter areas.
- 3.2.2 *Area M2 Rowantree holes:* the peat was difficult to observe due to heather growth although in places where the heather had been cut back, no exposed sections of peat were observed.
- 3.2.3 *Area M3 Survey area looking towards Hen House Hill:* the peat was thinly developed over minerogenic soils. *Calluna* (Heather) was commonly observed, growing on the peat surface; in some places the heather had been cut away. Small areas of wetter ground ware indicated by *Sphagnum* bogmoss growth. No large areas of artificial or natural drainage were observed.
- 3.2.4 *Area M4: South of Long Stack Quarry:* the peat was thinly developed over minerogenic soils. The area is drained naturally by Melmerby Beck and various man-made drainage ditches. Plastic water-carrying pipes were visible in the area to the north, and towards a disused quarry (Long Slack). Such land management practices tend to channel water, resulting in increased rates of flow, which may lead to erosion of the peat. Mossy areas have developed adjacent to streams/drains and were clear of heather. In places, the heather has been cut or burned. Where exposed, the peat was thin and penetrated through by roots of heather.

## 3.3 **RESULTS**

- 3.3.1 The sites identified during the survey can be divided into five broad categories of quarries, a putative lime kiln, cairns, features associated with game shooting, and a possible rectilinear structure.
- 3.3.2 *Quarries:* two quarry sites were identified during the survey (M4.1 and M3.6). Site M4.1 comprised an area of quarrying represented by three hollows, with a maximum depth of 2.5m (Plate 1). Site M3.6 consisted of a single irregular hollow measuring 15.4m by 9.4m and 1.7m deep. A series of spoil banks were visible at the eastern side of this quarry and reflects that the extracted material was removed selectively and poorer quality material left behind.



Plate 1: The reed- and heather- colonised hollows of quarry M4.1

3.3.3 *Putative Lime Kiln:* a possible lime kiln (M3.5) lay within the south-western part of area M3 (Plate 2). This site comprised a large mound with an internal depression and measured 10.5m in diameter and 2.5m high. The depression was approximately 4.5m in diameter and extended through the mound to form a linear aperture to the north. The mound was conspicuous, as it was a vivid green colour that contrasted with the heather and reeds in the surrounding landscape, above which it was raised. Although the site was marked on the first edition Ordnance Survey (OS) maps as an 'old lime kiln', there were no obvious access tracks leading to the site or adjacent lime quarries and the appearance of the site was more visibly comparable to a disused mine shaft. However, there were no other visible shafts within the immediate vicinity to suggest extractive activity. The site has been examined by David Johnson, an authority on lime kilns, who believed that, if it had been correctly identified on the early OS mapping, then it might have been a type of clamp kiln known as a pye kiln, which are quite common in the High Peak part of the Peak District. Pye kilns are very different to the sow kilns that are common in the Yorkshire Dales (D Johnson pers comm; Johnson 2002). However, the possibility remains that, alternatively, it was an extraction shaft.



## Plate 2: The putative lime kiln (M3.5), looking east

3.3.4 *Cairns:* two probable cairns (M3.2 and M3.7) were identified within area M3, although they could not be characterised definitively. Site M3.2 was a low grassed mound that measured 4.2m in diameter and 0.25m high. It was sub-circular in shape and is likely to be a cairn, although a natural origin remains a possibility. Site M3.7 had been disturbed, but also appeared to represent the remains of a low cairn that had become denuded (Plate 3). The cairns did not appear to have been used as funerary monuments and, therefore, are more likely to have resulted from the clearance of stone for agricultural purposes, although it was not possible to determine the date of these features.



Plate 3: A possible denuded cairn (M3.7) close to the northern edge of Melmerby Beck

3.3.5 **Probable Structure:** a putative rectilinear structure (M3.3) measuring 10m long by 8m wide, formed by earthen banks measuring 1.5m wide, was identified to the south of Melmerby Beck (Plate 4). This was potentially a building, although it did not display evidence of internal terracing which would be typical for a domestic structure. The alternative was that it was a small enclosure or structure for animals. The probable structure was adjacent to an artificial and steep-sided hollow, although its function was not evident. There were no indications of associated agricultural features, such as the boundaries of field systems. Although the site could not be closely dated, it was severely decayed and could potentially be of some antiquity, potentially even of medieval date.



*Plate 4: a possible rectilinear structure located at the southern side of Melmerby Beck* 

3.3.6 *Game Shooting Features:* shooting stands (M3.1) and stone pillars (M4.3 and M3.4) used as feeders for game birds were encountered during the survey. The shooting stands (M3.1) consisted of a row of nine short stretches of dry-stone walling measuring approximately 3m long, 1m high and 0.5m wide and topped with turf. These stands are clearly in current use as shooting positions, although their date of establishment is uncertain. Similarly, two stone pillars (M4.3 and M3.4; Plate 5) are currently in use as bird feeders, and this was undoubtedly their intended function. It is likely that all of these structures are of late-twentieth century date, or have been subject to recent modification and maintenance.



Plate 5: A stone column (M4.2) used as a feeder for game birds

## 4. DISCUSSION

## 4.1 **DISCUSSION**

- 4.1.1 The current land use of the study area is as an upland grouse moor. The use of the area in this way during the recent past is reflected in many of the man-made structures that are visible on Melmerby Moor (M3.1, M3.4, M4.3). These comprise shooting stands and dry stone pillars, used as bird feeders. The longevity of use of these features is uncertain, but are most probably relatively recent; communication with members of the current and former game-keeping staff might elucidate the history of game keeping on Melmerby Moor.
- 4.1.2 Features pre-dating the current use of Melmerby Moor for game shooting were also identified. However, this does not preclude the possibility that earlier, and discontinuous, phases of game rearing occurred in the area. Industrial activities are unlikely to have been undertaken whilst birds were being reared on the moor and stone quarries (M4.1 and M3.6) were encountered within areas M3 and M4. The presence of outcropping limestone in the area suggests that this was extracted to form the hollows. A possible lime kiln (M3.5), is likely to have been associated with industrial activity that pre-dated the establishment of the current phase of game keeping on Melmerby Moor.
- 4.1.3 A rectilinear structure (M3.3) was not obviously associated with any industrial activity and could relate to agricultural use of the area. The moor currently lies beyond the enclosed field systems and is likely to have represented open common, or open upland grazing throughout the medieval and post-medieval periods. It is, therefore, possible that this structure was associated with transhumance pastoral farming. Alternatively, a relatively isolated farmstead might have been present at this location during the medieval period and the contraction or diminution of dispersed agricultural settlement is not uncommon in northern England during the medieval periods. The density of rural settlement patterns should not be assumed to inexorably increase over time, or to be maintained.
- 4.1.4 The final group of features encountered at Melmerby Moor consisted of two putative cairns (M3.2 and M3.7). Although these can not be definitively categorised or dated, they are likely to have resulted from clearance associated with agriculture. The clearance of fields can occur in advance of both arable and pastoral agriculture and, therefore, the specific nature of the activity associated with these features can not be demonstrated. This practice has occurred in Britain from the time of the earliest prehistoric farmers in c 3800BC to the present day and, therefore, can not be closely dated. However, we can be confident that the cairns pre-date the use of the moor for game rearing, and probably industrial use.

5.

## 5.1 SECONDARY SOURCES

ADAS and OA North 2009 Conservation of the Historic Environment in England's Uplands, unpubl rep

Association of County Archaeological Officers (ACAO), 1993 Model briefs and specifications for Archaeological Assessments and Field Evaluations, Bedford

Countryside Commission, 1998 The Character of England's Natural and Man-made Landscape, volume 3: Yorkshire and the Humber, Cheltenham

English Heritage, 1991 Management of Archaeological Projects, 2nd edition, London

English Heritage, 2006 Management of Research Projects in the Historic Environment, London

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

Evans, M, Allott, T, Holden, J, Flitcroft, C, and Bonn, A, (eds) 2005 *Understanding Gully Blocking in Deep Peat*, Moors for the Future Report No **4**, Castleton

Johnson, D, 2002 Limestone industries of the Yorkshire Dales, Stroud

Lewis, S, 1848 A Topographical Dictionary of England, London, 537-9

OA North, 2010 The Upland Peats Study: Final Report, unpubl rep

Page, W, 1914 A History of the County of York North Riding: Volume 1, London

## APPENDIX 1 PROJECT DESIGN

#### 1. INTRODUCTION

#### 1.1 CONTRACT BACKGROUND

1.1.1 Miles Johnson of Yorkshire Dales National Park Authority (YDNPA), on behalf of the Yorkshire Peat Partnership has invited Oxford Archaeology North (OA North) to submit a project design for a programme of landscape survey and an assessment of re-wetting on four areas of Melmerby Moor, North Yorkshire (SE 045 843, SE 049 849; SE 067 860; SE 074 861). The proposed programme is in accordance with a project brief by YDNPA and is intended to provide an assessment of the archaeological impact of a programme of peat restoration.

#### 1.2 ARCHAEOLOGICAL BACKGROUND

- 1.2.1 The survey work is to inform a proposal for peat restoration and the corresponding cutting of heather. To provide pre-intervention records of archaeological remains in the area, and highlighting where there may be unnecessary damage to archaeological features from heather cutting.
- 1.2.2 OA North undertook a major assessment of the Upland Peats in England on behalf of English Heritage (OA North 2010) has identified that there is an enormous archaeological resource within the peat covered uplands, but which is as yet unknown because of poor site visibility arising from the peat cover. The peat cover while obscuring the sites also has the potential to preserve them in a waterlogged state and as such has the potential to preserve an enormously significant resource. If the peat is degraded, drained or desiccated the peat is lost and the water logging that has preserved the organic components is lost then the sites will rapidly decompose. There are numerous examples of organic sites that have degraded over a matter of a few years once they have become desiccated as a result of changing drainage patterns.
- 1.2.3 The survey work outlined below has been developed in relation to a proposal for heather cutting at Melmerby Moor. The area of proposed survey is four regions of elevated heather covered blanket peat measuring 0.43km2 in area. Areas centred upon: SE 045 843; SE 049 849; SE 067 860 and SE 074 861.
- 1.2.4 The heather brashings are required for use in re-establishing a vegetation cover for areas of bare peat. The heather is to be cut using a low ground pressure machine, and to the specifications outlined in the Yorkshire Part Partnership Technical Guidance Note 4 Specification for Heather cutting & baling.
- 1.2.5 There are potential implications to archaeological earthworks, both through the clipping of earthworks or stonework by flails or harvesters, and potentially through compression and impacts upon archaeological earthworks by the vehicles. The specified survey seeks to define any areas of likely archaeological sensitivity that need to be avoided with machine access.

#### 1.3 OXFORD ARCHAEOLOGY NORTH

- 1.3.1 OA North has considerable experience of the investigation of wetlands. OA North (formerly Lancaster University Archaeological Unit) undertook a major programme of survey of the North West lowland wetlands and has recently undertaken a programme of assessment of the Upland Peats by means of trial surveys across Northern England. OA North has undertaken an assessment of the impact of upland management strategies upon archaeological monuments on behalf of Natural England (ADAS and OA North 2009). This latter programme is specifically examining the issue of grips and means and strategies to block them, without causing undue impact upon the archaeological remains.
- 1.3.2 OA North has undertaken a large number of upland landscape surveys for a variety of clients (both private and national agencies such as English Heritage and Royal Commission on the Historical Monuments of England (RCHM(E)) and employs a qualified surveyor (Jamie Quartermaine, BA,

DipSurv, MIFA) who has many years experience of the identification and survey of upland landscapes, having worked closely with the RCHM(E) and the Lake District National Park Authority on a large number of projects.

- 1.3.3 Since 1982 OA North has been undertaking extensive upland landscape surveys throughout Northern England and Wales. Surveys include the Lake District National Park Survey, the Torver Common surveys (Lake District), Haweswater and Thirlmere estate surveys (Lake District), Lyme Park (Peak District), most of the Forest of Bowland AONB, Lancashire, and a multitude of smaller landscape projects which include the Otterburn Range surveys in the Northumberland National Park. In particular OA North has undertaken a detailed survey of an upland estate at Hartley, Eden Valley involving a detailed documentary study and surface survey. To date OA North has undertaken archaeological field surveys of over 930sqkm of upland landscapes and has recorded over 24,000 field monuments. OA North can claim to be one of the foremost specialists in the field of upland landscape recording.
- 1.3.4 OA North and all its members of staff operate subject to the Institute for Archaeologists (IfA) Code of Conduct.

#### 2. **OBJECTIVES**

- 2.1 The primary purpose of the project is to inform future management decisions with regard to the application of grip blocking and moorland re-wetting. The proposed study is intended to identify archaeological remains on the surface or within the peat. It is also important that an assessment is made of the impact upon the peats as these protect the buried archaeological resource and any severe damage to them will inevitably damage or destroy the underlying resource. The aims of this initial project are broadly as follows:
  - to establish sufficient information to establish the location, extent, character, period, condition, fragility and potential of any surviving surface archaeological features;
  - to indicate any remains that are vulnerable to damage through machine access, or clipping by the cutting machinery.

#### 3. METHODS STATEMENT

3.1 The following work programme is submitted in line with the objectives of the archaeological work summarised above. It is divided into two elements, archaeological field survey, and reporting.

#### 3.2 FIELD SURVEY METHODOLOGY

- 3.2.1 The survey will be undertaken as an enhanced Level 1 type survey (details of OA North's survey levels are contained in *Appendix 1*). The survey study area is as defined in the project brief and encompassess 0.43 sq km. The survey will involve four elements: Reconnaissance, Mapping, Description and Photography.
- 3.2.2 **Reconnaissance:** the reconnaissance will consist of close field walking, varying from 10m to 20m line intervals dependent on visibility and safety considerations. The survey will aim to identify, locate and record archaeological sites and features on the ground and thus all sites noted will be recorded. The extent of any areas where there is no access will be defined on maps and depicted on the CAD/GIS mapping. The survey will take considerable care to examine areas of disturbance through the peat, erosion scars from vehicle damage and any other peat exposures. The survey will investigate and record all archaeological features and retrieve any sample ecofacts and artefacts. These will specifically examine evidence for finds or structural entities within any sections and the interface between the peat and the mineral soil.
- 3.2.3 **Survey mapping:** a Satellite Global Positioning System (GPS) will be utilised to satisfy English Heritage defined Level 1 survey requirements (Ainsworth *et al* 2007). The GPS is a Leica differential system achieves much greater accuracies than can be achieved with a hand held GPS. The accuracy of the OA North GPS system is capable of +- 0.02m and provides for a quick and effective means of recording the position and extent of sites. The GPS techniques will be used to record the extent of the site. The survey will record all archaeological sites as point data and any

significantly sized archaeological features (more than 3m in diameter) with line or polygon data. The locations of any retrieved archaeological artefacts and ecofacts identified and/or retrieved during the project will also be recorded.

- 3.2.4 *Site Description and Assessment:* the key to economy of survey is being able to compile a descriptive record for each site in a fast and accurate manner, which can be implemented in all weather conditions. It is proposed that the data be directly input on site into a palm computer, which is within a weatherproof case. The data will be incorporated into an Access compatible database. The data will be backed up onto a portable computer running Access suitable for direct import to the YDNPA HER. The input into the system will be guided by a proforma to ensure uniformity and consistency of input, and will provide input for the following core fields:
- 3.2.5 site has been exposed within peat exposures and at what depth it is revealed. The description will incorporate a provisional interpretation of the function and purpose of a site, where possible, and similarly will provide a provisional interpretation of the site's chronology where possible.
- 3.2.6 **Photographic Survey:** a digital photographic archive will be generated in the course of the field work, comprising landscape and detailed photography. This will record any significant ecofacts, archaeological features, lithics or other small finds located within the grip sections or areas of bare peat inspected. Detailed photographs will be taken of all sites using a scale bar. All photography will be recorded on photographic pro-forma sheets which will show the subject, orientation and date. Digital imagery, rather than conventional film photography, is acceptable for the photographic recording although 10mega pixel resolution will be used as a minimum. Unedited images should be archived as tiff files, as well as processed images. A full image catalogue is required as part of the archive. Metadata should be embedded in the DNG file by the contractor. This should include an agreed name for the site, the subject of the photograph, the date of the photograph, the OS grid coordinates, the name of the organisation taking the photograph, the direction of shot.
- 3.2.7 **Ecological and Artefact Retrieval:** the retrieval of ecofacts will be confined to small targeted samples that are either suitably diagnostic for species identification, or are substantial and well preserved enough to be suitable for obtaining radiocarbon dating. Large areas of tree remains exposed in hag sections will be recorded Individual exposed artefact finds of significance will be collected, catalogued and stored, and where a complex site such as a lithic scatter is encountered, a small sample will be gathered. The extents of any concentrated areas of finds will be recorded by GPS.

#### **3.3 PROJECT ARCHIVE**

- 3.3.1 *Archive:* the results of the fieldwork will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (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. This archive will be provided in the English Heritage Centre for Archaeology format, both as a printed document and digitally. Digital survey data will be provided in a suitable format for incorporation into the MapInfo Geographical Information System (GIS). A synopsis (normally the index to the archive and the report) should be placed in the Yorkshire Dales Sites and Monuments Record.
- 3.3.2 **Digital Presentation:** the survey data will be digitally transferred into a GIS system and superimposed with digital 1:10,000 OS data. The dimensioned site drawings will be digitally superimposed onto the raw survey data, thereby ensuring a high level of both numeric and representational accuracy. The final output drawings will be output in DXF, and Autocad format. The drawings can be output at any required scale, although the accuracy of generation assumes that the drawings will not be reproduced at scales of greater than 1:50,00. The archive will be passed to the North Yorkshire Record Office and a digital copy will be passed to the client on completion of the survey alongside the final report.

#### 3.4 **REPORTING**

3.4.1 *Assessment of Archaeological Resource:* an assessment will be made of the extent, character and diversity of the archaeological resource across the extent of the study area. It will make an

assessment of the potential for buried archaeology on the basis of the observed evidence and by comparison with areas examined as part of the Upland Peats Project.

- 3.4.2 **Report Content:** the full report will consist of an acknowledgements statement, lists of contents, summary, introduction summarising the brief and project design and any agreed departures from them, methodology, interpretative account of remains found, assessment of the impact of the rewetting upon the peats, assessment of the impact of the re-wetting upon the archaeological resource, conclusions, a gazetteer of sites, list of archive contents and bibliography. Illustrative material will include location maps and plans. The report will make recommendations for the management of future grip-blocking in relation to the archaeological resource
- 3.4.3 **Output:** two bound and one pdf copy of the full report will be submitted to the Yorkshire Dales National Park Authority. GIS database/ CAD files will be presented in a format to be agreed with the YDNPA HER and the Yorkshire Peat Partnership to ensure integration both with current HER records and the utility for the grip blocking contractor. Digital geographic data are to be presented in ESRI .shp and/or MapInfo .tab. format.
- 3.4.4 *Publication:* information from the project will be fed into the OASIS project (On-line Access to Index of Archaeological Investigation).

#### 3.5 CONFIDENTIALITY

3.5.1 The report is designed as a document for the specific use of the Client, for the particular purpose as defined in the project brief and 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.

#### 4. OTHER MATTERS

#### 4.1 ACCESS

4.1.1 It is assumed that OA North will have unrestricted pedestrian access to the study area for the duration of the survey, and that access will be negotiated with the land owner.

#### 4.2 Health and safety

4.2.1 Full regard will, of course, be given to all constraints (services) during the survey, as well as to all Health and Safety considerations. The OA North Health and Safety Statement conforms to all the provisions of the SCAUM (Standing Conference of Unit Managers) Health and Safety manual, as well as the OA Health and Safety Statement. Risk assessments are undertaken as a matter of course for all projects, and will anticipate the potential hazards arising from the project.

#### 4.3 INSURANCE

4.3.1 The insurance in respect of claims for personal injury to or the death of any person under a contract of service with the Unit and arising in the course of such person's employment shall comply with the employers' liability (Compulsory Insurance) Act 1969 and any statutory orders made there under. For all other claims to cover the liability of OA North in respect of personal injury or damage to property by negligence of OA North or any of its employees there applies the insurance cover of £10m for any one occurrence or series of occurrences arising out of one event.

#### 4.4 WORKING HOURS

4.4.1 Survey works will be undertaken on the basis of a five day week, within daylight hours only.

#### 4.5 **PROJECT MONITORING**

4.5.1 Monitoring meetings, if required, will be established with the YDNPA Historic Environment staff at the outset of the project. It is anticipated that these will involve a preliminary meeting at the commencement of the project and possibly progress meetings during fieldwork.

4.5.2 OA North will inform the client of all significant developments, and any potential departures from the agreed programme will be discussed and agreed with them prior to implementation.

#### 5. WORK TIMETABLE

#### 5.1 PHASES OF WORK COMPRISING:

5.1.1 Field Survey

1 day will be required for the field survey

#### 5.1.2 Archive and Reporting

15 days would be required to complete this element.

5.1.3 The project can be undertaken at short notice, subject to the requirements of the client and to fit in with any scheduled work programme.

#### 6. OUTLINE RESOURCES

#### 6.1 STAFFING

- 6.1.1 The project will be under the management of **Jamie Quartermaine BA DipSurv** (OA North Project Manager) to whom all correspondence should be addressed. He will monitor the progress of the project ensuring adherence to all agreed programmes and timetables. He will also provide technical back-up, advice, and will have editorial control over the compilation of the full report. He has many years experience of surveying upland landscapes, particularly in the Lake District. Jamie will provide a post-survey assessment of the results in conjunction with the project director.
- 6.1.2 The field survey will be led by **Peter Schofield** (OA North Project Officer) who works full time on landscape surveys across the north of England and Walkes. He has undertaken surveys at Little Asby Common, Hardknott Forest and Hartley Fold Estate, Cumbria. Whole valley surveys of Ennerdale, Buttermere, Borrowdale and Wasdale in the central Lake District fells, and eight seasons of landscape survey across over 200sq km of upland areas in North Wales. With the exception of Jamie Quartermaine, he is our most experienced landscape archaeologist.
- 6.1.3 Ecological Advice will be provided by Elizabeth Huckerby BA MSc MIFA (Senior Palaeoenvironmentalist). She is Experienced in producing reports for assessment and publication. She joined OA North in 1990 when she worked as Palynological Project officer for the North West Wetlands Survey (NWWS). She specialises in palynology and collaborated in the successful isolation of Icelandic tephra from a lowland raised mire in England. Since the completion of the NWWS she been involved mainly in developer funded Archaeology both as a palynologist and archaeobotanist, and has incorporated work on prehistoric, Roman, Medieval and historic sites in the north and south of England. Prehistoric sites include two Bronze Age burnt mounds in Cumbria, at Drigg and Sparrowmire. She has worked on environmental remains from Roman and Medieval sites in Lancaster, Carlisle, Kirkby Thore Cumbria, Berwick and Gateshead, the latter two in Northumberland. Studies from these sites incorporated the assessment and analysis of charred and waterlogged plant remains and pollen. Her main skills are archaeobotany, pollen and plant macrofossil identification. Extensive knowledge of the palaeoecology of North West England. Environmental sampling and processing procedures. She has considerable experience of selecting and submitting samples for radiocarbon dating, and she has co-authored countless books, papers and client reports.

# APPENDIX 2

## GAZETTEER OF SITES

Site Number	M3.1
Site Name	Melmerby Moor, area 3
NGR	407208 485930 (SE) to 407025 486169 (NW)
Site Type	Shooting stands
Period	Post-medieval to modern
Source	Walkover Survey
Description	A series of dry-stone-constructed walls, each approximately 3m long, 1m high and 0.5m
wide. There are nir	he in a row set in a line within the extent of the study area. They are within an area of
relatively flat green	turf with occasional sedges. Each shooting stand was topped with a c 0.1m thick turf layer
that was attached to	the stand with red string and blue hollow tubing.

Site Number	M3.2
Site Name	Melmerby Moor, area 4
NGR	407158 485984
Site Type	Earthworks; mound
Period	Unknown
Source	Walkover Survey
<b>Description</b> A small, low grassy mound with a slightly irregular surface. The feature measures 4.2r	
diameter and is 0.2	5m high. Whilst it could potentially be natural; it has a circular shape and was most
probably a low cairn.	

Site Number	M3.3
Site Name	Melmerby Moor, area 3
NGR	40672 485901
Site Type	Earthworks
Period	Medieval to Post-medieval
Source	Walkover Survey
<b>T</b>	

**Description** A large, rectilinear earthen bank structure. The banks are 1.5m across and the overall structure is 10m x 8m. The feature lies within a grassy area surrounded by heather, located on an area of open moor next to Melmerby Beck. It is clearly anthropogenic and was either a small enclosure or possibly the earthwork remains of a former structure. The internal area does not appear to have been internally terraced. There were no indications of a field system in the immediate vicinity. Given the decayed earthwork character of the monument it could be of considerable antiquity. Adjacent to it is a 1.5m wide and 1m deep artificial steep-sided hollow within which at least one stone was observed.

Site Number	M3.4
Site Name	Melmerby Moor, area 4
NGR	406588 485877
Site Type	Monument
Period	Unknown
Source	Walkover Survey
Description	A recent dry-stone-constructed column for feeding birds, measuring 0.4m high and 0.3m
across (See Site M4.	1).

Site Number	M3.5
Site Name	Melmerby Moor, area 3
NGR	406609 485954
Site Type	Earthworks; Limekiln ?

Period	Unknown
Source	Walkover Survey
HER	MYD15539
<b>D</b>	

**Description** A large mound, with an internal depression, elevated above the surrounding heather landscape and which is conspicuously bright green (due to grasses and *Sphagnum* growth). The large earthen mound has a central hollow and an aperture open to the north. The measurements are 10.5m in diameter, c 2.5m in height and has an internal diameter: c 4.5m. The site is marked on the Ordnance Survey 1st Edition 6 inch as an 'old' lime kiln. It has the appearance of a mine shaft; however, there are no other comparable shafts in the vicinity that would attest to comparable extractive activity. It has been examined by David Johnson (pers comm), an authority on lime kilns, and his opinion was that it could possibly be a pye kiln, that are quite common in the High Peak, and is a large clamp kiln that is very different from the sow kilns that are more common in the Yorkshire Dales. There is limestone in the vicinity, but there are no adjacent limestone quarries, and there are no obvious access tracks.

Site Number	M3.6
Site Name	Melmerby Moor, area 4
NGR	406916 486202
Site Type	Earthworks; quarry
Period	Unknown
Source	Walkover Survey
Description	A small quarry with an irregular shape and a series of spoil banks on the east side. The
feature measures	15.4m x 9.4m and was approximately 1.7m deep. There are no tracks in the vicinity. The
feature is presentl	y filled with heather and grass, although there is exposed rock at the margins.

Site Number	M3.7
Site Name	Melmerby Moor, area 4
NGR	406609 486190
Site Type	Earthworks; stones
Period	Unknown
Source	Walkover Survey
Description	The feature comprises a group of small limestone blocks spilling out of the ground and

**Description** The feature comprises a group of small limestone blocks spilling out of the ground and a low mound within an area of peat burning. The maximum height is 0.25m. Although disturbed it has the appearance of having been constructed and was possibly the remains of a denuded cairn.

Site Number	M4.1
Site Name	Melmerby Moor, area 4
NGR	407385 486131
Site Type	Earthworks; possibly quarry
Period	Post-medieval
Source	Walkover Survey
Decemination	The side communities on improvel

**Description** The site comprises an irregularly-shaped hollow, with two deeper hollows divided by a grass covered spoil mound. The maximum depth is 2.5m. It is filled with reeds and heather and is not of recent antiquity. It would appear to be a small quarry although there is no indication of stone outcropping in the area.

Site Number	M4.2
Site Name	Melmerby Moor, area 4
NGR	407347 486184
Site Type	Earthworks; mound
Period	Unknown
Source	Walkover Survey

**Description** A grassy, low mound conspicuous in an area which is otherwise covered by heather. It is approximately 0.3m high and has an irregular surface. Rabbit holes are common and it is probable that the feature is entirely formed of rabbit burrowing, although it has an appearance of a mound of possible manmade origin. This feature is not unusual and reflects the displacement of significant quantities of up-cast spoil, and can often present the erroneous impression of a tumulus, or burial mound that has been subject to disturbance by rabbits.

Site Number	M4.3
Site Name	Melmerby Moor, area 4
NGR	4073756 486116
Site Type	Monument
Period	Post-medieval - modern
Source	Walkover survey
Decomintion	A small column 1 2m big

**Description** A small column, 1.2m high and approximately 0.3m wide. It is set in an open area of moorland. It has cement mortar and roughly-dressed blocks. A wooden tray is set into a bolt on top. This is one of a group of similar monuments and was intended to raise bird feed off the ground. It relates to the management of the grouse moor and is of relatively recent date.

## **ILLUSTRATIONS**

## FIGURES

Figure 1: Site Location

Figure 2: Location of Archaeological Sites Identified during survey

## PLATES

- Plate 1: The reed- and heather- colonised hollows of quarry M4.1
- Plate 2: The putative lime kiln (M3.5), looking east
- Plate 3: A possible denuded cairn (M3.7) close to the northern edge of Melmerby Beck
- Plate 4: A possible rectilinear structure located at the southern side of Melmerby Beck
- Plate 5: A stone column (M4.2) used as a feeder for game birds



Figure 1: Site location

JQ\*L10431\*AMS\*181111 -486000 81 . Survey area Archaeological feature 81 84 11 111111 M3-4 Column 100 M3·7 Long Slack M3·5 O Putative Lime kiln ы 44 E4 PARTICULAR VIEW M3:3 Possible structure н Holes O 11 sused Area 3 18 10 64 ALT DATE OF 1 ALL N M3.6 oss blac 407000 M3-1 Shooting Stands 5222222 cairn M3·2 M4·2 Column 1.4000 @ A4 ۵ 100 m area ot animal disturbance Quarry College State oxforda O Area 4 hnorth 

Figure 2: Location of archaeological features identified during survey