



# **KELBER, CONISTONE WITH KILNSEY**

**NORTH YORKSHIRE**

## **Archaeological Survey Report**



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## SUMMARY

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Oxford Archaeology North (OA North) were invited by Yorkshire Peat Partnership to undertake an archaeological landscape survey and an assessment of re-wetting on an area of moorland at Kelber, on Conistone Moor in Wharfedale, North Yorkshire (SE 0006 684). The work was undertaken to provide an assessment of the archaeological impact of this restoration programme. The survey was undertaken as an enhanced Level 1-type survey (English Heritage 2007) over an area of 0.73 km<sup>2</sup>.

In total, 19 features of archaeological interest were identified across the survey area, although these were mainly confined to the areas of mining near Seeds Hill in the southern part of the survey area.

The sites identified within the survey area during the survey can be divided into three broad categories: lead mining; other extractive industries and miscellaneous land use. Most of the sites are difficult to date closely in the absence of additional data from documentary sources or archaeological excavation; however, most are likely to date to the post-medieval (1540-1750), industrial (1750-1914) or modern periods. Some might date to earlier periods, in particular a putative Bronze Age funerary cairn and a series of prehistoric/medieval stock enclosures. Despite extensive investigation of 20% of the grips and the exposed peat hag sections, no prehistoric dated flints were retrieved during the present survey.

Few of the identified sites are likely to be susceptible to damage as a result of work to block the drainage grips as they are relatively robust earthwork features. Most of the identified sites were remote from the areas of grips and would therefore be unaffected by gripping operations. However, this is dependant upon earthworks being avoided by vehicles and machines, and these areas not being used to generate material for the infilling of grips. Sites that are under direct threat from the proposed works are the three isolated trial shaft mounds (Sites 3, 5 and 7) and a limestone quarry on the edge of the moorland track (Site 2). Particular care should also be given to avoiding the putative funerary cairn (Site 18) when tracked vehicles are crossing up onto the moor.

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## ACKNOWLEDGEMENTS

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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 for the provision of Historic Environment Record (HER) data. We would also like to thank Mr Richard Johnson for enabling access onto Kelber.

The outline documentary search was undertaken by Helen Quartermaine with Peter Schofield processing the historic mapping. The landscape survey was undertaken by Peter Schofield, and Mairead Rutherford, with the palaeoenvironmental sampling and assessment undertaken by Mairead Rutherford. The report was written by Peter Schofield, who also produced the illustrations. The report was edited by Jamie Quartermaine, who also managed the project.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Oxford Archaeology North (OA North) were invited by Yorkshire Peat Partnership to undertake an archaeological landscape survey and an assessment of re-wetting on an area of moorland, Kelber, on Conistone Moor in Wharfedale, North Yorkshire (SE 006 684) (Fig 1). The restoration project work is a part of a Higher Level Stewardship agreement that is in place on the land holding, and will entail the blocking, utilising machine-cut peat plugs, of a number of active grips (drains) that were cut into the peat, probably at some point between the end of the Second World War and the end of the 1970s. The archaeological recording work was undertaken to provide an assessment of the archaeological impact of this restoration programme, and was undertaken in accordance with a project design by OA North (*Appendix 2*), which was itself informed by a project brief by Miles Johnson of Yorkshire Dales National Park Authority (YDNPA) (*Appendix 1*). A landscape survey and desk-based assessment has been undertaken to record the archaeological and historic environment, and the results, along with an assessment of the impact by the proposed works, are presented here.

### 1.2 LOCATION, AND TOPOGRAPHY

- 1.2.1 The area of Kelber, where the peat restoration has been proposed, consists of an elevated area of blanket peat measuring 0.73 km<sup>2</sup>, which is to the east of Kilnsey and Conistone where complex field systems and settlements have already been recorded. It is north of Peat Middle Pasture and Green Hill Pasture, and west of Cow Pasture. On the outer south-eastern corner is Gill House, but there are no other farms or houses in the area (Figs 1 and 2). The area consists of a large, gently sloping, but slightly undulating, plateau lying between 370m and 430m (aOD).
- 1.2.2 This part of the Pennines features limestone bedrock (Countryside Commission 1998), and the lower margins of the area are characterised by a series of limestone crags extending along the line of the valley. Veins of lead ore extend across the area and these have been extensively worked in the post-medieval period. Much of the area has been enclosed by the extensive rectilinear fields of the eighteenth and nineteenth century parliamentary enclosure movement, and some of the fields have been improved and have grass cover, while others, including most of those within the present survey area, have seen little improvement and have heather cover (Plate 1).



*Plate 1: General topography and vegetation across the centre of Kelber*

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## 2. METHODOLOGY

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### 2.1 PROJECT DESIGN

2.1.1 A project design submitted by OA North (*Appendix 2*) was used as the basis for this investigation, and was informed by a project brief from YDNPA (*Appendix 1*). This required that a landscape survey be undertaken to enhanced Level 1 standards (English Heritage 2007) entailing the outline record of identified monuments. The project design was adhered to in full, and the work was consistent with the relevant standards and procedures of the Institute for Archaeologists (IfA), and generally accepted best practice.

### 2.2 DOCUMENTARY RESEARCH

- 2.2.1 The YDNPA HBSMR details for Kelber were accessed and were kindly provided as Shape Files. Digital copies of historic Ordnance Survey (OS) mapping were purchased online and a GIS was compiled with historic mapping, modern OS topography and the HER data for the whole survey area. The GIS mapping provided the basis for the subsequent field survey, and was subject to on-site enhancement.
- 2.2.2 Vertical and oblique air photography was obtained from YDNPA; the vertical photography was geo-referenced into the GIS to provide a match with topographic and historic OS mapping.

### 2.3 LANDSCAPE SURVEY

- 2.3.1 The survey was undertaken as an enhanced Level 1-type survey, following the guidelines for enhanced Level 1 surveys as defined by English Heritage (2007). The survey area encompassed an area of 0.73km<sup>2</sup> and comprised five elements:
- Reconnaissance;
  - Mapping;
  - Description;
  - Photography;
  - Environmental assessment.
- 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. The survey took considerable care to examine areas of disturbance through the peat, erosion scars from vehicle damage, and all other peat exposures.
- 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. The locations of areas of environmental sampling were also recorded.



- 2.3.4 **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 fields defining whether the site was exposed within peat exposures and the depth at which it was revealed. Where possible, the descriptions incorporate provisional interpretations of the function, purpose, and chronology of each site.
- 2.3.5 **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 *pro forma* sheets which detail the subject, orientation, and date. Digital imagery was used for the photographic recording and 12 megapixel resolution was used as a minimum. A full image catalogue was produced as part of the archive.
- 2.3.6 **Environmental Assessment:** exposed peats sections were examined for the retrieval of ecofacts but in the event no substantial ecofacts suitably diagnostic for species identification were identified, or were substantial and well-preserved enough to be suitable for obtaining radiocarbon dating. An assessment of the character of the peats and environment was based on the site investigation by an experienced palynologist.
- 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 (English Heritage 2006). The original record archive of the project will be deposited with YDNPA.
- 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

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### 3. DESK-BASED CONTEXT

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#### 3.1 INTRODUCTION

- 3.1.1 An outline documentary study was undertaken to inform the landscape survey and was intended to identify the documented archaeological resource within the survey area. This examined the Historic Environment Record (HER), held by YDNPA, cartographic sources and aerial photography. The summary results are presented below, and the detail is incorporated into the site gazetteer and mapping.

#### 3.2 HISTORIC ENVIRONMENT RECORD

- 3.2.1 The HER data provided a valuable guide to the historic use and function of this landscape. To the south and partly outside the survey area centred on SD 0044 6780, is a linear series of shafts for lead mining worked in the 1700s and again in 1828 (Site **14**). This may have been associated or concurrent with another area of disused lead mine shafts to the north of Site **14** and aligned adjacent to the southern edge of the survey area (Site **13**), although no date can be assigned to this.
- 3.2.2 Alignments of closely spaced shafts along a vein have been associated with the lead mining practices of the eighteenth century and earlier; at Grassington Moor the earliest mining of these veins was in the early seventeenth century (Scheduled Monument 31331). During this period customary mining law allowed for the allocation of meers, whereby individual miners would take on specific lengths of the same vein known as a meer. These lengths varied from one part of the country to another and extended from perhaps 10m to 27m. On Grassington Moor a meer was 21 yards in the earlier seventeenth century until 1680 when it was deemed to be 30 yards: many of the lengths of meers had meerstones which were carved with the initials or mark of the miner (Gill 1988; White 2005, 80). Such shafts would have been dug by hand and were comparatively shallow, as gunpowder was not used until the early eighteenth century. The shafts were associated with mounds of spoil and dressing floors where the ore was hammered down, and sorted by sieving or washing in water. The miners were obliged to take the dressed ores for smelting in the mills that were owned and operated by the mineral lord (Gill 1988, 206). In 1774 the customary mining laws were changed allowing for the exploitation thereafter, by mining companies, of large blocks of the moorland (Roe 2013), with larger and deeper shafts and adits, mechanised pulleys to extract the larger amounts of ore, and correspondingly more mechanised systems of dressing and washing.
- 3.2.3 In the southern part of the survey area, and occupying an area both in the cleared narrow rectangular field and the moorland to the east and north, is a post-medieval lead mining complex with perhaps six alignments of mine-shafts and associated dressing floors and small mounds mining complex (Sites **12**, **16** and **19**). This arrangement of small shafts set along the line of the vein suggests an eighteenth century date or earlier, although this area may also have had a second phase of working. Site **16** of this complex is depicted on the OS 1<sup>st</sup> edition map (1852) (Plate 2; *Section 3.3.1*).
- 3.2.4 East of these features is a large prehistoric cairn (Site **09**) seen as a grassed covered, near-circular mound that is 6-8m in diameter (and not marked on the 1<sup>st</sup> edition map), but which may be a mislocated record for Site **18**, which is some 155m to the

north-west. To the east and north of this are three disused shafts (Site **07**), which are widely separated shafts and were possibly a result of prospecting. Only the one to the south and one to the north are on the current OS map and none were depicted on the OS 1st edition map (1852).

- 3.2.5 To the west of the survey area was the eastern edge of an extensive co-axial prehistoric field system comprising enclosures, small fields, and droveways (MYD 36581) centred at SE 9977 6736 (White 2005). Just within the survey area on the western edge is a series of at least five enclosures of potentially prehistoric or medieval date that were located at the base of the limestone scar (Site **15**).
- 3.2.6 Just beyond the north-western corner of the survey area is MYD 15063 a sheep fold (SE 00689 68968), and nearby, but within the study area, was a probable washfold (Site **04**) which was adjacent to the beck. Neither of these features were marked on the 1<sup>st</sup> edition OS map.

### 3.3 CARTOGRAPHIC STUDY

- 3.3.1 *Ordnance Survey 1<sup>st</sup> edition 6" map (1852)*: the OS 1<sup>st</sup> edition map of the survey area denotes the paths and field boundaries of the area and some shafts. Outside the western edge was a well-rounded dew pond (marked on both the OS 1<sup>st</sup> and 2<sup>nd</sup> edition maps) and was also seen on the aerial photographs (*Section 3.4*).
- 3.3.2 Inside the south-western part of the survey area there were only a few features marked on the OS 1st edition map, but did include a group of three shafts (Site **16**), which was just outside the north-eastern corner of a small rectangular field (*Sections 3.2.3*). The OS 1<sup>st</sup> edition map showed a path aligned north/south labelled Green Lane (west of Green Hill Pasture) going largely northwards across two west/east field boundaries in the survey area and crossing a north-west to south-east field boundary to the north of the survey area defining cleared land to the west and the moor to the east. The path continued north-eastwards across the moor. It is shown as a path on modern mapping.
- 3.3.3 The OS 1<sup>st</sup> edition map notes the house or farm labelled Gill House just outside the south-eastern corner of the survey area. This comprised two rectangular buildings and a small square building to the east of Gill House Brook. The Brook is aligned north/south ending at a crossing place or ford for a track from the south to the north of the survey area. Gill House is marked on the current map with only one rectangular building; the ford is not marked on the current map.
- 3.3.4 The current OS map shows six areas of shake holes occurring within the cleared strip and the outside moorland (although these can be difficult to distinguish from disused shafts) and three areas of disused shafts (Sites **7**, **13** and **16**), of which only one (Site **16**) was shown on the OS 1st edition map (1852).

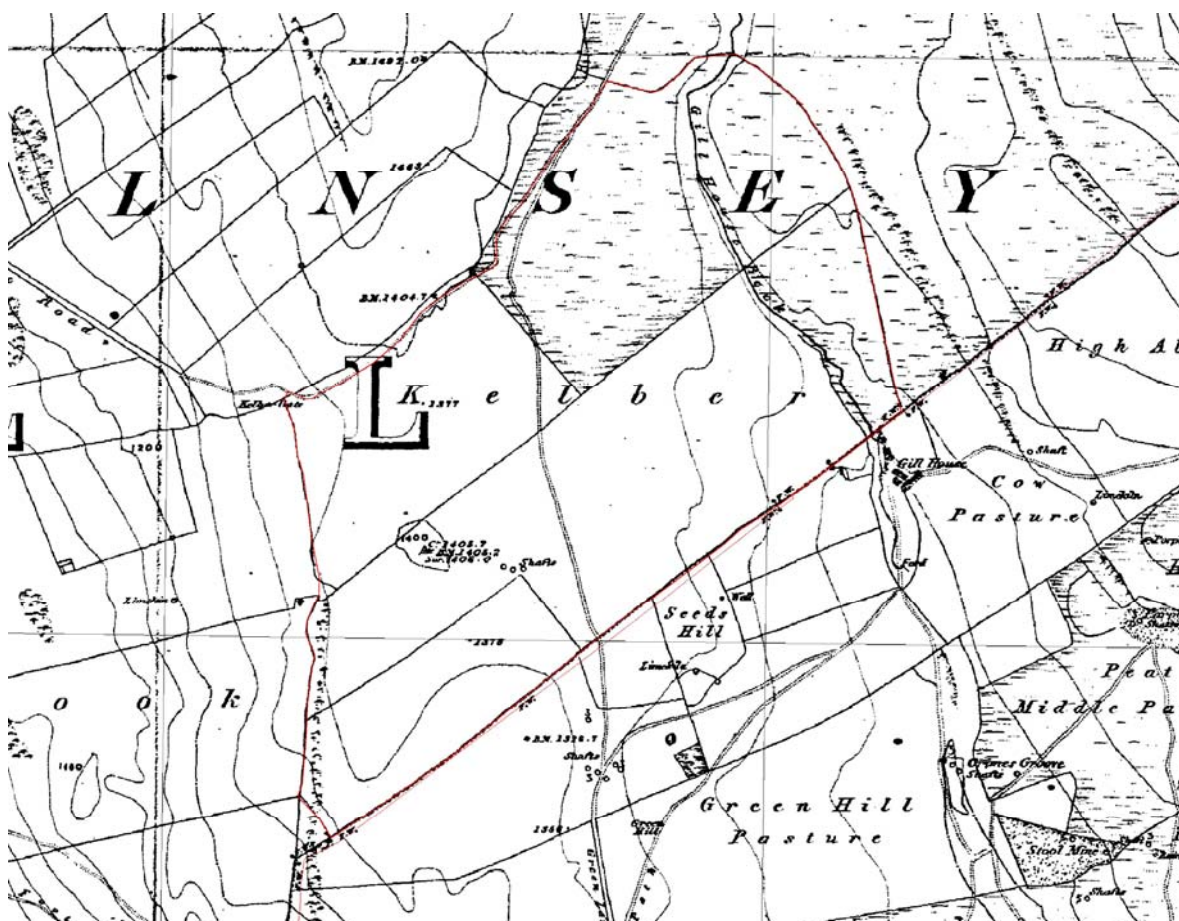


Plate 2: Ordnance Survey 1<sup>st</sup> edition map showing the study area

### 3.4 AERIAL PHOTOGRAPHS

3.4.1 The aerial photographs provide a visual record of the archaeological and their potential for the understanding of the lead mining in this survey area and the results have been incorporated into the gazetteer.

3.4.2 *Geoperspectives Aerial Photographs Tile SE 0067 (2001-2)*: the following features are identified from the aerial photography within the study area:

- The north/south Green Lane;
- Six east/west alignments of shafts along the vein (Sites 12, 13, 14 and 16);
- Linear features and square buildings associated with the Site 13 shafts;
- A north/south alignment of shafts at c SE 0035 6780 (Site 14).

3.4.3 *Geoperspectives Aerial Photographs Tile SE 0068 (2001-2)*:

- In the southern field to the west of the path is a green area with two distinct platforms with straight edges at c SE 0055 6820 (Site 11).

3.4.4 *Geoperspectives Aerial Photographs Tile SE 0168 (2001-2)*:

- At c SE 0100 6880 is an isolated mine shaft (Site 05) with several associated linear and rectilinear lead mine workings.

## 4. SURVEY RESULTS

### 4.1 INTRODUCTION

4.1.1 The landscape survey was conducted across 0.73km<sup>2</sup> of Kelber fell during October 2013 in order to identify, locate, and record sites and features of archaeological interest (Fig 2). In total, 19 features of archaeological interest were identified across the survey area, although these were mainly confined to the areas of mining near Seeds Hill in the southern part of the survey area.

### 4.2 RESULTS

4.2.1 The sites identified within the survey area during the survey can be divided into three broad categories: lead mining; other extractive industries and miscellaneous land use. These categories are made up of a total of six different types of individual site (Table 1). Most of the sites are difficult to date closely in the absence of additional data from documentary sources or archaeological excavation; however, most are likely to date to the post-medieval (1540-1750), industrial (1750-1914) or modern periods. Some might date to earlier periods, in particular the putative Bronze Age funerary cairn and a group of prehistoric/medieval stock enclosures. Despite extensive investigation of 20% of the grips and the exposed peat hag sections, no prehistoric dated flints were retrieved during the present survey.

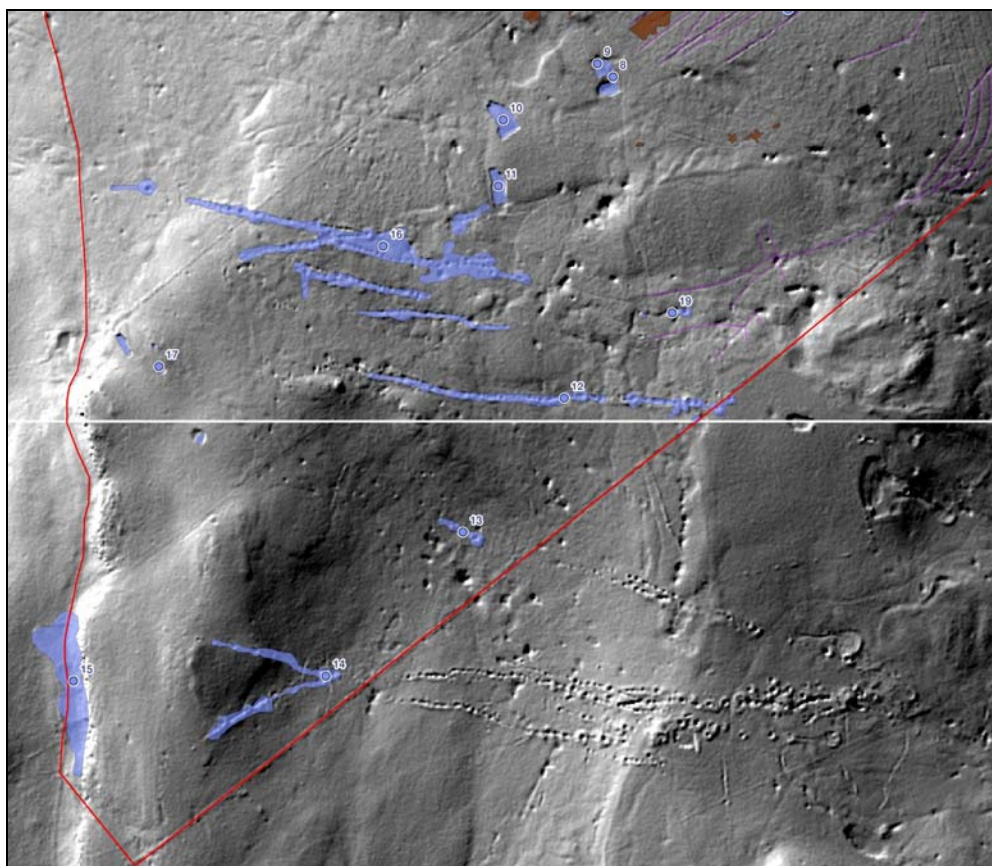
Category of Site	Number of sites	Gazetteer Number
<b>Lead mining</b>		
<i>Shaft mound/complexes</i>	8	Sites <b>3, 5, 7, 12-14, 16</b> and <b>19</b>
<b>Other extraction industries</b>		
<i>Limestone Quarry</i>	6	Sites <b>1, 2, 8, 10, 11</b> and <b>17</b>
<b>Miscellaneous land-use</b>		
<i>Wall</i>	2	Sites <b>4</b> and <b>6</b>
<i>Marker Cairn</i>	1	Site <b>9</b>
<i>Stock Enclosure</i>	1	Site <b>15</b>
<i>Funerary Cairn?</i>	1	Site <b>18</b>

Table 1: Sites of archaeological interest by category

4.2.2 **Lead Mining:** there is a concentrated area of lead mining remains, in the form of linear east/west alignments of shaft mounds located in the south of the survey area around Seeds Hill (Plate 3). The complex includes four alignments/groups with several disparate sites (Sites **12-14, 16** and **19**). These extractive features are an outlier located on the edge of much larger lead extraction areas around Green Hill Pasture and Peat Middle Pasture (Plate 4), which in turn are associated with the extensive Grassington Moor lead mines (Section 3.2.2). In the rest of the survey area there are several isolated trial shaft mounds (Sites **3, 5** and **7**; Plate 5).



*Plate 3: Linear shaft extraction near Seeds Hill (Site 16)*



*Plate 4: LiDAR data showing lead extraction in the south of the survey area and the surrounding region*



*Plate 5: An isolated trial shaft mound (Site 5)*

- 4.2.3 ***Other Extractive Industries:*** there is localised evidence for surface extraction in the form of small shallow limestone quarries in the western half of the survey area (Sites **1**, **2**, **8**, **10**, **11** and **17**: Plate 6), where the shelving limestone is covered by thin soils. The quarries are all probably post-medieval in date and will have had several key functions; firstly, for building stone for Enclosure Act field walls and nearby farm buildings. Secondly, as a raw material to be processed in limekilns to make quick lime, which was used as a way of adding nutrients to, and moderating the acidity of, agricultural fields, as well as in the production of cement and white-wash (Johnson 2002, 25-36; White 2005, 90). There is, however, no surviving earthwork evidence for any limekilns located within the survey area although the OS 1<sup>st</sup> edition mapping does depict kilns located nearby, in particular in the enclosed land at Gill House to the south.
- 4.2.4 ***Miscellaneous Land Use:*** the other five identified sites fall under the broad theme of miscellaneous land use. They consist of several boundary architecture sites in the form of one possible marker cairn located in a quarry in the centre of the survey area (Site **9**: Plate 7), and two small sections of ruinous drystone walling on the western bank of Gill House Beck (Sites **4** and **6**).



*Plate 6: Small surface quarries near the scarp edge on the western edge of the survey area (Site 17)*



*Plate 7: A possible boundary marker cairn (Site 9)*

- 4.2.5 There are two sites within the survey area that potentially pre-date the post-medieval to industrial periods. The first is an earthwork of a potential prehistoric funerary cairn located in the eastern half of the field on the north-western end of the survey area (*Site 18*; Plate 8). It is a turf-covered circular mound that measures 8m in diameter by 1m high and is located on the edge of a shallow west-facing ridgeline; it's location and size would hint at it being a funerary cairn. The cairn recorded within the HER (MYD 54392) was not identified during the present survey. Either this is a mislocated site associated with the cairn that was discovered during the



survey (*Site 18*), which was some 170m north-west of it's given position, or it relates to the boundary marker cairn in the nearby quarry (*Site 9*).



*Plate 8: The putative prehistoric funerary cairn at Kelber (Site 18)*



*Plate 9: The conjoined sheepfolds/stock enclosures on the western edge of the survey area (Site 15)*

4.2.6 The final site consists of the earthwork remains of a series of conjoined sheepfolds and/or stock enclosures nestled beneath the scarp cliff on the western edge of the survey area (*Site 15*: Plate 9). There are at least five enclosures comprising low

earthwork and limestone banks spread over an area of 130m by 35m. The stock enclosures may well be associated with the extensive potential prehistoric coaxial field-systems which spread across the limestone pleateau to the west of the present survey area (MYD 36581).

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## 5. PEAT ASSESSMENT

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### 5.1 PEAT ASSESSMENT

- 5.1.1 Very little peat exposure is recorded on Kelber Moor and there are no large exposed peat hags in the survey area. Towards the northern and central parts of the project area, where grips are evident, the flat surface area is covered in plant types usually associated with peat bog environments such as *Sphagnum* moss, *Eriophorum* (cottongrass), *Molinia* (moor grass) and *Calluna* (heather). For the most part, the grips appear shallow and were usually filled with *Sphagnum* moss. Within several grips, located west of Gill House Beck, approximately 0.50m of peat was exposed above a mineral horizon at the base of the grip (Plate 10). This homogenous humified peat unit did not contain any observable ecofacts such as tree roots or branches. This exposure represents the greatest depth of peat seen in the survey area. Towards the north-east but west of Gill House Beck, small areas (c 1-2m diameter) of eroding peat are exposed as shallow pools within the peat (photos). This erosion of peat might be as a result of animal grazing.



*Plate 10: Peat horizon exposed in a grip located west of Gill House Beck*

- 5.1.2 On the eastern side of Gill House Beck, extensive, but still shallow, areas of eroded peat are exposed. The largest area seen is approximately 30m x 50m (Plate 11). The area is punctuated by tussocks of *Molinia* and *Sphagnum*, which appear to be re-colonising the peat. The vegetation would appear to be very delicate and could be severely damaged if, for example, heavy machinery was driven across it.



*Plate 11: Bare peat exposures located east of Gill House Beck*

- 5.1.3 The depth of peat appears to be not greater than 0.50m, based on grip exposure. As such, the peat probably contains limited palaeoenvironmental information. No further work is recommended.

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## 6. DISCUSSION

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### 6.1 DISCUSSION

- 6.1.1 There is a small yet significant archaeological resource surviving within the survey area. The majority of the identified features are associated with extractive industries, of which the most complex and expansive evidence relates to lead mining. This is in the form of linear shaft mound extraction that is in turn located on the very tip of the mining field associated with Grassington Moor lead mine. There is no clear evidence for on-site ore processing within the survey area or for other infrastructure, such as working floors, structures, horse whim gin circles or meer stones. However, early mining (eg eighteenth century workings) would have had small dressing floors adjacent to the shafts, worked using a bucker (flat hammer) and knockstone to break up the ore. As such the remains would have been insubstantial and would not necessarily show up as surface evidence (M Johnson pers comm).
- 6.1.2 There is limited evidence for isolated shallow limestone quarrying in several places in the survey area. This extraction would have been for construction stone and for processing into quick lime, again for construction, and also as a soil improver that would especially be needed on the elevated moorland Enclosure Act fields at nearby farms. There was no evidence for limekilns built within the survey area itself, but the OS 1<sup>st</sup> Edition mapping depicted a handful of such structures immediately adjacent to it. The survey area remains as semi-improved moorland pasture, albeit partially enclosed with straight-sided walled Enclosure Act period fields (Plate 1). Several areas of ruinous walling, which may predate this latest phase of enclosure, were recorded on the bank of Gill House Beck north of Gill House farmstead, and a single possible boundary marker cairn (Site **09**) was identified in a shallow quarry at the centre of Kelber.
- 6.1.3 The earliest evidence for human occupation and land-use in the survey area consists of a putative funerary cairn (Site **18**) which lay on a shallow west-facing ridgeline overlooking the shelved limestone plateau. In the wider area there is an extensive co-axial field system of probable prehistoric date. A series of conjoined sheepfolds/stock enclosures (Site **15**) located just within the western edge of the survey area may have been associated with this field-system.
- 6.1.4 The peat cover across Kelber was limited in exposure and was uniformly approximately 0.5m deep. The majority of the grips were choked with sphagnum and only a few had any visibility down to the mineral soil below the peat. There were several larger areas of shallow eroded peat exposed on the most elevated shelf in the north-east corner of the survey area (east of Gill House Beck). Little mineral soil was exposed in these areas; as a consequence, despite intensive searching, no lithic artefacts were recovered from grips or exposed peat areas during the present survey. Typically, the prehistoric material would be recovered at the interface between the peats and underlying mineral soils, and the recovery of further evidence of early activity was reliant upon the examination of these horizons.
- 6.1.5 **Conclusion:** the present survey has identified a small group of archaeological features, predominantly associated with mining/extraction. Few of the identified sites are likely to be susceptible to damage as a result of works to block the

drainage grips as they are relatively robust earthwork features. Most of the identified sites were remote from the areas of grips and would therefore be have been unaffected by gripping operations. However, this is dependant upon earthworks being avoided by vehicles and machines, and these areas not being used to generate material for the infilling of grips. Sites that are under direct threat from the proposed works are the three isolated trial shaft mounds (Sites **3**, **5** and **7**) and a limestone quarry on the edge of the moorland track (Site **2**). Particular care should also be given to avoiding the putative funerary cairn (Site **18**) when tracked vehicles are crossing up onto the moor.

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## 7. BIBLIOGRAPHY

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## APPENDIX 1: PROJECT BRIEF

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Kelber, Conistone with Kilnsey, North Yorkshire

Peat Restoration and Grip Blocking Works

SE006684

### **Historic environment survey and palaeoenvironmental assessment**

YDNPA ref EYD7923

This specification has been prepared by the Yorkshire Dales National Park Authority on behalf of the Yorkshire Peat Partnership. The survey work outlined below has been developed in relation to a proposal for peat restoration works to occur during the winter months of 2013-2014. The restoration proposals involve works to small areas of bare and hagged peat, and will involve the blocking of 20<sup>th</sup> century grips using machine cut peat plugs.

The survey is funded through the Higher Level Environmental Stewardship scheme, and the area of proposed survey activity covers some 73 *hectares* of moorland. The survey is designed to provide a pre-intervention record of historic environment remains in the area, and to inform the moorland restoration process. The results will highlight where damage to historic environment features - particularly through the cutting of peat plugs, reprofiling of areas of hagged peat, or through access with tracked excavators, can be avoided. The area has been targeted for historic environment survey because it contains known archaeological sites that are not adequately represented within the current spatial HER dataset, and because there are likely to be a significant number of unrecorded remains. It is also key for the health and safety of the moorland restoration contractors that shaft mining remains within the project area are accurately located and documented.

#### 1.0 INTRODUCTION

- 1.1 The area of Kelber proposed for survey is delineated on the accompanying plan. The total area for controlled walkover survey and palaeoenvironmental assessment is 73 ha. The moorland restoration work is funded through an Environmental Stewardship Agreement (AG00353384), which is in place with the landowner. The scheme is administered by Natural England, although the moorland restoration project is being managed by the Yorkshire Peat Partnership. The project will involve a range of activities to block moorland drains (grips) and to revegetate eroding peat faces (hags) and areas of bare peat. These methods are detailed in the accompanying YPP restoration specification which is supplied with this brief.
- 1.2 The restoration of the hydrology and ecology of intact areas of blanket peat has the potential to be beneficial for historic remains and may result in the long term survival of aspects of moorland historic environment and palaeoenvironmental remains that would otherwise be lost through natural



erosion and desiccation of the peat. However, there is also the potential for machine access, the reprofiling of peat hags, and the cutting of peat plugs to either expose or damage historic environment features and deposits. The combination of marginal location, peat accumulation and lack of intense agricultural activity means that moorland areas such as Kelber contain an exceptional survival of monuments (frequently including prehistoric remains). This is certainly the case along much of the eastern flank of Wharfedale, where there are extensive field systems and settlements dating from the Bronze Age onwards. The peat itself will contain an important palaeoenvironmental record and has the potential to provide information about the environmental conditions prevailing throughout the time of deposition. Peat frequently contains buried ecofacts, typically tree remains. In the Yorkshire Dales, many areas of blanket peat have been historically worked as peat cutting grounds, and are likely to contain earthwork features associated with that activity such as cut faces, storage areas and associated trackways/sledways.

Areas of bare peat and the exposed faces of peat hags provide an opportunity to view the make up of the peat, including features such as *grenzhorizonts* and ecofacts. By revegetating areas of bare peat, a successful moorland restoration project will remove this opportunity to understand the peat and its formation with minimal intrusion across the moor. This project seeks to add to the existing understanding of the blanket peat on Kelber.

- 1.3 The HER for Kelber records a small number of features, ranging from a enclosures and a possible late prehistoric cairn to lead mining remains that are more likely to be of medieval or post medieval date. There are likely to be features not currently recorded within the HER. The peat is also relatively shallow in this area, and there is potential for lithic scatters and stray finds.

Contractors should note that for current HER records, the location of features recorded from analysis of the 1<sup>st</sup> ed OS 6" maps or oblique aerial imagery may be subject to cartographic discrepancies due to the use of different mapping projections or lack of topographic control.

It is probable that the HER represents substantial and (largely post-Medieval) features fairly well, although slight and consequently more vulnerable features are less likely to have been observed through the analysis of aerial photography. Remains from the Medieval to prehistoric periods are generally less likely to have been observed. Parts of the project area may have been formerly worked for peat cutting for domestic purposes. These areas will contain currently undocumented earthworks.

- 1.4 Potential contractors should submit a costed proposal and brief method statement which is developed from this specification. The method statement should indicate the work they would carry out to identify historic environment sites and features and to fulfil all elements of the survey outlined below. The method statement and costings, (which should clearly identify the number of people and person days proposed to be spent in survey and in subsequent reporting) should be sent both to the Yorkshire Peat Partnership and the Countryside Archaeological Adviser at the Yorkshire Dales National Park Authority.

- 1.5 The personnel involved in producing this survey will need to be proficient in surveying upland landscapes and experienced at recognising and interpreting the range of prehistoric, medieval, and industrial period features which will be visible within the survey area. Tendering contractors are required to submit the CV's of all project staff, highlighting experience relevant to this survey project.

## 2 SITE DESCRIPTION AND ACCESS

- 2.1 Kelber is a block of enclosed moorland, containing areas of limestone grassland, as well as extensive areas covered with peat and associated acidic vegetation
- 2.2 There is a single track, suitable for four wheel drive access onto the moor, much of the terrain is soft and affected by shake holes/ mine shafts and therefore not suitable for normal four wheel drive vehicles. Vehicle access may be possible subject to agreement of the landowner/farmer.
- 2.3 The project area is a working landscape and Contractors will be expected to accede to all reasonable requests regarding access restrictions by those responsible for working the landscape, in particular as regards stock management, nesting birds and shooting.
- 2.4 Prior to commencement of any recording the successful contractor is to arrange an initial meeting or site visit with the YDNPA Countryside Archaeological Advisor to discuss the project and any technical requirements.

## 3.0 ARCHAEOLOGICAL SURVEY REQUIREMENTS

- 3.1 The objectives of the proposed work are:
- To identify, locate, and provide a detailed record (**Enhanced Level 2**) of the historic environment, and to assess the significance of historic features within the outlined survey area.
  - With reference to the peat restoration specification, to indicate those remains that are vulnerable to damage through machine access, reprofiling or the cutting of peat plugs.
  - Particular attention should be paid to ensure that the aims and objectives of the project are directly informed by the methodologies employed and that the project team displays the appropriate levels of expertise to carry out the work. The Contractor, the Contractor's staff and any sub-contractors will be expected to comply with relevant Codes of Practice of the Institute for Archaeologists.
- 3.2 YDNPA HBSMR data will be supplied on request to the successful contractor. Off-site assessment should include familiarisation with this material and other relevant HER data held by the YDNPA; comprising a range of sources including oblique aerial imagery and at least two sets of vertical aerial imagery and historic mapping for the area.
- 3.3 It is expected that the on-site assessment will include:

- 3.3.1 Controlled walk over GPS survey to define and record the extent, size, and location of features across the project area. Because the resulting survey data will be utilised by the grip blocking contractor to avoid impacting on historic environment features with machines, the gps unit(s) used will need to be capable of accurately locating features to within 2-3 metres, although sub-metre accuracy is not required. The survey should be detailed enough that all significantly sized historic environment features (i.e. more than 3m in diameter) are recorded with line or polygon data. Written records of features are to be compiled using a database, with fields to be agreed to allow easy integration into the YDNPA HER.
- 3.3.2 The written descriptions are to be supplemented with a catalogued digital photographic record, covering all historic environment features, and any incidental small finds located within the project area.
- 3.3.3 Recorded features and findspots need to be considered in terms of their vulnerability to the varying moorland restoration activities outlined in the accompanying restoration specification. A simple characterisation of the remains in terms of their vulnerability to machine access (e.g. defining red/amber/green constraint areas), will enable the grip blocking contractors to know which areas can be avoided, and identify any areas that require special working methods.

#### 4.0 PEAT SURVEY REQUIREMENTS

- 4.1 All areas of exposed, hagged and bare peat are to be inspected, recording ecofacts, as well as any archaeological features, lithics or other small finds exposed. Similarly, a 20% sample of grip sections across the survey area should be inspected, recording any features, lithics or other small finds exposed within the sections. Any collection of tree remains should be confined to small samples and target remains that are a) suitably diagnostic for species identification, and b) substantial and well preserved enough to be suitable for obtaining a C14 date.
- 4.2 Any large areas of tree remains exposed in hag sections should be photographically recorded. Any individual exposed small finds of significance should be collected and appropriately stored and catalogued: where an abundance of small finds is encountered, e.g. a lithics scatter, collection beyond a small representative sample is not advised. The limits of any areas of finds concentration need to be recorded within the archaeological survey database.
- 4.3 The report should attempt to characterise the palaeoenvironmental value of the survey area, where possible, distinguishing between areas of damaged and likely intact peat sequences. The successful contractor should include any recommendations for further analysis of the palaeoenvironmental remains on Kelber, with reference to the scale and potential intrusiveness of the peat restoration works.

#### 5.0 RECORDING STANDARDS

- 5.1 The written method statement should contain details of how digital data accompanying the written report will be submitted to the HER and concorded

with existing records in the HBSMR system. An index of sites supplied in a format readable in MS Access or excel (for example .csv or .mdb), will accompany a completed OASIS record (see paragraph 5.3) and GIS/CAD data (see para 4.4). The index should record sites in accordance with the current Thesaurus of Monument Types and core fields should be those necessary for records to be compliant with MIDAS Heritage to level 1 (Basic).

- 5.2 Any drawn survey records should be presented as wet ink plots on standard 'A' size matt surface polyester film sheets, (minimum thickness 75 microns) with appropriate grid marks, height values, compass points and information panel incorporating title, drawing number, keys, credits etc. Drawing conventions should follow the guidelines set out in *Understanding landscapes: a guide to good recording practice* (English Heritage 2007).
- 5.3 Digital imagery, rather than conventional film photography, is acceptable for the photographic recording although medium resolution images between (2mb and 5mb) are required 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.
- 5.4 GIS database/ CAD files should also be presented in a format to be agreed with the Yorkshire Peat Partnership to ensure integration both with current HER records and utility for the grip blocking contractor.

## 6.0 REPORTING

### 6.1 The assessment report should include:

- i) Name of client(s)
- ii) Executive Summary
- iii) Contents list
- iv) An outline of the project and its objectives
- v) Plan(s) of the project area, showing the position of all significant historic features and including moorland grips and areas of bare/hagged peat (*the erosion and grip data has already been surveyed by the Yorkshire Peat Partnership and will be supplied in digital format to the successful contractor*), tied in to the OS grid. Grips, bare peat and any other modern features should be themed, so as to be distinct from the recorded historic environment features
- vii) Themed plan(s) in e.g. red/amber/green showing constraint areas where there is vulnerability of historic features to moorland restoration work.
- viii) A descriptive gazetteer of all identified historic environment features.
- ix) Copies of any relevant documentary material
- x) Photographic catalogue and photographs of selected features, findspots and ecofacts
- xi) A list of the archive contents
- xii) Notes and bibliography
- xiii) List and key to drawings and photographs
- xiv) Names of staff involved and the parts played by each with the dates of

- fieldwork
- xv) Assessment of significance of historic environment remains
  - xvi) An assessment of the significance of any palaeoecological remains and characterisation of the palaeoenvironmental resource, with recommendations for any specialist analysis/further identification if required.
  - xvii) Acknowledgements
- 6.2 One hard copy of an illustrated and bound A4 size report and one pdf copy should be supplied to the Yorkshire Dales National Park Authority no later than twelve weeks after the end of on-site work or such longer period as may be agreed in writing with the National Park Authority. Two further hard copies will be required, for use by the Yorkshire Peat Partnership and the landowner.
- 6.3 The Yorkshire Dales National Park Historic Environment Record is taking part in the *Online Access to Index of Archaeological Investigations* (OASIS) project. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork. The archaeological contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/>. Contractors are advised to contact the YDNPA Historic Environment Record prior to completing the form.
- 6.4 Copyright, and all other intellectual property rights, in relation to the Project will pass to the Yorkshire Dales National Park Authority on payment of the final invoice with the Yorkshire Peat Partnership and their successors in title being granted a full and unrestricted license to use the report and other material relating to the project in connection with their statutory duties. The NPA may enter the information contained within the report into an electronic database and/or place the information on a website.
- 7.0 SITE ARCHIVE
- 7.1 The long term care of the project archive should be provided for in accordance with the *Guidelines for the Preparation of Excavation Archives for Long Term Storage* (UKIC Archaeology Section 1990), the *Management of Research Projects in the Historic Environment and the MoRPHE Technical Guide 1 Digital Archiving & Digital Dissemination* (English Heritage 2006a, b). The Yorkshire Dales National Park Authority will accept the project archive as part of its Historic Environment Record.
- 8.0 METHOD STATEMENT/SCHEDULE OF WORKS
- 8.1 The method Statement/Schedule of Works should include:-
- i) Outline of proposed work programme including details of the survey methodologies, survey equipment and recording proforma etc which would be adopted.
  - ii) Date when historic environment works can commence on site.
  - iii) Maximum number of days to undertake the project, including a breakdown itemising the number of person days to be spent on the different project activities. (See 1.5).

- iv) Details of professional personnel, including any subcontractors, who will be undertaking the historic environment works. The Contractor should demonstrate, by providing CV's that the staff appointed to direct, supervise and work on this project have relevant experience and understanding of archaeological remains in a moorland context, and have the skills appropriate to undertake out remote sensing data analysis, palaeoenvironmental assessment and GPS/Walkover survey techniques to a professional standard. (See 1.6).
- v) Date by which the report would be complete.
- vi) Copy of Health and Safety Risk Assessment.

## 9.0 HEALTH AND SAFETY

- 9.1 The contractor will naturally operate with due regard for Health and Safety regulations. This work will require the preparation of a Risk Assessment of the site, in accordance with the Health and Safety at Work Regulations, prior to submission of the quotation.

## 10 GENERAL CONSIDERATIONS

- 10.1 It should be noted that this specification is based on a desk based assessment only of the project area. Contractors submitting quotations are strongly advised to carry out an inspection of the site prior to submission. Potential contractors are advised to use PROW's and permissive access routes for initial access to the moor.

## 11.0 MONITORING

- 11.1 The contractor may be subject to regular monitoring visits by the Historic Environment Staff of the Yorkshire Dales National Park Authority in their role as 'curator' of the National Park's historic environment. The Contractor should give at least seven days notice in writing or by email of the start of survey work on site to the Countryside Archaeological Adviser at Yorkshire Dales National Park Authority.

## 12.0 REFERENCES

English Heritage, 2006a, *Management of Research Projects in the Historic Environment*.

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## APPENDIX 2: PROJECT DESIGN

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### 1. INTRODUCTION

#### 1.1 CONTRACT BACKGROUND

1.1.1 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 Kelber, Conistone with Kilnsey, North Yorkshire (SD 006684). The proposed programme is in accordance with a project brief by Miles Johnson of Yorkshire Dales National Park Authority (YDNPA) and is intended to provide an assessment of the archaeological impact of a programme of grip blocking on the mossland.

#### 1.2 ARCHAEOLOGICAL BACKGROUND

1.2.1 The survey work is to inform a proposal for grip blocking works to be undertaken using machine cut peat plugs. It is intended to provide pre-intervention records of archaeological remains in the area, and highlighting where unnecessary damage to archaeological features from cutting of peat plugs and/or through access with tracked excavators can be avoided. The currently exposed sections of eroded grips provide an opportunity to gauge the palaeoenvironmental value of the peat at this location, including the recovery (and potential identification and dating) of sample ecofacts.

1.2.2 OA North undertook a major assessment of the Upland Peats in England on behalf of English Heritage (OA North 2010), which 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.

1.2.3 The Kelber survey is an elevated area of enclosed moorland, with limestone grassland, and has relatively thin peat; it is centred at SD 006884, and is 0.73km<sup>2</sup> in extent. It includes a range of prehistoric, post-medieval agricultural remains and lead working remains. As part of a Higher Level Stewardship agreement in place on the holding, a moorland restoration project is proposed. The restoration project will block a number of active grips (drains) that were cut into the peat (probably at some point between the end of the Second World War and the end of the 1970s).

#### 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 undertook surveys of moorland areas on behalf of Yorkshire Peat Partnership including Stags Fell in 2011 and 2012. 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 archaeological features;
- to establish those remains that are vulnerable to damage through machine access, reprofiling or cutting of peat plugs.
- to inspect a 20% sample of grips across the project area, recording any features, lithics or other small finds exposed within the sections. Recover a sample of ecofacts for identification and possible dating. Areas of actively eroding and hagged peat at the should also be inspected.

## 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 four elements, outline documentary study, archaeological field survey, ecological assessment and reporting.

### 3.2 OUTLINE DOCUMENTARY STUDY

- 3.2.1 Records held by the YDNPA will be accessed and incorporated into the project GIS. This will include the YDNPA HBSMR data and also an examination of aerial photographs with a view to taking copies of select examples in advance of the project. OS first edition and second edition mapping will be examined.

### 3.3 FIELD SURVEY METHODOLOGY

- 3.3.1 The survey will be undertaken as an enhanced Level 1b type survey (which is equivalent to the level 2 survey defined in the brief). The survey area is as defined in the project brief and encompasses 0.7sq km. The survey will involve four elements: Reconnaissance, Mapping, Description and Photography.
- 3.3.2 **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, be that borrow pits created by the grip blocking, the undisturbed grips, erosion scars from vehicle damage and any other peat exposures. The survey will examine all hags and bare peat for archaeological features, artefacts, and ecofacts. The survey will investigate and record all archaeological features and retrieve sample ecofacts and artefacts from a defined sample group of consisting of 20% of extant grips across the survey area and will also examine the peat hag scars and bare peat across the survey area. These will specifically examine evidence for finds or structural entities within the section and the interface between the peat and the mineral soil.
- 3.3.3 **Survey mapping:** a Satellite Global Positioning System (GPS) will be utilised to satisfy English Heritage defined Level 2 survey requirements (English Heritage 2007). Hand held GPS equipment will be used which is capable of recording metre accuracy. 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.

- 3.3.4 **Site Description and Assessment:** 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:
- 3.3.5 The description will record if it has been impacted by any of the grip blocking operations, or how close it is to any surface disturbance. It will examine if it has been exposed within peat exposures and at what depth it was revealed.
- 3.3.6 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.
- 3.3.7 **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 will be embedded in the DNG file, which will 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.
- 3.3.8 **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 photographically 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. There is an allowance for one radiocarbon date within the present proposal.

### 3.4 PROJECT ARCHIVE

- 3.4.1 **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 HER.
- 3.4.2 **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, Autocad, or shape file formats. 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.
- 3.4.3 The descriptive data will be compiled in Microsoft Access, and will be prepared in accordance with the Thesaurus of Monument Types and MIDAS heritage level 1. The database will be submitted in .mdb format. The fields will be compatible with the HBSMR system and new site numbers will be given against an allocation from the HER.

### 3.5 REPORTING

- 3.5.1 **Assessment of Archaeological Resource:** an assessment will be made of the extent, character and diversity of the archaeological resource across the extent of the survey area. It will make an assessment of the potential for buried archaeology on the basis of the observed evidence.
- 3.5.2 **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 re-wetting 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. The report will include a summary of the palaeoenvironmental character and potential of the area, comparing the extent of damaged areas of peat, with areas of peat with probable intact stratigraphic sequences. The report will make recommendations for further analysis of the palaeoenvironmental resource.
- 3.5.3 The report will include an assessment of the significance of the historic environment remains. It will include a detailed bibliography, descriptive gazetteer of historic environment features. Illustrative material will include location maps and plans.
- 3.5.4 The report will make recommendations for the management of future grip-blocking in relation to the archaeological resource, and will include recommendations for further analysis of the palaeoenvironmental remains. The report will include themed plans (red / amber / green showing constraint areas because of vulnerable archaeological and palaeoenvironmental remains).
- 3.5.6 **Output:** one bound and one pdf copy of the full report will be submitted to the Yorkshire Dales National Park Authority; further paper copies will be submitted to the Yorkshire Peat Partnership. The 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.
- 3.5.7 **Publication:** information from the project will be fed into the OASIS project (On-line Access to Index of Archaeological Investigation).

### 3.6 CONFIDENTIALITY

- 3.6.1 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 survey area for the duration of the survey, and that access will be negotiated with the land owner. Vehicular access will need to be afforded for a 4x4 vehicle on the track up to the site.

### 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***

2 days will be required for the field survey, with a team of one archaeological project officer and a palaeoenvironmental project officer.

##### **5.1.2 *Archive and Reporting***

10 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. The earliest the field survey works can be implemented will be the 7th October 2013.

### **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 Wales. 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 300sq km of upland areas in North Wales. Peter undertook the survey of the Western part of Stags Fell. With the exception of Jamie Quartermaine, he is our most experienced landscape archaeologist.

6.1.3 *Mairead Rutherford* (OA North Project Officer) would undertake the palaeoenvironmental work for the project and would undertake palynological assessment and analysis of any samples retrieved. Since joining OA North Mairead has undertaken the palynological analysis from two major archaeological sites in northern England, the Carlisle Northern Development Route and the Easington to Paull pipeline, Yorkshire. She has completed auger and palaeoenvironmental surveys of upland and lowland peat in areas of Northern England (Hyndburn, Greater Alt and the Isles, Sedgefield). She has also been involved with archaeological walkover surveys, including assessment of the upland peat, in the Yorkshire Dales, notably Stags Fell and Middleham Moor.

6.1.4 Prior to joining the staff at OA North Mairead was attached to the University of Durham's Geography Department. She was a member of the Aggregate Levy team for the Swale Ure Washlands, Yorkshire and was responsible for the pollen analysis for that project. Mairead has worked extensively both on Late Glacial and Holocene sites throughout the British Isles and worldwide. She also has experience of considerably older geological fossil assemblages having worked in the oil industry. Mairead is one

of a small, but growing, number of British palynologist with experience in identifying and interpreting fungal spore assemblages. These assemblages enhance the ecological interpretation of both natural and archaeological deposits.

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**APPENDIX 3: GAZETTEER OF SITES**


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<b>Period</b>	<b>Date Range</b>
Palaeolithic	30,000 – 10,000 BC
Mesolithic	10,000 – 4000 BC
Neolithic	4000 – 2400 BC
Bronze Age	2400 – 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	cAD 1750 – 1914
Modern	Post-1914

*Table 2: Summary of British archaeological periods and date ranges*

<b>Site Number</b>	<b>01</b>
<b>Site Name</b>	<b>Quarries, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00416 687448
<b>Site Type</b>	Quarry
<b>Period</b>	Post-medieval to Industrial Period
<b>Source</b>	Walkover Survey, LIDAR, Aerial Photo
<b>Description</b>	A line of five shallow limestone quarries located on the edge of a south-west-facing ridge. At the south-east end there is a possible shaft. Overall the area measures 91m long north-west/south-east.

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<b>Site Number</b>	<b>02</b>
<b>Site Name</b>	<b>Quarries, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00533 68636
<b>Site Type</b>	Quarry
<b>Period</b>	Post-medieval to Industrial Period
<b>Source</b>	Walkover Survey, LIDAR, Aerial Photo
<b>Description</b>	A pair of small rectangular limestone quarries located adjacent to the moorland road on the north side of Kelber. They each measure 13m by 5m and 7m by 5m and are both 1.5m deep.

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<b>Site Number</b>	<b>03</b>
<b>Site Name</b>	<b>Shaft Mounds, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00576 68727
<b>Site Type</b>	Shaft Mound
<b>Period</b>	Industrial Period
<b>Source</b>	Walkover Survey, LIDAR, Aerial Photo
<b>Description</b>	A pair of isolated shaft mounds straddling the moorland track located on the north side of Kelber. The largest is on the edge of an enclosure wall and is an oval mound measuring 11m by 8m and 1.5m high. There is a smaller circular mound immediately to the south-east that measures 4m in diameter by 1m high.

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**Site Number** 04  
**Site Name** Wall Foundation, Gill House Beck, Kelber, Conistone with Kilnsey  
**NGR** SD 00877 68804  
**Site Type** Wall/Sheep Shelter  
**Period** Post-medieval to Industrial Period  
**YDNPSMR no** MYD54394  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo  
**Description** A small stone structure sited within the bank of Gill House Beck; it was probably a washfold.  
 OA North site visit 2013: the given grid reference was mislocated. It comprises a linear wall foundation measuring 25m by 1m and 0.5m high. The site could have been a small stock shelter but may be the continuation of a boundary wall running along the west bank of Gill House Beck (see Site 6).

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**Site Number** 05  
**Site Name** Shaft Mound, Kelber, Conistone with Kilnsey  
**NGR** SD 01095 68768  
**Site Type** Shaft Mound  
**Period** Industrial Period  
**YDNPSMR no** MYD54393  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map  
**Description** Three isolated post-medieval lead mining shafts, possibly prospecting shafts.  
 OA North site visit 2013: these are in fact only two isolated shaft mounds, and Site 05 is the northernmost of the two (the other is Site 07 ). It has a large oval mound and measures 12m by 10m with the upcast up to 1m high.

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**Site Number** 06  
**Site Name** Wall Foundation, Gill House Beck, Kelber, Conistone with Kilnsey  
**NGR** SD 01071 68506 to SD 01150 68375  
**Site Type** Boundary Wall  
**Period** Post-medieval to Industrial Period  
**Source** Walkover Survey, LIDAR, Aerial Photo, Modern OS map, 1<sup>st</sup> Edition OS map  
**Description** A fragmentary south-east/north-west orientated boundary wall foundation located on the west bank of Gill House Beck. It is depicted on both the 1<sup>st</sup> Edition and modern OS mapping and overall it measures 152m long.

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**Site Number** 07  
**Site Name** Shaft Mound, Kelber, Conistone with Kilnsey  
**NGR** SD 00805 68322  
**Site Type** Shaft Mound  
**Period** Industrial Period  
**YDNPSMR no** MYD54393  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map  
**Description** Three isolated post-medieval lead mining shafts, possibly prospecting shafts.  
 OA North site visit 2013: there are in fact only two isolated shaft mounds, this is the southernmost of the two (the other example is Site 05 ). It has is a large circular mound and measures 11m in diameter with the upcast up to 1m high.

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**Site Number** 08  
**Site Name** Quarry, Kelber, Conistone with Kilnsey  
**NGR** SD 00669 68269  
**Site Type** Quarry  
**Period** Post-medieval to Industrial Period  
**Source** Walkover Survey, LIDAR, Aerial Photo

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**Description** A moderately-sized kidney-shaped limestone quarry. Overall it measures 28.5m by 14m and is over 1m deep. It contains a boundary marker cairn (Site **09**).

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**Site Number** **09**  
**Site Name** **Boundary Marker Cairn, Kelber, Conistone with Kilnsey**  
**NGR** SD 00657 68279  
**Site Type** Boundary Marker Cairn  
**Period** Post-medieval to Industrial Period  
**YDNPSMR no** MYD54392  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map  
**Description** A large prehistoric, circular cairn 6-8m in diameter, grassed over with some limestone. OA North site visit 2013: this site may be a mislocated record for Site **18**, which is located c 155m to the west-north-west. The given location, which has a cairn depicted upon the modern OS mapping, is in fact a moderately-sized limestone quarry (Site **8**). The feature may be an upcast bank on the edge of it, and there is a well-defined spoil mound or boundary marker cairn actually within the quarry. It is constructed of quarried limestone and measures 2m in diameter by 0.4m high.

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**Site Number** **10**  
**Site Name** **Quarry, Kelber, Conistone with Kilnsey**  
**NGR** SD 00583 68236  
**Site Type** Quarry  
**Period** Post-medieval to Industrial Period  
**Source** Walkover Survey, LIDAR, Aerial Photo  
**Description** A moderately-sized sub-rectangular limestone quarry. Overall it measures 29m by 17m and is over 1.5m deep.

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**Site Number** **11**  
**Site Name** **Quarry, Kelber, Conistone with Kilnsey**  
**NGR** SD 00579 68183  
**Site Type** Quarry  
**Period** Post-medieval to Industrial Period  
**Source** Walkover Survey, LIDAR, Aerial Photo  
**Description** A moderately-sized sub-rectangular limestone quarry. Overall it measures 27.5m by 11.5m and is over 1.5m deep.

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**Site Number** **12**  
**Site Name** **Shaft Mounds, Seeds Hill, Kelber, Conistone with Kilnsey**  
**NGR** SD 00476 68036 to SD 00764 68017  
**Site Type** Shaft Mound  
**Period** Industrial Period  
**YDNPSMR no** MYD43096  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map, Gill 2004, NMRS Index - 1209  
**Description** Six lines of post-medieval mine shafts, and associated mounds, with possible dressing floors adjacent, and some evidence of trenching post-dating the shafts. It was associated with HER MYD 15064.  
 OA North site visit 2013: this is the southernmost line of shafts within the group and overall it measures approximately 290m long east/west.

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**Site Number** **13**  
**Site Name** **Shaft Mounds, Heckler Rake, Kelber, Conistone with Kilnsey**  
**NGR** SD 00552 67914  
**Site Type** Shaft Mound  
**Period** Industrial Period

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<b>YDNPSMR no</b>	MYD42970
<b>Source</b>	Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map, Gill 2004, NMRS Index - 1043
<b>Description</b>	Lines of post-medieval mine shafts following a lead vein perhaps associated with MYD 42874. OA North site visit 2013: a small linear group of shaft mounds orientated west-north-west/east-south-east and located on the north side of a cluster of shake holes. One of the shaft mounds is depicted on the modern OS mapping, and overall the site measures 39m long.

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<b>Site Number</b>	<b>14</b>
<b>Site Name</b>	<b>Shaft Mounds, Green Ridge, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00445 67801
<b>Site Type</b>	Shaft Mound
<b>Period</b>	Industrial Period
<b>YDNPSMR no</b>	MYD42874
<b>Source</b>	Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map, Gill 2004, NMRS Index - 920
<b>Description</b>	Alignments (perhaps three) of post-medieval lead mining shafts worked in the late 1700s and again in 1828. These are associated with perhaps a further three alignments of shafts at MYD 42970. OA North site visit 2013: this is the westernmost line of shafts within the group (the rest are outside of the present survey area). The site forms a large V-shape with lines of shaft mounds running west-north-west/east-south-east and west-south-east/east-north-east from an eastern apex. Overall each line measures 115m and 106m long respectively.

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<b>Site Number</b>	<b>15</b>
<b>Site Name</b>	<b>Stock Enclosures, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00248 67797
<b>Site Type</b>	Stock Enclosure
<b>Period</b>	Bronze Age to Late Medieval
<b>YDNPSMR no</b>	MYD54395
<b>Source</b>	Walkover Survey, SMR, LIDAR, Aerial Photo
<b>Description</b>	A series of possible prehistoric or medieval subrectangular enclosures at the base of the limestone scar. At least five of the enclosures comprise low earthwork and limestone banks. OA North Site Visit 2013: the sites are extant and consist of low turf-covered earth and stone banks forming conjoined stock enclosures that are sheltered beneath a rocky west-facing crag. Overall the area measures a maximum of 130m by 35m.

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<b>Site Number</b>	<b>16</b>
<b>Site Name</b>	<b>Shaft Mounds, Seeds Hill, Kelber, Conistone with Kilnsey</b>
<b>NGR</b>	SD 00605 68110 to SD 00275 68182
<b>Site Type</b>	Shaft Mounds
<b>Period</b>	Industrial Period
<b>YDNPSMR no</b>	MYD15064 and MYD43096
<b>Source</b>	Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map, 1 <sup>st</sup> Edition OS map, Gill 2004, NMRS Index - 1209
<b>Description</b>	Six lines of post-medieval mine shafts, and associated mounds, with possible dressing floors adjacent, and some evidence of trenching post-dating the shafts. Associated with MYD 15064. OA North site visit 2013: This is the main central portion of the group consisting of three west-north-west/east-south-east orientated lines of shaft mounds and a single cross-cutting west-south-east/east-north-east line of shafts. Overall the areas of shafts measures 333m by 97m. Some of the shafts were depicted on both the 1 <sup>st</sup> Edition and modern OS mapping.

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**Site Number** 17  
**Site Name** Quarries, Kelber, Conistone with Kilnsey  
**NGR** SD 00314 68043  
**Site Type** Quarry  
**Period** Post-medieval to Industrial Period  
**Source** Walkover Survey, LIDAR, Aerial Photo  
**Description** A series of at least four very small and disparate limestone quarry scoops located on the western end of Kelber above the large south-west-facing crag edge. The largest quarry measures 19m by 6m and 1m deep.

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**Site Number** 18  
**Site Name** Funerary Cairn/Mound, Kelber, Conistone with Kilnsey  
**NGR** SD 00524 68361  
**Site Type** Round Cairn  
**Period** Bronze Age?  
**Source** Walkover Survey, LIDAR, Aerial Photo  
**Description** A single circular mound located in the centre of Kelber on the edge of a shallow west-facing ridgeline. It measures 8m in diameter by 1m high and is completely turf-covered. The mound is not a shaft mound but may be spoil associated with some nearby shallow ground disturbance, but it's location and size would hint at it being a funerary cairn. The site may have already been discovered, but previously have been mislocated (Site 9).

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**Site Number** 19  
**Site Name** Shaft Mounds, Seeds Hill, Kelber, Conistone with Kilnsey  
**NGR** SD 00715 68085  
**Site Type** Shaft Mound  
**Period** Industrial Period  
**YDNPSMR no** MYD43096  
**Source** Walkover Survey, SMR, LIDAR, Aerial Photo, Modern OS map, Gill 2004, NMRS Index - 1209  
**Description** Six lines of post-medieval mine shafts, and associated mounds, with possible dressing floors adjacent, and some evidence of trenching post-dating the shafts. Associated with MYD 15064.  
 OA North site visit 2013: this is the easternmost small collection of shafts within the group and overall it measures approximately 40m long east/west.

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## ILLUSTRATIONS

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### FIGURES

Figure 1: Site Location

Figure 2: Gazetteer Site Map

### PLATES

Plate 1: General topography and vegetation across the centre of Kelber

Plate 2: Ordnance Survey 1<sup>st</sup> edition map showing the study area

Plate 3: Linear shaft extraction near Seeds Hill (Site **16**)

Plate 4: LiDAR data showing lead extraction in the south of the survey area and the surrounding region

Plate 5: An isolated trial shaft mound (Site **5**)

Plate 6: Small surface quarries near the scarp edge on the western edge of the survey area (Site **17**)

Plate 7: A possible boundary marker cairn (Site **9**)

Plate 8: The putative prehistoric funerary cairn at Kelber (Site **18**)

Plate 9: The conjoined sheepfolds/stock enclosures on the western edge of the survey area (Site **15**)

Plate 10: Peat horizon exposed in a grip located west of Gill House Beck

Plate 11: Bare peat exposures located east of Gill House Beck

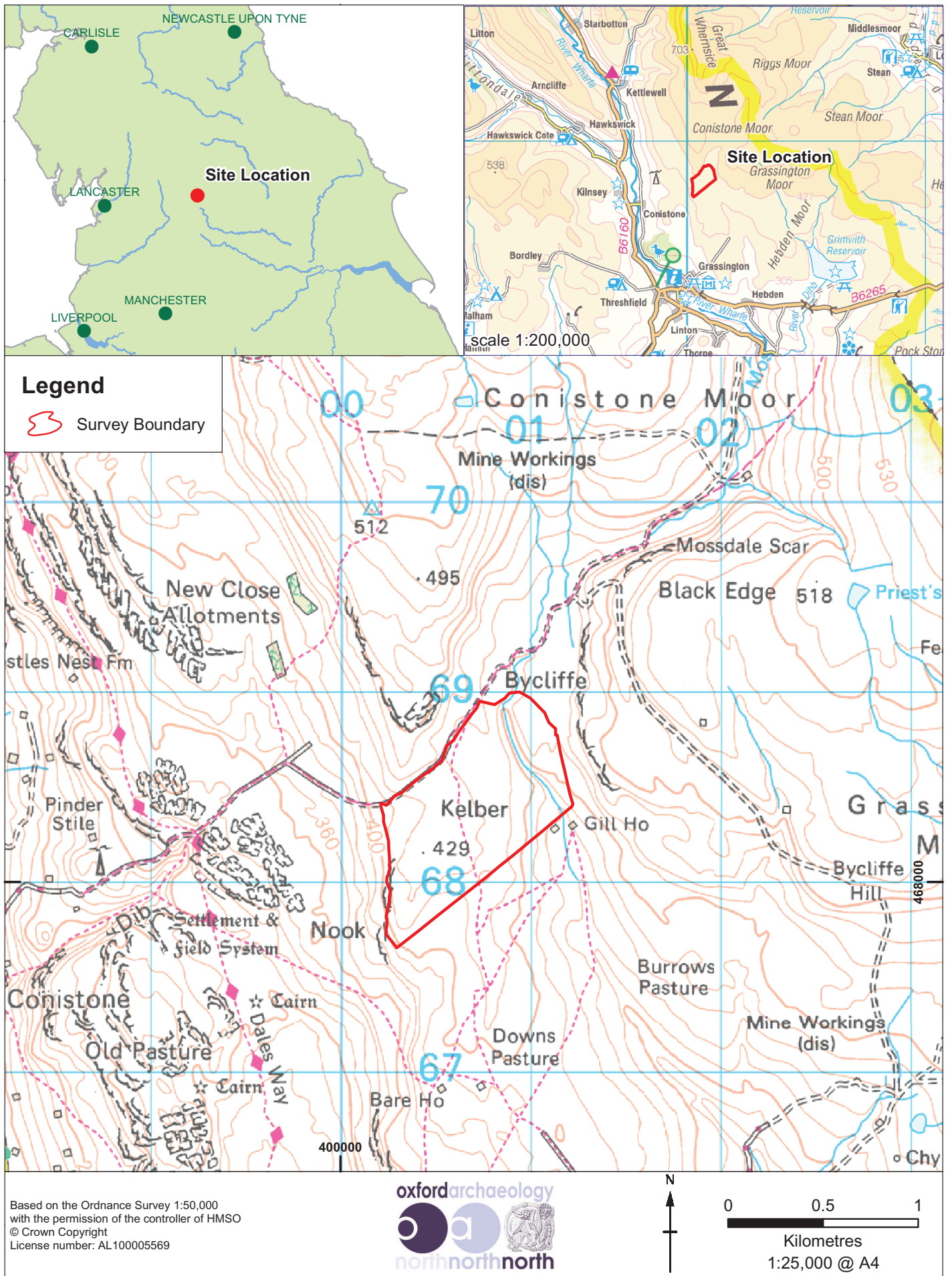


Figure 1: Site Location

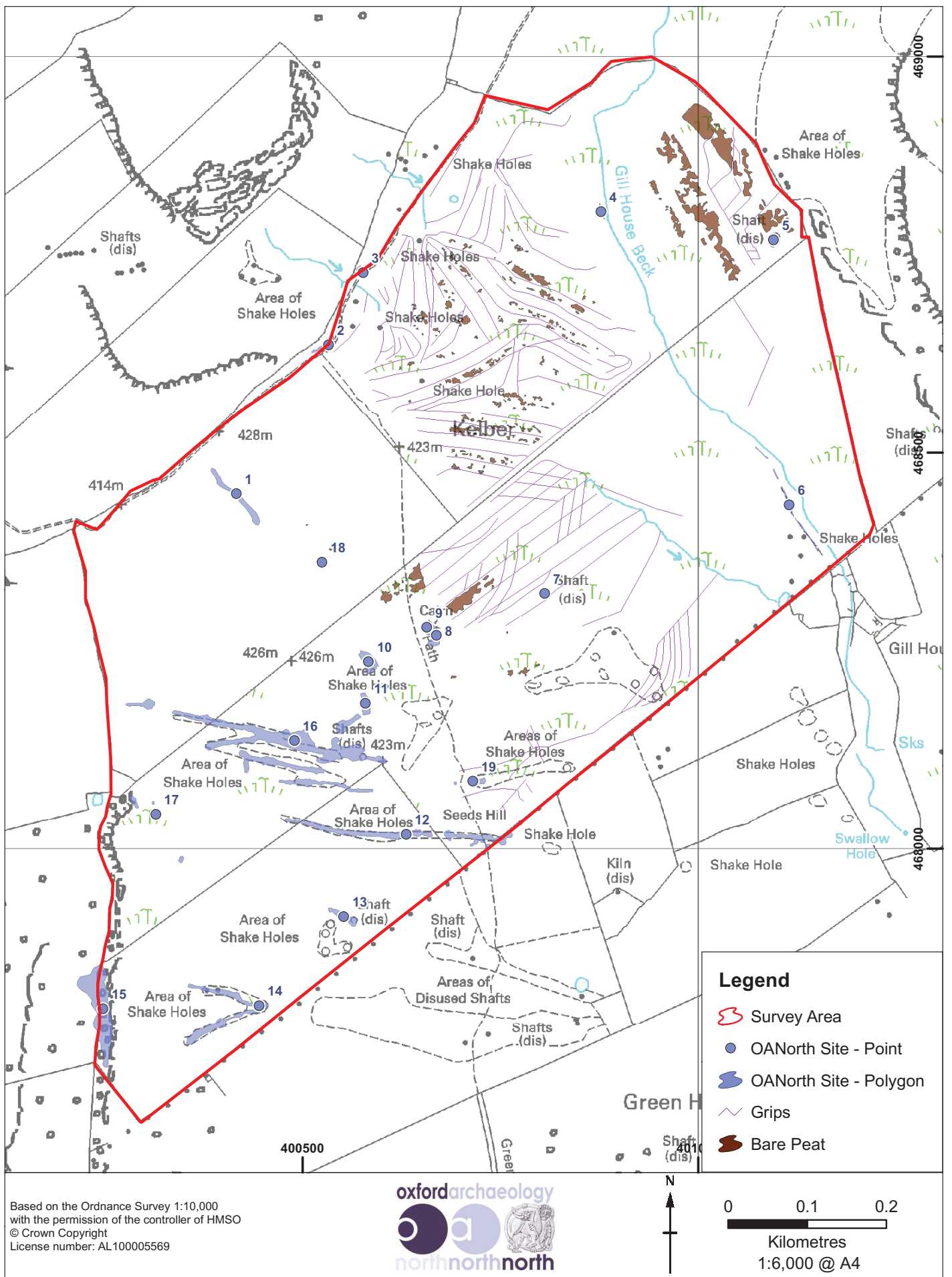


Figure 2: Gazetteer Site Map