EAST ARKENGARTHDALE ESTATE, NORTH YORKSHIRE

ARCHAEOLOGICAL SURVEY

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Quality Assurance

This report covers works as outlined in the brief for the above-named project as issued by the relevant authority, and as outlined in the agreed programme of works. Any deviation to the programme of works has been agreed by all parties. The works have been carried out according to the guidelines set out in the Institute for Archaeologists (IfA) Standards, Policy Statements and Codes of Conduct. The report has been prepared in keeping with the guidance set out by NP Archaeology Ltd on the preparation of reports.

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SUMMARY

In January 2012, NP Archaeology Ltd were commissioned by Yorkshire Peat Partnership to undertake a non-destructive rapid archaeological and palaeoenvironmental survey prior to a moorland restoration project on the East Arkengarthdale Estate, North Yorkshire (NGR NZ 000 065). The project will comprise a programme of grip blocking works, to be undertaken within the site boundary using machine cut peat plugs as well as revegetating and reprofiling areas of hag and bare peat.

The East Arkengarthdale Estate is of known archaeological importance. The survey area contains a large number of historic and prehistoric features, some of which are of national importance. There are Scheduled Monuments on the holding; the area of land around Seal Houses Low Moor contains a ring cairn and adjacent round cairn (MYD 50266); it is considered an area of high potential for further prehistoric remains, which are slight and unlikely to have been recorded through air photo analysis.

The HER records a very large number of features within the project area, mainly substantial features of largely post-medieval date. Some fairly large parts of the application area have been formerly worked as peat cutting grounds. Extensive remains of the lead industry have been recorded; there are a number of mining related leats on the East Arkengarthdale Estate, some of which may have been incorporated into later grip systems.

As a result of this archaeological potential, and in accordance with guidance given in Planning Policy Statement 5 (Planning for the Historic Environment), the Yorkshire Dales National Park Authority recommended that an archaeological landscape survey be carried out in order to augment knowledge prior to works commencing. The research and survey were required to provide a pre-intervention record of archaeological remains in the area, and to inform the grip blocking process, highlighting where unnecessary damage to archaeological features, either through the cutting of peat plugs or through access with tracked excavators, could be avoided. The HER records a variety of features within and near to the project area and the currently exposed sections of eroded grips also provided an opportunity to gauge the palaeoenvironmental value of the peat at this location, including the recovery (and potential identification and dating) of sample ecofacts.

Prior to the survey, the Yorkshire Dales Historic Environment Record (HER) was accessed. The HER includes the locations and settings of Scheduled Ancient Monuments, Listed Buildings, Conservation Areas and other, non-designated archaeological remains. In addition, a number of published sources and several relevant web sites were also consulted to provide background information.

The archaeological survey was undertaken over seven days, between the 1st and the 7th of February 2012. The survey identified 32 archaeological sites of which 22 were

already recorded in the HER. During any remediation works these features should be avoided where possible, so as to not cause any damage to them.

The palaeoenvironmental survey noted that there is much variation within this area between non-peat environments of rough grazing, or heather growth, and areas of deeply stratified peat and sphagnum communities. Areas were identified where damage to the peat is occurring most heavily, and where there is much potential for the preservation of organic archaeological remains within the peat. Based on current models this would be from the 4th millennium BC or later as it is believed blanket bog cover began to expand mainly in the mid-Holocene in the period that corresponds to the Neolithic and the Bronze Age. Assessments of the working methodologies indicate that the greatest impact is likely to be where mineral soils will be cut into during restoration works, primarily during works for grip-blocking.

The recommendations of this report will be followed by the restoration contractors, and no further work is required, though caution should be exercised so as to not damage any environmental or archaeological evidence.

ACKNOWLEDGEMENTS

NP Archaeology Ltd would like to thank Ceri Katz of the Yorkshire Peat Partnership for commissioning the project, and for all assistance throughout the work. Thanks are also extended to Miles Johnson, Countryside Archaeological Advisor, Yorkshire Dales National Park Authority, for providing the HER information at short notice and for all his help during the survey.

The archaeological and palaeoenvironmental survey was conducted by Ben Moore and Don O'Meara. The report was written by Don O'Meara and Matthew Town. The drawings were produced by Matthew Town. The project was managed by Matt Town, Project Manager for NPA. The report was edited by Martin Railton, Project Manager for NPA.

1 INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 The archaeological landscape survey and palaeoenvironmental assessment was undertaken by NP Archaeology Ltd (NPA) in response to a specification provided by the Yorkshire Dales National Park Authority (YDNPA), for a non-destructive rapid archaeological and palaeoenvironmental survey prior to peat restoration works. This report had been prepared in advance of a moorland re-wetting project; these works involve reprofiling areas of bare and hagged peat, and the blocking of 20th century grips using machine cut peat plugs. The archaeological work was undertaken with the support of the YDNPA and on behalf of the Yorkshire Peat Partnership.

1.1.2 Prior to the survey commencing, a search was made of records held by the Yorkshire Dales Historic Environment Record (HER). The purpose of the field survey was to provide core information on the location, period, condition, and type of archaeological remains present within the survey area. This consisted of the creation of a core monument record, written description, and digital photographic record, supplemented by outline mapping of the location and extent of identified features.

1.1.3 The principal objective of this assessment was to provide advice to the Yorkshire Peat Partnership in advance of the restoration works to inform the grip blocking process, highlighting where unnecessary damage to archaeological features either through the cutting of peat plugs or through access with tracked excavators can be avoided, and in order to identify and characterise areas of archaeological potential and sensitivity associated with the development area. Another key aim was to indicate the location of remains of peat that were vulnerable to damage through machine access, reprofiling of exposed hagged peat, or cutting of peat plugs.

1.1.4 This report documents archaeological features within the area which may be adversely affected by such works and a statement of their archaeological potential, while also providing data as to the condition and extent of the peat formations within the survey area.

2 METHODOLOGY

2.1 PROJECT PROPOSAL

2.1.1 NP Archaeology Ltd was commissioned by Yorkshire Peat Partnership to undertake a desk-based assessment and a non-destructive rapid archaeological and palaeoenvironmental survey of East Arkengarthdale, North Yorkshire (NGR NZ 000 065; Figure 1). A Project Proposal for the survey was produced by NP Archaeology Ltd and approved by the YDNPA (Town 2011), prior to the start of the project.

2.1.2 The proposal outlined a systematic survey of a *c.*675 hectare upland area. This area has been chosen as an area where peat restoration would be taking place, funded by the Water Frameworks Directive. The peat restoration works will be undertaken under the supervision of the Yorkshire Peat Partnership.

2.1.3 All work undertaken was consistent with the relevant standards and procedures of the Institute for Archaeologists, English Heritage Management of Research Projects in the Historic Environment (MoRPHE 2006) and generally accepted best practice.

2.2 HISTORIC ENVIRONMENT RECORD

2.2.1 The Yorkshire Dales Historic Environment Record (HER), a database of archaeological sites within the National Park, was consulted, collated and assessed. This was in order to obtain information on the location of all designated sites and areas of historic interest and any other, non-designated sites within the study area, which included monuments, findspots, Scheduled Ancient Monuments, Listed Buildings and Conservation Areas. The study area comprised the survey boundary only, and sites falling outside this area were not considered. An online search was also undertaken of records held by the Archaeology Data Service (ADS), managed by York University, and the Swaledale and Arkengarthdale Archaeology Group (www.swaag.org).

2.2.2 A brief record including grid reference and description was obtained for the various sites within the study area, and these are cross-referenced with the sites identified in *Appendix 1.* The assessment was carried out as set out in *Standard and Guidance For Archaeological Desk-Based Assessment* (IfA 2008).

2.3 ARCHAEOLOGICAL WALKOVER SURVEY

2.3.1 The objectives of the archaeological walkover survey were to:

- identify and record the nature and extent of any archaeological remains known to exist within the moorlands;
- identify and record any unknown archaeological features that may be encountered during the walkover survey;
- to recommend, in conjunction with the YDNPA, further archaeological mitigation, if necessary.

2.3.2 The field survey corresponded to an English Heritage Level 1/2 survey (English Heritage 2007). The purpose of the field survey is to provide core information on the location, period, condition, and type of archaeological remains present within the survey area. This consists of the creation of a core monument record, written description, and digital photographic record, supplemented by outline mapping of the location and extent of identified features.

2.3.3 The area was subject to a systematic walkover survey, starting just over the county boundary in Co. Durham to the north, and working systematically southwards. Visibility of features was generally good, though the survey area had been subject to snowfall, and as such more ephemeral features are unlikely to have been noted, should they have occurred. The locations and extent of features were recorded in relation to field boundaries on the field survey forms (on enclosed land), and using a Thales Mobile Mapper Handheld GPS with data recording capability. This equipment provides a position accuracy of less than 5m. An eight figure grid reference was recorded for discrete features using this method.

2.3.4 The GPS data was downloaded onto a laptop at the end of each day for initial data processing. Digital photographs were taken of upstanding features using a Nikon D40 SLR camera. Photograph numbers and shot directions were recorded on the pro-forma field record sheets.

2.4 PALAEOENVIRONMENTAL SURVEY

2.4.1 A rapid assessment of the peat deposits within the grips and in the areas of hagged peat was undertaken. Examination included the use of a hand-lens (x20 magnification) to assess the relative levels of preservation, and a hand-held auger to assess peat depths.

2.4.2 Where ecofacts were present, sampling of deposits was considered, but in the event no suitable deposits associated with ecofacts were identified.

2.5 THE ARCHIVE

2.5.1 A full professional archive has been compiled according to the Archaeological Archives Forum recommendations (Brown 2007). Copies of the report will be

sent to the Yorkshire Dales National Park Authority (YDNPA), where viewing will be available upon request.

2.5.2 NP Archaeology and the Yorkshire Dales National Park Authority supports the Online AccesS to the Index of Archaeological InvestigationS (OASIS) project. This project aims to provide an on-line index and access to the extensive and expanding body of grey literature, created as a result of developer-funded archaeological work. As a result, details of this project will be made available by NP Archaeology as a part of this national project under the unique identifier: **nparchae1-120227**.

3 LANDSCAPE CHARACTER

3.1 LOCATION

3.1.1 East Arkengarthdale is located within the exposed moorland on the eastern side of the Pennines in North Yorkshire, approximately 12 miles west of Richmond. The area also forms part of the Yorkshire Dales National Park (Countryside Commission 1998). East Arkengarthdale forms a northern tributary valley of Swaledale, oriented in a north west/south east direction, and drained by Arkle Beck. The south west facing slopes of the dale, which rise to Marrick Moor, Hurst Moor, Booze Moor and Faggergill Moor are steeply graded, while the north east facing slopes are more gently graded up to Reeth Low Moor (including Calver Hill), Reeth High Moor (and the hill of Great Pinseat) and Whaw Moor.

3.1.2 The survey boundary covers 675 hectares (Figure 1).

3.2 GEOLOGICAL CONTEXT

3.2.1 The underlying geology of the area is dominated by the Yoredale series of rocks, comprising a repeating pattern of banded rock outcrops of limestone and gritstone, forming outcrops or steep slopes, and occasional gentler slopes formed by less resistant shales (Geological Map of the British Isles 1969). The dale is particularly characterised by scars and devastation left by former mineral exploitation, and preserves a large number of remains relating to its industrial past. Legacies of the industry, from lead mining and chertz quarries (a hard flint-like stone used for pottery making), include the heaps of mine waste supporting distinctive plant communities and the maze of footpaths, established by miners to reach the mines. Although mining has played an important part in the development of the present landscape, the most significant influence has been the centuries of pastoral farming, responsible for the pattern of drystone walls, field barns and meadows in the valley bottom. It is thought that many of the present day field systems could date back to the prehistoric period, once forming part of the Iron Age landscape.

4 THE SURVEYS

4.1 INTRODUCTION

4.1.1 The results of the survey constitute both the recording of archaeological features, and information pertaining to the condition of the peat within the survey area. The archaeological results will be discussed first, and then placed in the context of the surrounding environment; a full gazetteer of sites is provided in Appendix 1, which includes photographs of the features identified. Where identified these have been cross-referenced with the HER sites from the Yorkshire Dales National Park Authority. Figures 2 and 3 shows the distribution of the sites across the survey area, and give an indication of the ground cover and environmental conditions in these areas. The ground cover and environmental conditions will be discussed fully in Section 4.3, the Palaeoenvironmental Survey.

4.2 THE ARCHAEOLOGICAL SURVEY

4.2.1 Archaeological features recorded during the walk-over survey ranged in date from the prehistoric to the 19th and 20th century, though very little definite evidence for archaeology between the prehistoric and post-medieval/modern periods was identified. Due to the ground cover and the nature of the survey, these were for the most part upstanding stone and/or earth features. No flint scatters were identified, though sections of peatland were examined intently for these.

4.2.2 Prehistoric activity is attested in the area, primarily through the presence of the Scheduled Monuments on Seal Houses Low Moor (a ring cairn and adjacent round cairn - MYD 50266). A number of potential prehistoric sites were identified during the survey. A large clearance cairn **30** was identified just east of Green Bank. This measured approximately 6m in diameter and appeared as a well defined area of stone clearance, presumably related to agricultural activity, though the period this was occurring is unclear. It lies quite close to mining activity (Site **31**) and so could be related to this. The area between this cairn and Seal Houses has been stripped with a machine to aid heather growth, potentially damaging features in this area. A ring cairn and round cairn (**28** and **29**) were identified a short distance south of the cairn, which from the descriptions in the YDNPA HER must relate to MYD 50266, though surveyed in a different location during this survey (approximately 180m south of the location given, and outside the survey boundary); it is therefore strongly advised that both locations are checked carefully. These cairns relate to Bronze Age burial practices (*c*2350BC to 1500BC), and are usually associated with single inhumations with no

barrow (White 1997). The round cairn (Site **29**) is the smaller of the two monuments, being approximately 7m in diameter and quite low, whilst the ring cairn (Site **28**) is the larger, being 10m in diameter. Both are clearly visible, though very low and could be missed if the ground conditions are poor. The surveyors felt these could equally be settlement-related, and noted a number of other potential hut circles and features in the vicinity, though these could not be seen clearly due to vegetation cover. A linear bank, Site **8**, lies immediately north-west, and may be associated.

4.2.3 A single cup-marked stone, Site **1**, was identified during the survey just west of the Fryingpan Stone, comprising two cup-marks on a single orthostat. Other possible candidates were noted adjacent, but this was the most clearly defined. Rock art is frequently positioned in areas which act as vantage points over grazing land, trails, springs and water-holes; the prominent landscape features close to which they are often located would have served as parts of a cosmological understanding of the place within which they dwelt, and would have provided markers by which they could move around the landscape (Bradley *et al* 1994; Bradley 1997). At the time of fieldwork, much of the promising moorland in the study area was obscured by a dense coverage of heather, so further stones could be present in the area.

4.2.4 Beyond the scatter of prehistoric and potential prehistoric sites identified, the general paucity of pre-medieval and medieval remains indicates a landscape which must have been fairly marginal at this time. In contrast, post-medieval activities are much more intense, and relate primarily to agricultural activity / sheep farming, the ubiquitous drystone field boundaries and remnants of agricultural structures such as sheepfolds, and lead mining, comprising mineshafts, adits or levels and spoil heaps.

4.2.5 A number of walls were identified in the area, primarily relating to the later enclosure and mining activity of the 18th and 19th century, though some could be earlier (the first parliamentary enclosures occurred in 1778, and by the 18th century, higher ground was being enclosed by a series of straight, parallel walls. The enclosures allowed big take-overs of common land by the gentry, with resulting loss of common rights for poorer farmers). Wall **3** was a short section of wall 5m in length, with no appreciable further continuation, and could be the remains of a grubbed-out field wall, or a sheep fold. A very large number of sheepfolds or bields were recorded across the survey area. Many of these appear fairly modern and of recent construction, comprising a Y-shaped or L-shaped arrangement of walling, or just a single extant stretch of wall (Sites **6, 7, 9, 18** and **23**); however, most of these appear on the 1st Edition Ordnance survey map of 1856, or on later editions, and are therefore of mid to late

19th century date. These appear to have been either deliberately constructed or are sections of drystone wall which have been retained, with the remainder removed for use elsewhere. Most of the recorded sheepfolds were circular and approximately 8m in diameter, of drystone construction and with a single entrance (Sites **2, 4, 11, 13, 16, 19, 20,** and **25**). A number of the sheepfolds were more complicated, having several cells to the enclosure, mainly related to sheep dipping and sheep shearing activity, which requires the sheep to be separated into different pens (Sites **12, 15, 21, 22,** and **26**).

4.2.6 Extensive evidence of lead mining is visible along the eastern and western edges of the survey area, at Faggergill Mine to the east, and Stang Mine to the west. The remains comprised adits, also known as levels, mine shafts (for prospection as well as for ventilation), surface dressing, spoil heaps and leats and waggonways, which cross the whole survey area; a large number of these remains are now very fragile. Early mining activity (Roman and medieval) is notoriously difficult to characterise, as it is largely undatable and often obliterated by later workings, which are much more extensive. Tentative evidence for medieval lead mining may be presented by the Fryingpan Stone (Site **33**), which bears a great deal of similarity with the Panty O'on stone, in Nidderdale - 'O'on' being an archaic dialect word for the stone ovens which it resembles. As for the Fryingpan Stone, the stone was cut from a large bedrock boulder, with a central hollow and a draining 'lip'. Various functions have been attributed to it, but it is usually held to be associated with medieval lead dressing (Raistrick 1973, 19), particularly as medieval sherds have been found at its base (Clough 1980, 63). It may have operated as a grinding stone, with water readily available to wash away gangue (unwanted minerals).

4.2.7 At Faggergill Mine, a mine level was recorded (Site **17**), and this could be disturbed by movement of machinery. Shafts were also recorded associated with the mine (Sites **14** and **24**). Two well–defined shafts were recorded on Arkengarthdale Low Moor, recorded as Site **31**. The shafts were visible as clearly defined with well-pronounced spoil collars; a third is described to the north in the HER record, but this was not seen.

4.3 PALAEOENVIRONMENTAL SURVEY

4.3.1 *Introduction:* within the survey area discontinuous areas of blanket bog were observed. However, in general three main regions were observed. To the north of the survey area, north of Hoove, towards Shelter and particularly north of the Faggergill Scar there were extensive peat deposits. To the east around Hurrgill Rigg and Shaw Side and onto Seal Houses Moor peat deposits were shallow and generally humified in nature. On

Low Moor and around Piper Knot to Kitley Hill peat deposits were practically absent, in some areas forming at most an O-Horizon slightly thicker than one would expect from a lowland environment.

4.3.2 During the course of the survey a hand auger with a 3cm bore, that could extend to a 2m depth was carried at all times to enable depth of the underlying peat to be quickly assessed, as well as understanding the underlying drift geology at the base of the peat formations.

4.3.3 Blanket bog formation is conditional on a relatively high rain fall (above 1000mm per annum) in areas where waterlogged conditions occur due to soil conditions (Mitchell and Ryan 2001, 208). These soil conditions include the formation of iron pan deposits in the subsoil. This can be caused by the leeching of minerals from the topsoil after deforestation. It is believed that many of the blanket bogs of the British Isles were formed as a result of Neolithic forest clearance, resulting in the creation of iron pan. This impermeable layer impedes drainage and allows the formation of ombrogenous vegetation communities. Insufficient biological decay of this vegetation leads to the formation of a thick, poorly decomposed organic layer, or O-horizon, which can be observed today as peat deposits. This model has been questioned for many areas however, and it is likely that local conditions may have allowed peat growth before the Neolithic (Bell and Walker 2005, 216-217). Peat represents organic material which has not been recycled in the normal manner, as on woodland, grassland etc. In the case of peat bogs this horizon can be many metres deep, as opposed to only several centimetres seen in areas with active biological decay; lowland arable grassland, woodland etc. In some areas, such as Kitley Hill, a biologically active, well drained soil leads to a relatively rapid recycling of dead vegetative remains. In areas such as Faggergill Moss, this layer is much less active biologically, leading to the formation of peat. The defining differences across this area are thus the differences between areas where the O-horizon is active and degrading, or almost inactive and leading to peat formation. The purpose of this section is to assess these differences.

4.3.4 For the purposes of this study the survey has been divided into 12 areas, corresponding to landscape characters as defined by the environmental archaeologist during the survey. These areas vary in size and divisions are based on generalised characteristics such as aspect, vegetation cover, peat depth and land-use. Details of these divisions can be found on Figures 2 and 3. Rush communities referred to below included stands of *Juncus effuses*, while areas of moorgrass, particularly to the east and central portion of the area included dense *Molinia* communities.

4.4 ENVIRONMENTAL AREAS

4.4.1 *Area 1:* this area of rough grazing grassland lies at the north-eastern edge of the survey. It runs from the west of the road at Stang Top, bordered by an area of commercial forest land to the north and over to the drains described for Area 2, and south towards Area 7. It lies generally below the 530m contour line. The vegetation is dominated by grasses with some sphagnum growth. Rush growth occurs in pockets where drainage channels are located. To the east of Hurr Gill Rig, peat was cored to a depth of 0.8m (Peat 1). North-east of this (Peat 2) a grassy peat (rather than a mossy/sphagnum peat) up to 2m was noted in an area of heavily eroding peat, as well areas of peat hagging.

Plate 1: Peat hagging, Area 1

4.4.2 Some peat cutting was observed in this area though it was quite limited in extent. A core reached a depth of 0.3m within the cutting. The surrounding ground surface was cored to 0.9m of peat. On the slopes of this area peat was cored to 0.25m, the lower 5cm of which was not humified. An area of drain convergence (Peat 3) showed peat to 0.5m depth, with a further 0.5m of mineral soil exposed. A stable grip system marks Rowntree Gill but the peat becomes consistently shallower on the upslope towards the road.

Plate 2: Peat cutting, Area 1

4.4.3 *Area 2:* this is an area of heavy peat and soil erosion caused by the expansion of a number of drainage channels which drain from the eastern slopes of Hoove Hill north-east towards County Durham. This drainage is a combination of well maintained grips and heavily eroding drains. At Peat 4 a good example of a well maintained grip was recorded. This 1m wide x 1m deep drain appears to be quite stable compared to the larger drains it flows into, i.e. that at Peat 5.

Plate 3: Large drain, Area 2

4.4.4 Peat 5 is an example of the type of erosion where a grip appears to have developed into a deeply eroding channel. Here erosion is up to 1.5m deep, mainly though a mineral soil. The peat is heavily humified and a maximum of 0.4m deep, and heavily hagged in places. Within 0.1m of the interface with the mineral substrate the peat becomes quite woody. As these fragments were sticking out of a heavily humified and eroding face in a relatively thin section of peat a decision was made not to sample this material as it is not suitable for radiocarbon dating (due to the nature of the disturbed context rather than a problem with the material itself). Again, the peat here is of a grass rather than sphagnum nature. Peat 6 is a similarly deep drain to that seen in Peat 5, though the peat here is up to 2m deep. This area marks a transition from Area 2 to Area 3; the difference being the transition from a grass dominated vegetation to a heather dominated vegetation. Other drains which feed into this area include moderately deep drains, as at Peat 8, or extensive drains up to 3m deep and 5-6m wide, as was seen at Peat 9. The peat at Peat 9 was very fibrous and consistent throughout it depth, *c*.2.5-3m in places. The peat here has eroded down to the mineral substrate and a number of large boulders have been exposed by erosion.

Plate 4: Humified peat (Peat 5), Area 2

4.4.5 *Area 3:* this relatively flat area lies to the north-east of Hoove within the site boundary between the forestry plantation and Kettle Stone. It is drained by an organised system of grips. These grips are in a good state of repair, but the drain they feed into, the Black Gutter, displays levels of uneven erosion with areas of hagged peat along its length.

Plate 5: The Black Gutter, Area 3

4.4.6 *Area 4:* the area around Shelter Hill is similar to Areas 2 and 3, though the change in aspect and altitude marks the change between these areas. The peat here is heavily eroded in some areas and an estimate of a total depth of 3m for the peat here was deduced by taking cores from the lowest parts of drains. Drains here are quite wide, being in places up to 20m wide, as seen for Peat 10. This is likely to be due to the topography which is less steep then in Areas 2 and 3. The gentler slope may facilitate horizontal erosion to create wide drains in these areas. The exposure of the mineral soil suggested at the time that the peat may become shallower towards the south-west, lying over a stony clay substrate.

Plate 6: Shelter Hill, facing north-west, Area 4

4.4.7 *Area 5*: Area 5 contains some of the deepest peat in the survey, as well as the largest drainage channels. These included the drain at Peat 11 which was *c.*4m wide and *c.*1m deep onto a mineral substrate. The drains which feed into East Wike are extensive in places and cut deeply into the peat deposits. The northern slopes of Hoove are ringed by four well preserved grips/leats which drain to the west. They follow the contours of the slopes closely in a manner which suggests their purpose is to transport water, rather than merely drain it from the hillside. In this context it would appear they are leats rather than grips. Due to their close following of the slope contours which makes their drainage quite slow and consistent they have not become as deeply entrenched as the drains further down-slope.

Plate 7: Convergence of drains, Peat 11, Area 5

4.4.8 *Area 6:* Area 6 comprises the upper slopes of Hoove, as far as Hoove Head and the areas around Hurr Gill. This area is heather dominated, though gives way to more grassy vegetation further down slope. A number of well cut grips drain into Hurr Gill and peat erosion/hagging is more pronounced near to the deep Hurr Gill drain, with hagging being noted as quite extensive near some of the grouse butts. Peat was recorded as being *c.*0.5m on the south-eastern slopes of Hoove and humified throughout its profile as at Peat 12. Moor grass again dominates on this slope with spare, localised heather cover.

Plate 8: Black Sike from Faggergill Scar, facing east, Area 5

4.4.9 *Area 7:* Area 7 is a catchall area of varying topography and vegetation cover, but is united by the mining remains including Hurr Gill, mine waste tips, shafts and structures between Shaw Farm and Stang House. Little peat remains are found here, though there are moderately deep deposits to the west and east of the Hurr Gill. The vegetation to the south of this area is mainly grass and bracken.

Plate 9: Drains feeding Hurgill Head, Area 6

4.4.10 *Area 8:* Area 8 is disunited by the absence of Shaw Farm in this survey, which cuts through the midpoint of this area. Its eastern extent is the deep eroded stream at Hurr Gill. This area is characterised by grass vegetation, with some rush communities and a shallow, humified peat. The topography becomes more even and flat towards its western extent.

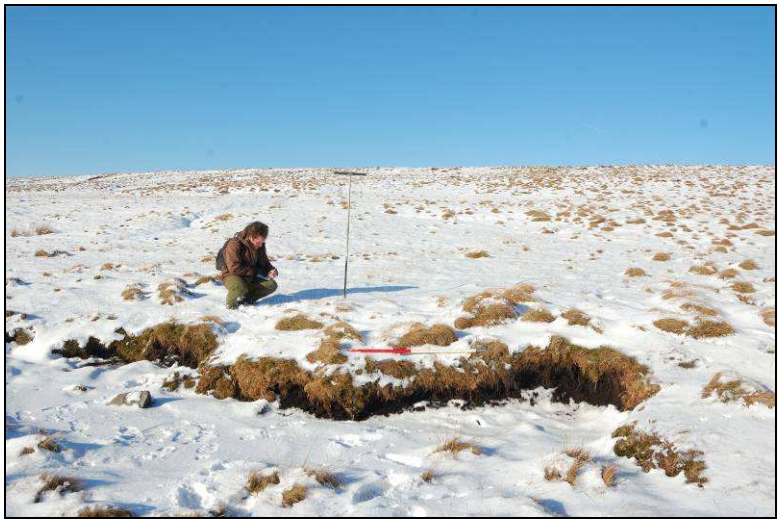

Plate 10: Peat 12, Area 6

4.4.11 *Area 9:* Area 9 lies at the southern boundary of the site and includes Low Moor to the west and Kitley Hill to the west. Peat formation here is almost absent with a rocky substrate very close to the surface, particularly on Low Moor, where the vegetation is dominated by a grass and bracken environment. Closer to Kitley Hill and the southern fringes of Seal Houses Moor a more developed mineral soil with close cropped sheep grazing land with occasional dense stands of rushes are noted.

4.4.12 *Area 10:* this is a relatively broad area, mainly characterised by a lack of substantial peat deposits. To the west around Smithson Holes Green the land is given over to rough grazing with the ground being relatively well drains and grass communities dominating much of the vegetation. Further to the east around Hart Holes the slope has a number of grips/leats which follow the natural contours to drain into Hurr Gill. To the north under Greystones Edge the hill has a somewhat terraced appearance with a number of flat areas separated by steeper slopes. This northern section has a number of mining influences, including mine shafts, which distinguishes it somewhat from the rest of Area 10, however they are united by the relatively absence of thick peat deposits (i.e. deposits over 0.5m thick), and by a fairly even sloped aspect over the area.

Plate 11: Looking north towards Faggergill Scar, Area 11

4.4.13 *Area 11:* Area 11, like Area 7 is united by the remains of lead mining activity. The area is steep sloped to the east, rising sharply, before giving way to the terrace like topography of Area 10. It is bordered to the north by Faggergill Scar and Carkin Bank. Mine shafts are frequent, as well as large spoil heaps and a number of mining adits, particularly around The Howl. Sheepfolds/sheep-shelters are also common, with a number of different types recorded under Faggergill Scar. Near its western boundary a track runs much of the way up the valley. The area has little peat and is dominated by rocky spoil and grass communities, with some localised rush and bracken. However, the sites here are liable to the damaged should the track be used as an access point. In particular a number of adits run under the track and are already showing signs of collapse.

4.4.14 *Area 12:* Area 12 is the area north of Faggergill Scar, west of Shelter Hill and south of the County Durham border. It is the area of most consistent peat in the survey area, being cut by a number of evenly-cut grips. The vegetation cover is dominated by dense heather interspersed amongst broader areas of moorgrass. There is clear evidence of management of this landscape for heather. At point Peat 15 the grassy peat is up to 2m deep. Towards the east of this area a deep area of eroded and hagged peat was noted at point Peat 16. Also at this point the area to the east is grass dominated, while it is heather dominated to the west. At Peat 17 at the interface between Areas 12 and 5 the peat is c.70cm deep, and humified throughout. Erosion here is quite deep with the stream cutting though the peat, and c.0.8m though what seems to be glacial clay till.

Plate 12: deep erosion, Area 12

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

5.1.1 The analysis of the datasets provided by the archaeological walkover survey and the survey of the environmental deposits on the estate allows some conclusions to be drawn regarding areas around which care should be taken when undertaking the restoration works. Previous archaeological walkover surveys undertaken on behalf of the Yorkshire Peat Partnership indicate that the greatest impact from the works on the archaeological and palaeoenvironmental remains, where these potentially exist, is likely to be as a result of the works being undertaken on the grips and drains which involve deeper excavation. Re-profiling of grips and drains refers to the movement of the peat, often by using the bucket of the digger to batter down the sides of grips/drains, while not digging into it. The digging of plugs/dams involves digging out sections of the peat and is more likely to impact on the mineral substratum than re-profiling.

5.1.2 There is much potential for the preservation of organic archaeological remains within the peat, though based on current models this would be from the 4th millennium BC or later as it is believed blanket bog cover began to expand mainly in the mid-Holocene in the period that corresponds to the Neolithic and the Bronze Age. However, Mesolithic ground surfaces may survive and may be exposed where peat restoration occurs in some of the areas where mineral soils will be cut into during restoration. No ecofacts or archaeological horizons were identified during the palaeoenvironmental survey, though the potential for peat deposits to seal important archaeological information remains a possibility in view of the depth of deposits; caution should therefore be exercised during any restoration works on the site.

5.1.3 There is much variation within this area between non-peat environments of and areas of deeply stratified peat and sphagnum communities. In general the south is dominated by rough grazing land and the north is progressively more influenced by peat deposits. This is due to patterns of drainage, both natural and artificial, aspect and agricultural regimes ranging from upland grazing to heather management. There is potential for archaeological remains to occur anywhere on the moor, though specifically there are only some areas which may be adversely affected directly by the digging of peat plugs for grip blocking and peat restoration.

5.1.4 The risk to archaeological monuments is dependant on the scheme of works to be undertaken by the Yorkshire Peat Partnership and their

contractors and thus any archaeological mitigation is dependent on a response to the plans of these parties.

5.2 RECOMMENDATIONS

5.2.1 Damage to archaeological material may occur when machines are tracking to and from the areas marked for restoration. In these cases reference should be made to the archaeological sites which have been recorded in this report, and these should be avoided by contractors. It should be remembered that some stone structures may be obscured by heather growth. Damage to the mining heritage of the area is likely if contractors are not mindful to its presence. In particular it has been noted that the use of the track which runs from High Faggergill to Faggergill Scar will involve driving over a number of already weak mining adits. This may present a risk to the archaeological heritage, as well as a health and safety risk unless care is taken at these points. Other points of risk are as follows:

5.2.2 *Area 1:* relatively shallow peat, re-profiling should not present a risk, peat may be deep enough for dam/plug creation to also have little impact on the mineral substratum; though areas such as around Peat 2 may have an impact as there are some locally shallow areas.

5.2.3 *Area 2:* heavy erosion, as well as shallow peat; less than 0.5m in many areas here. Re-profiling may impact if mineral will be disturbed. Digging of plugs may also impact as the mineral is quite shallow and very humified. The methodology for this area should be discussed with the client and the contractor.

5.2.4 *Area 3:* re-profiling should have little impact if undertaken on the grips. Likewise, digging of plugs should have little impact on the mineral substratum. Plug digging for the main drain into which all the grips feed may have an impact, however as it is close to the mineral substratum in several areas.

5.2.5 *Area 4:* peat deposits are extensive, though locally shallow in places. Re-profiling should have little impact though the digging of plugs may damage the substratum in some of the more deeply eroded drains. Care should be taken in this area as prehistoric rock art was identified during the walkover survey.

5.2.6 *Area 5:* re-profiling to the east should have little impact, particularly along the leats which run east-west along the hillside. The interface between Areas 12 and 5 may disturb the substratum depending on the methodology employed as the mineral soil is quite shallow here in places.

5.2.7 *Area 6:* grips and leats are very frequent here, but re-profiling shouldn't have much of an impact, though the peat becomes quite shallow on the southern slopes of Hoove and plug construction may have an impact as the peat here is much humified.

5.2.8 *Area 7:* it is unlikely peat restoration will take place here, though work around Hurr Gill should be mindful of the mining remains within this area.

5.2.9 *Area 8:* re-profiling should not have too much of an impact but dam/plug digging is very likely to hit the mineral substratum due to the shallow, humified nature of the peat deposits. Mining remains were recorded so car should be taken in this area.

5.2.10 *Area 9:* it is unlikely peatland restoration will be undertaken in this stony area. There are a large number of prehistoric monuments in this area, including Scheduled Monuments.

5.2.11 *Area 10:* this area is quite variable, though peat is shallow throughout. Grips to the eastern end of this site are ideal for re-profiling, though plug/dam construction may damage the substratum depending on the methodology employed. To the western side of this area it is possible ground breaking activity may encounter mining remains.

5.2.12 *Area 11:* as with Area 7 it is unlikely peatland restoration will be attempted here, though work should be mindful of the presence of industrial remains.

5.2.13 *Area 12:* the greatest danger to this area is along the interface with Area 5. Peat is quite deep towards the centre of Faggergill Moss and thus re-profiling/plug construction should have little impact on the mineral soil.

6 BIBLIOGRAPHY

Bell, M and Walker, M, 2005, *Late Quaternary Environmental Change: Physical and Human Perspectives,* Prentice Hall, Second Edition

Bradley, R, 1997, *Rock Art and the Prehistory of Atlantic Europe*, London

Bradley, R, Criado Boado, F, and Fabregas Valcarce, R, 1994, *Rock Art Research as Landscape Archaeology*, World Archaeology, **25**

Brown, D.H, 2007, *Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation,* Archaeological Archives Forum

Clough, R.T, 1980, *Lead Smelting Mills of the Yorkshire Dales and Northern Pennines*, publ. privately

Countryside Commission, 1998, *Countryside Character Yorkshire and Humber - The Character of England's Natural and Man-Made Landscape,* Cheltenham

DCLG, 2010, *Planning Policy Statement 5: Planning for the Historic Environment. Communities and Local Government 2010*

English Heritage, 2007, *Understanding the Archaeology of Landscapes: A Guide to Good Recording Practice,* English Heritage

IfA, 2008, *Standard and Guidance for Archaeological Desk-Based Assessment,* Institute for Archaeologists: Reading

Mitchell, F., and Ryan, M, 2001, *Reading the Irish Landscape*, Town House, Dublin

Raistrick, A, 1973, *Lead Mining in the Pennines: the mines of Nidderdale, Wharfedale, Airedale, Ribblesdale and Bowland,* London

Town, M, 2012, *East Arkengarthdale Estate, North Yorkshire: Archaeological Survey Project Proposal,* NP Archaeology Ltd, Unpublished Document

White, R, 1997, *The Yorkshire Dales: Landscapes Through Time*, London

APPENDIX 1: GAZETTEER OF SURVEYED SITES

NPA Number 1

Site Name -

Site Type Monument

Site Term ROCK CARVING

Period Prehistoric (-500000~42)

NGR NZ0015707890

Altitude mAOD **460m**

MYD Number -

Summary Two carvings in rock which may be prehistoric cup marks. One is 10cm in diameter, the other 5cm. They are around 3cm deep.

Archaeological notes Other indentations in a nearby stone may be carved or the result of natural erosion. Could possibly be enhanced natural features or carvings that have weathered over time.

Plate 13: Cup-marked stone 1

NPA Number	2
Site Name	**Sheepfold at Hart Holes**
Site Type	Monument
Site Term	SHEEPFOLD
Period	Post Medieval (1540-1900)
NGR	NZ0082606401
Altitude mAOD	**478**
MYD Number	**MYD54455**
Summary	Circular Sheep Fold, 8.5m in diameter with walls 1.5m high. Entrance to the East.
Archaeological notes	Well built sheep fold with no signs of degradation or damage. The walls are built slightly wider at the base which may explain its good condition and aid in the future survival of the structure.

Plate 14: Sheepfold 2, facing north-west

NPA Number	3
Site Name	-
Site Type	Monument
Site Term	WALL
Period	Unknown
NGR	NZ0081106625
Altitude mAOD	509
MYD Number	-
Summary	NE - SW running section of dry stone wall. 5 metres in length and surviving to a height of 0.5m in a maximum of three courses.
Archaeological notes	No obvious function and nothing to indicate a date. The lack of vegetation cover suggests it is a modern construction.

Plate 15: Wall 3, facing north-west

NPA Number	4
Site Name	**Sheepfold on Faggergill Moor**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9964207131
Altitude mAOD	**505**
MYD Number	**MYD21106**
Summary	Circular dry stone sheep fold. 8 metres in diameter, with walls 1.2 metres high and 0.6m wide. Entrance to the South.
Archaeological notes	Around 20% of the wall is in disrepair.

Plate 16: Sheepfold 4, facing north-west

NPA Number	5
Site Name	**-**
Site Type	Monument
Site Term	SPOIL HEAP
Period	Post Medieval (1540-1900)
NGR	NY9943906944
Altitude mAOD	**490**
MYD Number	**-**
Summary	A mound of earth and rock under Greystones Edge. Up to 3m in height, 40 metres north to south and 10 metres wide.
Archaeological notes	This does not seem to be a natural feature. An auger depth showed rock immediately below the surface. An auger of the ground surrounding it showed peat to a depth of 1 metre. It is likely that this is a spoil heap associated with nearby lead mining activity.

Plate 17: Possible mining feature 5, facing north

NPA Number	6
Site Name	**-**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NZ 99183 04512
Altitude mAOD	**382**
MYD Number	**-**
Summary	Three-cornered sheep shelter comprising three stone walls meeting at a central point with a 120 degree angle between them.
Archaeological notes	On a south-west facing slope, the south-west and north facing walls are quite substantial but the east-facing wall is only 0.4m high. A large natural boulder has been incorporated into the north wall. A Linear Feature 8 runs past the shelter to the south-west.

Plate 18: Y-shaped sheep shelter 6, facing south-west

NPA Number	7
Site Name	-
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9926504414
Altitude mAOD	373
MYD Number	-
Summary	Single dry stone wall, 15 metres in length, 1.7 metres in height and 1 metre wide. Runs NW - SE.
Archaeological notes	Well built wall, narrowing towards the top. Assumed to be a windbreak / shelter for livestock of relatively recent construction.

Plate 19: Sheep shelter 7, facing north-east

NPA Number	8
Site Name	**Linear Boundary**
Site Type	Monument
Site Term	BOUNDARY
Period	Prehistoric (-500000~42)
NGR	NY9942004419
Altitude mAOD	**384**
MYD Number	**MYD46101**
Summary	E - W linear constructed of rough piles of stones, following the contour of the hill. It runs for a length of 350 metres, is a maximum of 0.3 metres in height and roughly 0.7 metres wide.
Archaeological notes	Does not seem to be constructed in courses and is partially obscured by vegetation. It does not follow the course of modern field boundaries. For these reasons and its close proximity to enclosure (NPA 28) and hut circle (NPA 29) it is thought to be a prehistoric feature.

Plate 20: Prehistoric bank 8, facing north-west

NPA Number	9
Site Name	**-**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9913404544
Altitude mAOD	**385**
MYD Number	**-**
Summary	A low L-shaped section of dry stone wall with up to 3 courses and a height of 0.4 metres. Runs from East to West before dog legging South. It is 4 metres long.
Archaeological notes	Very roughly made. Probably a sheep shelter.

Plate 21: Wall 9, facing north

NPA Number	10
Site Name	**Hut Circle on Arkengarthdale Low Moor**
Site Type	Monument
Site Term	HUT CIRCLE
Period	Prehistoric (-500000~42)
NGR	NY9916504722
Altitude mAOD	**405**
MYD Number	**MYD46100**
Summary	A circular area of stones around 7 metres in diameter.
Archaeological notes	Most stones are around the edge of the area with some in the centre which may indicate collapse or possibly internal divisions or features. However, these may have been placed in the area at a later date. The area is relatively flat. There is a possible entrance to the north-east.

Plate 22: Hut circle 10, facing north

NPA Number	11
Site Name	**Sheepfold on Arkengarthdale Low Moor**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9933004816
Altitude mAOD	**421**
MYD Number	**MYD21380**
Summary	Circular sheep fold around 8 metres in diameter with dry stone walls 1.7 metres high and 0.7 metres wide. Entrance to the south-east.
Archaeological notes	50% of the walls are in a state of disrepair. Built in a similar style to others in the area. Built from angular blocks of stone with the base of the wall being slightly wider than the middle and top. As with almost all the sheep folds in this area, an animal trap has been set on a beam / lintel above the entrance.

Plate 23: Sheepfold 11, facing north-west

NPA Number	12
Site Name	**-**
Site Type	Monument
Site Term	SHEEPFOLD
Period	Post Medieval (1540-1900)
NGR	NY9935904977
Altitude mAOD	**429**
MYD Number	**-**
Summary	Curvilinear section of dry stone wall around 25 metres long, 1.2 metres high and 0.7 metres wide. Marked on the current OS 1:25000 map.
Archaeological notes	A wind break / shelter for sheep in moderately good condition.

Plate 24: Sheep shelter 12, facing north-west

NPA Number	13
Site Name	**Sheepfold at Piper Knot**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9881205563
Altitude mAOD	**417**
MYD Number	**MYD21101**
Summary	Circular dry stone sheep fold around 8 metres in diameter. Walls 1.2m in height. Entrance to the south-west.
Archaeological notes	Around 30% of the walls are in a state of disrepair.

Plate 25: Sheepfold 13, facing west

NPA Number	14
Site Name	**-**
Site Type	Monument
Site Term	SPOIL HEAP
Period	Post Medieval (1540-1900)
NGR	NY9888405616
Altitude mAOD	**432**
MYD Number	**-**
Summary	Mound of earth around 6 metres in diameter, a maximum of 0.5 metres in height and with a 0.4 metre dip to the south.
Archaeological notes	No obvious shaft and not the shape of a spoil collar but likely to be a spoil heap related to mining in the area.

Plate 26: Possible shaft 14, facing north-east

NPA Number	15
Site Name	**Sheepfold above High Faggergill**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9898806143
Altitude mAOD	**425**
MYD Number	**MYD21096**
Summary	A "snail shell" form sheep fold. 12 metres N-S and 7 metres E-W. Entrances to the east and south. Walls are 1.7 metres high and 0.7 metres wide.
Archaeological notes	A more complex arrangement than most sheep folds in the area, perhaps enabling the coralling of livestock. May suggest a different date than others recorded in the survey.

Plate 27: Sheepfold 15, facing north-east

NPA Number	16
Site Name	**-**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9858806861
Altitude mAOD	**412**
MYD Number	**-**
Summary	Circular dry stone sheep fold, 8 metres in diameter. Walls are 1.2 metres in height and 0.8 metres wide. Entrance to the south.
Archaeological notes	Sheep fold 40 metres west of large spoil heaps. Around 10% of the walls are in disrepair. Construction pattern is the same as others surveyed in the area. Interior of the fold is dominated by nettles suggesting a high nitrate content due to sheep derived manure. May suggest that it is still in use.

Plate 28: Sheepfold 16, facing north-east

NPA Number	17
Site Name	**-**
Site Type	Monument
Site Term	ADIT
Period	Post Medieval (1540-1900)
NGR	NY9894807098
Altitude mAOD	**417**
MYD Number	**MYD21089 (part of)**
Summary	Stone arched, dry stone built mine level, partially collapsed. 1.8 metres in height, 1.5 metres wide and at least 30 metres deep.
Archaeological notes	Enters hillside from the east and travels under a main trackway where some more collapse is evident. A sheet of corrugated iron covers the hole.

Plate 29: Mine level 17, Faggergill Mine, facing east

NPA Number	18
Site Name	**Bield at The Howl**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9912107242
Altitude mAOD	**436**
MYD Number	**MYD54424**
Summary	Curvilinear dry stone wall, around 30 metres in length. Wall is a maximum of 1.2 metres in height and 0.5 metres wide.
Archaeological notes	50% of the wall is in a poor state of repair and is less than 1 metre high. A large sink hole has opened at the eastern end of the feature and caused some collapse.

Plate 30: Bield 18, facing south

NPA Number	19
Site Name	**Sheep Fold**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9922307210
Altitude mAOD	**446**
MYD Number	**MYD21107**
Summary	Well built sub-circular dry stone sheep fold. 8 metres in diameter. Walls 1.2 metres in height and 0.6 metres wide. Entrance to south.
Archaeological notes	Slightly irregular in plan, probably due to the uneven ground on which it was built.

Plate 31: Sheepfold 19, facing north

NPA Number	20
Site Name	**Circular Sheepfold, Blacksike Foot**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9929207621
Altitude mAOD	**457**
MYD Number	**MYD54423**
Summary	Circular dry stone sheep fold, around 8 metres in diameter, walls 1.5 metres in height and 0.6 metres wide. Entrance to the south.
Archaeological notes	Well built sheep fold in almost perfect condition. Walls are slighly higher than others recorded in the area. It seems as if it has been hightened at one point, with 20 - 30cm having been added to the entire wall. Damaged slightly around the entranceway. This means that the techniques used in its construction can be seen. The wall is built up to half its height of large blocks, then two parallel walls are built between which loose small stones are packed. These are in turn capped by large stones that jut out slightly. A further 20-30cm has then been added above this.

Plate 32: Sheepfold 20, facing north

NPA Number	21
Site Name	**Bield below Faggergill Scar**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9916907754
Altitude mAOD	**466**
MYD Number	**MYD21114**
Summary	Semi-circular section of dry stone wall, 17 metres in length, around 1 metre in height and 0.6m wide.
Archaeological notes	Well built sheep shelter in generally good condition. Open to north with walls to east, south and curving north-west. The NW facing section is typical of the other walls seen in the area. The north facing section is very roughly built. A later addition to the wall can be seen at its western end where there is a break in the courses.

Plate 33: Bield 21, facing south-west

NPA Number	22
Site Name	**Sheepfold below Faggergill Scar**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9928307709
Altitude mAOD	**466**
MYD Number	**MYD21111**
Summary	Dry stone sheep fold around 30m in diameter and made up of 3 chambers.
Archaeological notes	Two of the "rooms" are well made while the third has been tagged on and is more roughly built. The two well built rooms form a figure of eight, the third joins the gap between them. Hinges for gates are present in the entrances between the three divisions. A sheep run has been built into the wall between Areas 1 and 3. The walls are up to 1.9 metres in height and 0.5 metres wide.

Plate 34: Complex sheepfold 22, facing south

NPA Number	**23**
Site Name	**Bield at Black Sike**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9946107455
Altitude mAOD	**456**
MYD Number	**MYD21108**
Summary	Dry stone sheep shelter composed of an L-shaped section of wall with a perpendicular section built at right angles to the angle of the L.
Archaeological notes	A small section of the perpendicular section has been removed for the placement of a trap.

Plate 35: Bield 23, facing west

NPA Number	24
Site Name	**Faggergill Mine**
Site Type	Monument
Site Term	MINE SHAFT
Period	Post Medieval (1540-1900)
NGR	**NZ 99201 06869**
Altitude mAOD	**421**
MYD Number	**MYD21089 (part of)**
Summary	A series of at least six mine shafts. Runs perpendicular to the valley bottom.
Archaeological notes	Some smaller shafts may have been obscured by snow.

Plate 36: Mine shafts 24, facing south-east

NPA Number	25
Site Name	**Sheep Fold**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NY9900606769
Altitude mAOD	**435**
MYD Number	**MYD21091**
Summary	Circular dry stone sheep fold, 9 metres in diameter with walls 1.2 metres high and 0.6 metres wide. Entrance to the south.

Archaeological notes -

Plate 37: Sheepfold 25, facing west

NPA Number	26
Site Name	Stang Mine
Site Type	Monument
Site Term	MINE BUILDING
Period	Post Medieval (1540-1900)
NGR	NZ0091205759
Altitude mAOD	**411**
MYD Number	**MYD43889 (part of)**
Summary	Dry stone walls of a building, almost entirely covered by a large spoil heap associated with the mine. Three sides of a structure measuring 4 x 1 metre visible. Walls survive to a height of 1.5 metres. Iron bars attached to large stones may have been part of the fabric of the building when in use.
Archaeological notes	Likely to have been associated with mining activity but too little exposed to give a more accurate interpretation of its function.

Plate 38: Building 26, part of Stang Mine, facing north

NPA Number 27

Site Name -

Site Type Monument

Site Term GRAFFITI

Period Post Medieval (1540-1900)

NGR NY9951204356

Altitude mAOD 380

MYD Number -

Summary A name and date carved into a stone that forms part of a grouse butt on the edge of an area extensively quarried for stone. Carving reads: "r.siddle" and a date 1879 which seems to have been carved by a different hand. Three parallel lines underscore the name.

Archaeological notes outside survey area

Plate 39: Graffiti on stone, site 27

NPA Number	28
Site Name	**Low Moor Ring Cairn**
Site Type	Monument
Site Term	ENCLOSURE
Period	Prehistoric (-500000~42)
NGR	NY9949504382
Altitude mAOD	**381**
MYD Number	**MYD50266**
Summary	Low circle of stones, 10 metres in diameter and a maximum of 0.3 metres high. Encloses a fairly flat area cleared of stones. There is a possible entranceway to the south-east. May be a ring cairn but could be an enclosure associated with cairn NPA29, 15 metres to the south.

Archaeological notes see Site 29.

Plate 40: Ring Cairn 28, facing north-west

NPA Number	29
Site Name	**Low Moor Round Cairn**
Site Type	Monument
Site Term	HUT CIRCLE/ROUND CAIRN
Period	Prehistoric (-500000~42)
NGR	NY9948904367
Altitude mAOD	**379**
MYD Number	**MYD50266**
Summary	A ring of stones, 7 metres in diameter, enclosing a flat area, cleared of stones. There is a possible entranceway to the south. Survives to a height of around 0.3 metres.
Archaeological notes	A number of shallow dish like hollows noted in stones directly SW of the hut circle which may be man made. Possibly grinding surfaces. 15 metres to the west more remains may be present but are much more poorly defined. Rough circles are marked by sphagnum growth among the usually more dominant moor grass. May mark other hut circles or possibly animal stalls.

Plate 41: Round Cairn 29, facing south-east

NPA Number	30
Site Name	**-**
Site Type	Monument
Site Term	CAIRN
Period	Unknown
NGR	NY9958204541
Altitude mAOD	**404m**
MYD Number	_
Summary	A pile of stones around 6 metres in diameter, a maximum of 0.6m high, with raised grassy area on north-west side of cairn. May be prehistoric or from field clearance.

Archaeological notes -

Plate 42: Cairn 30, facing north-east

NPA Number	31
Site Name	**Lead Mining, Arkengarthdale Low Moor**
Site Type	Monument
Site Term	MINE SHAFT
Period	Post Medieval (1540-1900)
NGR	NY9955404543
Altitude mAOD	**400**
MYD Number	**MYD46103**
Summary	Two mine shafts around 10 metres in diameter with clearly defined spoil collars up to 1 metre in height.

Archaeological notes A third shaft lies to the north, but was not seen during survey.

Plate 43: Shafts 31, facing south

NPA Number	32
Site Name	**Sheep Folds at Shaw Beck**
Site Type	Monument
Site Term	SHEEP FOLD
Period	Post Medieval (1540-1900)
NGR	NZ0070905374
Altitude mAOD	**400**
MYD Number	**MYD21870**
Summary	Complex sheep fold measuring 30 metres N-S by 11 metres E-W. Consists of two connected enclosures with further internal divisions.
Archaeological notes	Well built and apparently still in use. Internal divisions created with corrugated iron / post structures. There is a sheep dip built of concrete with a water supply from a length of black pipe. Dead sheep in the sheep dip. Main entrance to the SE much wider than other sheep folds in the area (1.5m). Animal trap set above the doorway between the two enclosures.

Plate 44: Sheepfold 32, facing south-east

NPA Number	33
Site Name	Fryingpan Stone
Site Type	Monument
Site Term	CARVED STONE
Period	Post Medieval (1540-1900)
NGR	NZ0028007950
Altitude mAOD	**450**
MYD Number	**MYD21886**
Summary	A circular depression carved into the rock, around 0.4 in diameter with a channel running out from one side. Hence the name. The sides are vertical and the base flat. Definitely not a natural feature.
Archaeological notes	Has been suggested (Matt Town *pers. com.*) that it is very similar to the Panty O'on Stone at Nidderdale. This has been interpreted as relating to Medieval lead dressing. As this too is in an area of lead mining activity such an interpretation seems reasonable for the Fryingpan Stone, though stone perhaps not *in situ.*

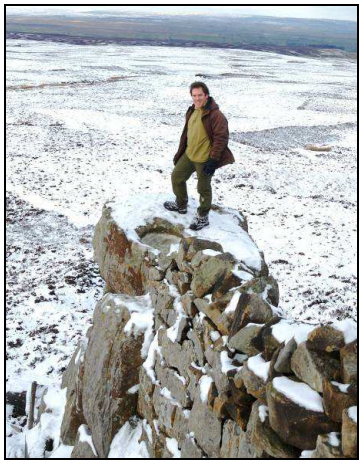

Plate 45: Fryingpan Stone, facing north

APPENDIX 2: FIGURES