WHINASH WIND FARM PHASE 3
CUMBRIA

Archaeological Survey

Oxford Archaeology North

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Prepared by:	Peter Schofield	
Position:	Project Supervisor	
Date:	February 2005	
Checked by:	Jamie Quartermaine	Signed…….
Position:	Project Manager	
Date:	February 2005	
Approved by:	Alan Lupton	Signed…….
Position:	Operations Manager	
Date:	February 2005	
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Oxford Archaeology North
Storey Institute
Meeting House Lane
Lancaster
LA1 1TF
t: (0044) 01524 848666
f: (0044) 01524 848606

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

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

Oxford Archaeological Unit Limited is a Registered Charity No: 285627

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SUMMARY

Oxford Archaeology North (OA North) undertook a rapid identification survey, on behalf of West Coast Energy Ltd and Renewable Development Company Ltd (RDC - Scotland) during February and August 2003. The survey covered a 200m wide development corridor around twenty seven wind turbines and cable routes on Brotherdale Ridge between the Borrowdale and Bretherdale valleys. The development area ran for over 6km along the ridge line from north of Crookdale Crag (NY 5559 0613) in the north-west to Casterfell Hill (NY 5970 0205) in the south-east. Further phases of rapid identification survey were carried out in October 2004 and January 2005 and this concentrated on three areas of the assessment area initially outside the previous identification survey corridor where finalised plans for turbine locations and access tracks have extended beyond the original survey area.

The rapid identification from the present Phase 3 survey identified a further two sites (Sites **38-9**) in addition to the seven sites previously discovered by the Phase 2 archaeological survey (OA North 2003b - Sites **31-37**), and this complemented the previous work of the Phase 1 desk-based assessment (LUAU 2000). The sites from Phases 2 and 3 include a prehistoric cairn (Site **37**), a marker cairn (Site **36**) and parliamentary enclosure boundaries (Sites **23**, **33** and **35**). A small extension to the north-western end of the application boundary had been proposed along the course of an existing track. The area had been subject to watching brief assessment during the construction of a United Utilities pipeline easement (OA North 2003c). At the time of the present visit the area within the pipeline easement had been excavated, the pipe laid and the ground backfilled. No further archaeological sites were discovered within this area.

The proposed wind farm will have only a limited impact on the identified archaeological resource. The siting of Turbine 6 directly threatens the peat cutting area (Site **31**) and the footprint of Turbine 26 is adjacent to the marker cairn (Site **36**). The access track between Turbines 7 and 10 will directly affect Breast High Road (Site **26**). The access trackway between Turbines 23 and 24 may destroy the putative prehistoric cairn (Site **37**) and the trackway to the north of Turbine 14 may impact upon the linear earthwork (Site **34**).

It is recommended that Turbines 6 and 26 be moved slightly to avoid sites **31** and **36**, but if this is not possible additional more detailed survey work and evaluation trenching of Site **36** and a palaeoenvironmental coring of Site **31** should be undertaken. The access trackways should also be diverted slightly in order to avoid sites **34** and **37**. It is recommended that detailed survey and evaluation take place where the access trackway crosses Breast High Road (Site **26**) and also on sites **34** and **37** if they cannot be avoided.

Further to the avoidance options, it is recommended that evaluation trenching should take place beneath the footprint of all wind turbines, ancillary structures and the access tracks in order to assess the nature of sub-surface archaeological features and to identify any previously unidentified archaeological resource. A phase of watching brief should be undertaken during the groundworks for the construction of the proposed access trackways and cable routes within the development corridor.

ACKNOWLEDGEMENTS

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The rapid identification walkover survey was undertaken by Peter Schofield and Matt Town. The report was written by Peter Schofield, with elements of the desk-based assessment report by Graham Suggett. The drawings were produced by Adam Parsons, Jo Cook and Peter Schofield. The report was edited by Jamie Quartermaine and Alan Lupton. The project was managed by Jamie Quartermaine.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 A rapid identification walkover survey was undertaken for the proposed Whinash wind farm site, to the east of Tebay, Cumbria (centred at NY 571 036) (Fig 1) by Oxford Archaeology North (OA North), on behalf of West Coast Energy Ltd and RDC (Scotland) Ltd. It examined the development corridor on Bretherdale Bank, Bretherdale Common and Roundthwaite Common, within the larger study area already investigated in the desk-based assessment (LUAU 2000). The survey was undertaken in four separate phases in February and August 2003, October 2004 and January 2005, reflecting that there were alterations to the layout that necessitated re-visits.

1.1.2 The rapid identification walkover survey involved a systematic examination of the ground surface within a defined 200m wide corridor centred on the lines of proposed wind turbines and cable routes. The survey recorded the character and extent of the earthworks and features within the development corridor.

1.1.3 This document sets out the results of the survey in the form of a short report which outlines the findings, followed by a statement of the archaeological potential of the area, an evaluation of the impact of the proposed development and recommendations for further work. The results of the walkover survey are collated within the project gazetteer (*Appendix 2*) together with the results of the desk-based study (LUAU 2000).

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 1*) was submitted in January 2003 by Oxford Archaeology North (OA North) in response to a verbal brief from West Coast Energy Ltd for an archaeological assessment to inform an Environmental Impact Assessment in advance of the construction of the proposed wind farm at Whinash, Cumbria.

2.1.2 The project design was to provide for a rapid identification survey of the development area (Fig 2). The assessment area had already been subject to a desk-based assessment (LUAU 2000) and the new survey formed the second phase of the archaeological assessment. The final written report describes the nature of the data discovered during the project within a local and regional context, and assesses the implications of the development.

2.2 RAPID IDENTIFICATION SURVEY

2.2.1 The survey was conducted by walking 20m wide transects within the defined 200m corridor of the development area. The survey was undertaken as an enhanced Level 1 type survey (details of OA North's survey levels are contained in *Appendix 1*). The survey aimed to identify, locate and record archaeological sites and features on the ground and involved four elements: reconnaissance, mapping, description and photography. The sites were located by means of differential GPS Survey which is accurate to ±0.25m.

2.3 GAZETTEER OF SITES

2.3.1 All of the information concerning archaeological sites within the area of the rapid identification survey and from the previous desk-based assessment (LUAU 2000) has been collated into a gazetteer (*Appendix 2*), which provides details of their location, period, and character. Locations are given as eight-figure National Grid References where possible and the sites have been marked onto a digital map (Fig 2).

2.4 ARCHIVE

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

3. BACKGROUND

3.1 LOCATION

3.1.1 The extent of the assessment area includes Bretherdale Bank, Bretherdale Common and Roundthwaite Common, and is centred around a series of peaks along a relatively flat-topped ridge (centred on NY 571036). This ridge runs from Crookdale Crag, through Lancey Hill, Dennison Hill, Whinash, Winterscleugh to Summer Howe, and the peaks range in height from 485m through to 347m, and the study area extends in the height range 270m to 485m AOD. This area of fell is sandwiched between the glacial valleys of Bretherdale to the north-east and Borrowdale to the south-west. The area comprises open moorland and was categorised as a mix of '*pasture,…rough heathy pasture, paths and rocks*' in 1863 (James 1863), and is still an area of essentially rough moorland pasture.

3.1.2 The study area is an upland region to the east of Tebay, Cumbria, that is geographically a component of the Lake District hills but is just outside the Lake District National Park. Despite its natural beauty it is not within an Area of Outstanding Natural Beauty (AONB), and it also not in any conservation area. The defined area does not include any Scheduled Monuments, Listed Buildings or Sites of Special Scientific Interest.

3.2 GEOLOGY AND TOPOGRAPHY

3.2.1 The landscape is typical of the Cumbria High Fells Character Area as defined by the Countryside Agency's *Countryside Character Programme* (Countryside Commission 1998). The defining characteristics of this landscape are the deep U-shaped valleys which radiate out from the centre of the Lake District and provide natural sub-divisions of the terrain; these produce a pattern of settlement of localised farming communities occupying the lower ground of the valleys. The land use has been largely determined by the extreme character of the topography with predominantly pastoral farming, augmented by limited arable farming on the better land of the valley bottoms for a considerable period. The upper moorland has been used for seasonal grazing and the density of grazing sheep has limited the natural regeneration of woodland on the fells (*ibid*).

3.2.2 The geology of the study area was for the most part formed during the Silurian period with the deposition of Wenlow and Ludlow shales. However, there is a relatively localised area of carboniferous limestone at the eastern side of the study area (Institute of Geological Sciences 1971). The geology of the valleys was largely a product of fluvio-glacial activity with alluvium and gravels filling the adjacent Tebay valley bottom. Boulder clay, deposited by the glaciers flowing southwards from Scotland and the Lake District in the Devensian stage of the Quaternary era (Taylor *et al* 1971, 83-87), extends up the long tributary valleys of Borrowdale and Bretherdale (Lambert 1996, 47).

3.3 HISTORIC BACKGROUND

3.3.1 For the sake of completeness the results of the desk-based assessment (LUAU 2000) have been included in this report along with the gazetteer sites.

3.3.2 ***Place names:*** Bretherdale is a derivation of *Brere* (ie Brier) *dale* (Nicholson and Burn, 1777, 493-494). The name Roundthwaite is believed to come from *Runethweyt* meaning '*the clearing among the rowan trees*' recorded in 1256 (Smith, 1967, 2, 51) and the settlement here may result from secondary colonisation of this area by Norse settlers (Gelling 1984, 210). Scalehowe, at the head of Bretherdale is derived from the Old Norse *Skali*, meaning '*settlement used for Summer Grazing'* (Whyte 1985 105-8).

3.3.3 ***Manorial History:*** the assessment area falls within the Manor of Tebay and within the Parish of Orton in the historic county of Westmorland. A series of deeds from Levens Hall shows that lands in Bretherdale, Bannisdale, Borrowdale, and other land in Fawcett Forest were held by the monks of Byland Abbey, from the mid twelfth century until the suppression of the monastery in 1539 (Coppack *et al*, 1998, 81). Byland Abbey, near Thirsk, North Yorkshire, was a Cistercian house and this order was renowned as sheep farmers on the first truly commercial scale (Satchell 1989, 138). It appears that the abbot of Byland Abbey held the grange and pasture of Bretherdale in 'fee farm' (Lambert 1996, 56), there being numerous references to rents received (Nicholson and Burn 1777, 493-494). After the Dissolution, the lands of Byland Abbey were split up and the Whartons purchased this manor, which was subsequently acquired by the Lowther family (Nicholson and Burn 1777, 493-494); the exact date of transfer of ownership from the Wharton family to the Lowther family is not known. Whilst the records of the Lowther estate were examined in the Carlisle Record Office, the information discovered was ambiguous. There was a 'Survey and Valuation' in 1560 (CRO(C) D/LONS/L5/2/24/1) of the Wharton manors, so called because they were purchased from the trustees of the Duke of Wharton. However, a deed dated 8th September 1613 (CRO(C) D/LONS/L5/2/26/8) refers to agreements between Philip, Lord Wharton and Thomas Wharton and Wilson and other tenants, suggesting that the land was still in the ownership of the Wharton family.

3.3.4 ***Prehistoric:*** there is little evidence of known prehistoric activity within the environs of the study area. Perhaps the most significant find locally, although outside the assessment area, is the discovery of a Bronze Age spearhead discovered at Tebay Fell (Clough 1969, 14).

3.3.5 ***Roman:*** there is considerable recorded evidence for Roman activity on the Tebay side of the study area. Low Borrowbridge Roman fort (Site 29) with its associated *vicus* and cremation cemetery lies in the centre of the Tebay Gorge. This was accessed by a road (Site 04) along the south side of Borrowdale, leading south to the fort at Watercrook, near Kendal; this survives as a broad terraced trackway extending at least up to the summit of Whinfell (*op cit*, 48). The main north/south road ran along the bottom of the Tebay Gorge between Brougham to the north and Lancaster to the south. Both roads continued in use into the medieval period and provided a focus for settlement. There is also

evidence for a Romano-British civilian settlement, and associated field system, at High Carlingill, at the southern end of the Tebay gorge. While these monuments demonstrate considerable activity in the environs of the development site during the Roman period, none have been identified within the extent of the study area.

3.3.6 ***Medieval*:** documentary evidence for the medieval period in Westmorland is notably sparse (Lambert 1996, 45), and the majority of what exists relates to enclosed land and not the common land within the study area. The SMR includes a number of sites (Sites 02, 05-08 and 30) which are of uncertain date but which may potentially be from the medieval period. Site 02 is a ruined rectangular structure, associated with the place name 'Scalehowe', and is in a fairly isolated location at the head of Bretherdale. The 'scale' element implies that there was a former shieling on the site or in the environs and could therefore indicate that there was medieval transhumance practised from this site. While it is possible that the present structure incorporates medieval fabric, this can not be established from a purely documentary study. A similar rectangular structure (Site 30) was identified in the Tebay Gorge during the North West Ethylene Pipeline project (Lambert 1996) and was subject to excavation. It was revealed as a 4.4m x 8.5m building and was tentatively interpreted as a shieling, on the basis of its relatively small size and isolated, upland location. However, such structures are inherently basic in form and typologically are not obviously distinct from post-medieval shepherds' huts, for example. Consequently, in the absence of documentary or place name evidence, it is difficult to establish reliably if transhumance was practised from the site. Numerous other such sites are found scattered throughout the hills surrounding the Tebay Gorge and at least one has been associated with the grange of Cockersand Abbey (Hair and Newman 1999), 156).

3.3.7 Site 05 was a decayed rectangular platform spatially associated with similar sub-rectangular and less well-defined platforms. A further platform (Site 06), albeit sub-circular in shape, was possibly divided into two cells and was fairly close to Site 05 on unimproved moorland at the western end of Ashstead Fell. With the apparent absence of any associated field system this would appear to reflect a small unintensively exploited pastoral settlement; it may again reflect seasonal occupation but this cannot be confirmed on the present evidence. The level of decay would imply some antiquity, and the sites may therefore date back to the medieval period or even earlier.

3.3.8 Site 07 is clearly a post-medieval building which incorporates the remains of an earlier farmstead, whilst Site 08 is a decayed rectangular, single-celled structure within an upland context. As such, it is likely to have been a shieling but can not be confirmed on the present evidence. With the exception of Site 07 none of these sites are shown on the Ordnance Survey (OS) 1st edition map (1863) and were, therefore, out of use and sufficiently decayed not to have been noted when the map was created. With the exception of Site 02, all of these sites are on the western side of Borrowdale and lay outside the assessment area.

3.3.9 The area appears to have been occupied throughout the medieval period due to the discovery of the ‘Bretherdale Wool weight’ found in a farm wall near the head of Bretherdale (Site 26). It is believed to be date from 1359 to 1389

(Satchell 1989, 131-140). Although the precise position of the find is uncertain, it is likely to have been from outside the study area.

3.3.10 ***Post-Medieval:*** the survey identified a number of demonstrable post-medieval sites (Sites 1, 2, 3, 9, 10, 11 and 12), which include quarries (Sites 1, 3, 9 and 25) and bridges (Sites 10-12). Of these, only Sites 1 and 3 lie within the study area. Evidence from the OS 1st edition of 1863 includes numerous sheepfolds (Sites 16 - 22) and a bield (Site 23). Two historic boundaries extend across the area, defined either by deliberately constructed markers, such as 'piles of stones', or by natural landscape elements such as large glacial erratic stones (Sites 13-15 and 24). Along the peaks of the fells, a line of stone *piles* and *mounds* stretched from Borrow Beck (NY 559036) to Lancey Hill, Dennison Hill, Whinash, Winterscleugh, Summer Howe and beyond. This corresponds to the parish boundary between Tebay and Orton and includes one natural erratic marker described as a 'Thunder Stone' (Site 13). A further boundary is shown on the OS 1st edition map (1863) extending across Round Hills via Thorny Bank, Eskew Head, Scalegill, to Ewelock Bank, which is also marked by natural erratics described as 'Cloven Stone' (Site 15) and 'Thunder Stone' (Site 16). This does not correspond to any surviving boundary, although it was probably a township boundary (not clearly marked as such on the map) extending as it does between the Bretherdale and Bakew valleys (Winchester 1990).

4. WALKOVER SURVEY RESULTS

4.1 RAPID IDENTIFICATION SURVEY

4.1.1 ***Introduction:*** the walkover field survey was undertaken along the proposed route of the 200m corridor between the twenty-seven wind turbines and communication routes along the ridge line and spurs overlooking Borrowdale and Bretherdale. The development area ran for over 6km along the ridge line from north of Crookdale Crag (NY 5559 0613), in the north-west, to Casterfell Hill (NY 5970 0205) in the south-east. The proposed area also has four small offshoots running along the edge of spurs overlooking the Bretherdale valley, at Bretherdale Bank (NY 5662 0537), Bretherdale Common (NY 5744 0429), Summer How (NY 5913 0371) and Birk Knott (NY 5932 0265). This version of the report has included the results of additional survey investigation in response to alterations in the layout of the turbines and the access tracks. The most recent of these (January 2005) examined an extension on the north-western edge of the application boundary which crosses into the field to the west of the A6 road. The report also shows the proposed final ground plan of access routes, turbine locations, crane hardstandings and storage compounds etc (Fig 2).

4.2 IDENTIFIED SITES

4.2.1 The additional walkover surveys of the extended development area for this version of the report (Fig 2) has provided no new sites. But more importantly it has highlighted potential threats to the archaeological resource through the finalisation of the plan of proposed development groundworks (see *Section 5.1*). The small extension at the north-western end of the application boundary had been subject to a previously completed watching brief assessment during the laying of the Shap to Watchgate pipeline (OA North 2003c). No sub-surface features were found within this area in the course of these earlier investigations (Fig 2), and by the time of the present investigation for the wind farm the pipe had been dug and the easement backfilled. The application boundary continued for a short distance to the west of the pipeline easement along a farm trackway and this was subject to further identification survey. No further archaeological sites were identified within this area.

4.2.2 The Phase 2 identification survey (OA North 2003b; Fig 2) identified seven sites within the extent of the development corridor as defined then (OA North 2003b, Fig 2) (Sites **31-7**). The Phase 3 identification survey in October 2004 and January 2005 identified a further two sites (Sites **38** and **39**). The range of sites for Phases 2 and 3 included a possible prehistoric funerary cairn (Site **37**), a marker cairn (Site **36**), two areas of peat cutting (Sites **31** and **38**) and post-medieval enclosure quarries and walls (Sites **32**, **33**, **35** and **39**). There was also a small section of linear bank of unknown date and function (Site **34**).

4.2.3 ***Prehistory:*** the only evidence for this period was the cairn located to the west of Casterfell Hill (Site **37**), which was a medium-sized (5m by 3.5m) sub-oval earthfast stone mound located on the saddle between Casterfell Hill and Belt

How. It commanded extensive views down both Borrowdale and Brotherdale, in a prominent and isolated location, and has the potential to be a funerary monument.

4.2.4 ***Parliamentary Enclosure***: the upper break of slope on the ridge line facing out to the Borrowdale valley, to the south-west of the development corridor, has an extensive line of well-constructed enclosure walls. These walls demarcate the upper limits of the enclosed lands and form enclosures that run in straight lines downslope to the valley bottom. The enclosure boundary wall on Borrowdale Edge (Site **33**) was shown on the current OS mapping but has become heavily denuded, and now is only two courses high in places. The wall runs along the top edge of the valley for approximately 450m before turning a right-angle and running downslope into the valley. The wall is drystone and was constructed of angular stone slabs that had been quarried from the immediate environs of the wall. There are two small quarries (Sites **32** and **35**) located immediately to the north of the enclosure wall, which are small simple extractions with a single working face and spoil heaps within. To the north of the development corridor is an additional proposed development area near Red Crag, within which is a documented quarry (Site **9**). To the north of this is an additional quarry area (Site **39**) that was probably associated with the construction and maintenance of the road and enclosure boundaries.

4.2.5 ***Other Features:*** all three of the remaining features are of unknown date. There are areas of peat cutting on Greenside Crag (Site **31**) and Pipers Hill (Site **38**), which are well-defined sunken cut features. There are other areas of possible peat cutting within the development corridor but the peat was heavily cut by streams and gullies. There is a small marker cairn shown on the current OS mapping and located on the summit of Winterscleugh (Site **36**) at a junction on the parish boundary. The cairn is a small sub-circular mound of angular scree slabs on the top of the crag, which has only limited lichen growth and is possibly of relatively recent date. The final feature is a section of linear bank at Whinash (Site **34**) which is not shown on any of the mapping. It is a low earthen bank in two sections and overall is 160m long by 2.5m high. The bank is of unknown date and function.

5. IMPACT AND RECOMMENDATIONS

5.1 IMPACT

5.1.1 This assessment has highlighted the archaeological resource within and around the development corridor at Whinash. In general, the archaeological material has the potential to be of local importance comprising typical examples of post-medieval agricultural features and also quarrying. The more significant resource is contained within the adjacent valleys of Bretherdale and Borrowdale. The evidence for archaeological features within the study area is sparse, especially from any period earlier than the post-medieval era. There are, however, the remains of the two cairns (Sites **36** and **37**) and the linear bank (Site **34**) that fall within the development corridor.

5.1.2 The impact of the construction of the turbines can be assessed, albeit in broad terms. The individual turbines will have a relatively small footprint, but it is anticipated that the site preparation and clearance of the ground cover will involve disturbance of the ground over an area of about 16-20m diameter. The biggest disturbance at each turbine location will, however, be the construction of crane hardstandings adjacent to each turbine base. These will cover an area of about 50m by 25m next to each turbine base.

5.1.3 The largest impact along the development corridor will result from the construction of access roads linking the turbines. Similarly, the excavation of trenches for power cables may have a direct impact upon archaeological monuments. Of lesser importance, the construction of ancillary structures such as the storage compound, electricity sub-station and meteorological masts may have direct impacts on unknown below-ground archaeological deposits.

5.1.4 The siting of Turbine 6 and its initial the crane hardstanding directly threatens to impact upon the peat cutting area near Greenside Crag (Site **31**). In addition, the footprint of Turbine 26 and its crane hardstanding is located immediately north of the marker cairn at Winterscleugh (Site **36**), and may possibly impact upon it.

5.1.5 The finalised plan of the proposed access routes between wind turbines may impact upon a further three sites. The access track between Turbines 7 and 10 will cross Breast High Road running over Bretherdale Common (Site **26**) and will, therefore, have a direct impact upon it. The access track to the north of Turbine 14 passes close to the east side of a linear earthen bank on Whinash (Site **34**), and the access track between Turbines 23 and 24 run close to the putative prehistoric cairn on Casterfell Hill (Site **37**).

5.1.6 Any further amendments to the development ground plan may alter the perceived impacts upon the archaeological resource and would require further investigation of the proposed impacts.

5.2 RECOMMENDATIONS

5.2.1 Given the sparse nature of the archaeological sites identified within the development corridor and the flexibility in siting the wind turbines and cable routes within the development, the emphasis in the first instance should be in preserving archaeological features *in situ.*

5.2.2 ***Avoidance Options:*** it is recommended that, if engineering constraints allow, Turbines 6 and 26 and their crane hardstandings should be moved slightly to avoid Sites **31** and **36**. In addition, the access trackways should be moved so as to avoid the linear bank on the east side of Whinash (Site **34**), and the putative prehistoric cairn (Site **37**) along the saddle between Belt How and Casterfell Hill. One section of the access trackway will directly impact upon the road crossing Bretherdale Common (Site **26**) and cannot be moved to avoid it.

5.2.3 ***Mitigation:*** if it proves impossible to avoid any of the archaeological features already identified it is recommended that some sites will require a detailed survey and excavation in order that they may be recorded prior to their destruction. If the peat cutting area (Site **31**) is to be affected a palaeoenvironmental core and corresponding analysis should be undertaken to establish the inception and truncation dates for the peat; this would entail dating of the peat by radiocarbon techniques.

5.2.4 ***Evaluation and Watching Brief:*** although the archaeological surface remains are scarce within the area, there is the potential that prehistoric sites may survive as sub-surface features sealed beneath overlying peat formations (OA North 2003a). It is recommended therefore that, in addition to the avoidance and mitigation options, there should be a phase of targeted evaluation trenching placed within the footprint of each of the twenty seven wind turbines, and all ancillary structures. These should also include the areas of the crane hardstandings, the storage compound, electricity substation and meteorological masts and selected trenching along the lines of the access roads. In addition, a permanent watching brief should be undertaken for the topsoil stripping of access roads and cable routes within the development corridor.

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APPENDIX 1: PROJECT DESIGN

JANUARY 2003

Oxford Archaeology North

WHINASH WIND FARM SITE, nr TEBAY, CUMBRIA

ARCHAEOLOGICAL ASSESSMENT

Proposals

The following project design is offered in response to a request from West Coast Energy Ltd, for the walk-over survey element of an archaeological assessment of a proposed wind farm site at Whinash, near Tebay, Cumbria.

1. INTRODUCTION

1.1 CONTRACT BACKGROUND

1.1.1 The construction of a wind farm at Whinash, Cumbria, is proposed and OA North have been requested by West Coast Energy Ltd to submit a project proposal for an archaeological assessment of the site to inform an Environmental Impact Assessment. The first stage of this assessment, a desk-based study, has been completed (LUAU 2000), and the present proposal is for the second stage, which will be a walk-over survey targeted on the proposed layout of the turbines.

1.1.2 The desk-based study identified only a limited archaeological resource within a broad study area extending along the Brotherdale ridge. While there were extensive remains within the adjacent valleys, few sites have been documented on the higher moorland areas. No prehistoric or Roman remains were documented, but a number of medieval, possible shieling, sites were discovered around the edge of the study area. The most significant of these is a ruined building (Site 02) at the northern edge of the study area, which is called Scalehowe, and on the basis of place name evidence is likely to have been a medieval shieling.

1.3 ***Oxford Archaeology North (OA North):*** OA North has considerable experience of the assessment of sites of all periods, having undertaken a great number of small and large scale projects during the past 18 years. Assessments and evaluations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. In particular OA North has much experience of undertaking assessments for windfarm schemes and has considerable knowledge of the Cumbrian uplands having undertaken extensive surveys of over 250sqkm of these uplands within the last seventeen years. OA North has also considerable experience of undertaking assessments to inform proposed windfarm developments from throughout the UK. OA North has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. OA North and all its members of staff operate subject to the Institute of Field Archaeologists (IFA) Code of Conduct, and is an IFA registered organisation (No 17).

2. OBJECTIVES

2.1 The following programme has been designed in accordance with a request from West Coast Energy Ltd to provide an accurate archaeological assessment of the designated area, and is in accordance with a verbal brief by the Assistant Archaeologist, Cumbria County Council. The purpose of the present programme of work is to undertake the walk-over survey element of an archaeological assessment. This would examine the surface evidence for archaeological sites, it would determine the significance of the identified archaeological resource, it would assess the impact of the proposed development upon the identified archaeological resource and would provide recommendations for any further archaeological investigation. The required stages to achieve these ends are as follows:

2.2 ***Identification Survey:*** to record the character of the extant earthworks within the study area, which would be defined as a 200m corridor centred on the lines of proposed turbines and communication routes. This would provide an assessment of the archaeological significance of any earthwork remains.

2.4 ***Assessment Report:*** a written assessment report will be generated for the site, which will follow on from the earlier assessment report (LUAU 2000) and will assess the significance of the data generated by this programme within a local and regional context. This will advise on the requirements for further evaluation or recording measures as necessary.

3. METHODS STATEMENT

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

3.2 IDENTIFICATION SURVEY

3.2.1 ***Access:*** liaison for basic site access will be undertaken through West Coast Energy Ltd.

3.2.2 It is proposed to undertake an OA North 'level 1' survey (*Appendix 1*) of the study area. This is a rapid survey undertaken as part of a site assessment. It is an initial site inspection intended to consider fully the archaeological implications of a development; it also serves as the basis for undertaking and planning further archaeological work on the site. It represents the minimum standard of record and is appropriate to exploratory survey aimed at the discovery of previously unrecorded sites. Its aim is to record the existence, location and extent of any such site. The emphasis for the recording is on the written description which will record type and period and would not normally exceed *c*50 words. Sites or features greater than 50m in size and smaller sites are shown with a cross.

3.2.3 The survey will examine specifically the areas that are likely to be affected by the proposed development. This will entail the examination of 200m wide corridors centred along the lines of turbines, lines of roads / communications and power cables. The examination of such a wide corridor will enable some movement of the turbines or communication lines if necessary. The total area of investigation (see attached map) will cover an extent of *c*2.0 sqkm.

3.2.4 The reconnaissance will be undertaken in a systematic fashion, walking on approximately 20m wide transects, within the extent of the defined study area. It is proposed to use Global Positioning System (GPS) techniques to locate and record the features. GPS instrumentation uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude which can be converted mathematically to Ordnance Survey National Grid. The use of GPS techniques has proved to be an essential and extremely cost effective means of locating monuments, and can achieve accuracies of better than +- 0.3m. A photographic record will be undertaken simultaneously using black and white print, colour print/transparency and digital formats.

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

3.2.6 OA North provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997) and risk assessments are now being implemented for all projects.

3.3 ASSESSMENT REPORT

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

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

3.3.3 ***Collation of data:*** the data generated by 3.2 (above) will be collated and analysed in order to provide an assessment of the nature and significance of the known surface and subsurface

remains within the designated area. It will also serve as a guide to the archaeological potential of the area to be investigated, and the basis for the formulation of any detailed field programme and associated sampling strategy, should these be required in the future.

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

3.3.5 The report will identify areas of defined archaeology, an assessment and statement of the actual and potential archaeological significance of any features within the broader context of regional and national archaeological priorities will be made. Illustrative material will include a location map, which can be tailored to the specific requests of the client (eg particular scales etc.), subject to discussion.

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

3.3.7 ***Confidentiality:*** the assessment report is designed as a document for the specific use of the client, for the particular purpose as defined in the project brief and this project design, and should be treated as such; they are 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. WORK TIMETABLE

The phases of work will comprise:

4.1 ***Field Inspection***

A 3 day period is required for the identification survey.

4.2 ***Prepare Assessment Report***

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

4.3 OA North can execute projects at very short notice once an agreement has been signed with the client.

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

APPENDIX 2: SITE GAZETTEER

Site number	**01**
Site name	Whitestones Quarry
NGR	SD 60880 01870
Site type	Quarry
Period	Post-medieval
SMR No	14915
Source	OS 1st edition map of 1863, 25" sheet XXVIII
Description	A quarry is depicted on the OS 1st edition map of 1863
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**02**
Site name	Scalehowe
NGR	NY 56500 05935
Site type	Ruined building
Period	Medieval/post-medieval
SMR No	17047
Source	OS 1st edition map of 1899, 25" sheet XXVIII; Smith 1967
Description	A ruined building at the head of Bretherdale. The name suggests the presence of a medieval shieling which may have been under the present structure or in the vicinity.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**03**
Site name	Crookdale Side Quarry
NGR	NY 55525 04875
Site type	Quarry
Period	Post-medieval
SMR No	17079
Source	1:10,000 OS map
Description	A quarry is shown on the modern mapping but not on the OS 1st edition map of 1863.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**04**
Site name	Shap Fell
NGR	NY 54850 05875 to 55100 06175
Site type	Road
Period	Roman / medieval / post-medieval
SMR No	1942
Source	Lambert 1996
Description	The line of a road through the Borrowdale Valley, which extends out from Low Borrowbridge and in places survives as a terraced track up onto the summit of Whinfell. Part of it is of eighteenth century origin but in places there is survival of an earlier foundation.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**05**
Site name	Ashstead Fell
NGR	NY 55270 03120
Site type	Farmstead / Settlement

Period	Medieval / post-medieval
SMR No	3119
Source	Clare pers comm from SMR
Description	A sub-rectangular (possible house) platform. There is a possibility of an entrance in the centre of the western wall. There are further platforms in the vicinity.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**06**
Site name	Ashstead Fell
NGR	NY 55330 03130
Site type	Circular Platform
Period	Unknown
SMR No	3120
Source	Clare pers comm from SMR
Description	An irregular circular platform set into a steep slope, dissected through the centre. It was possibly a platform for a simple structure.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**07**
Site name	High Borrow Bridge
NGR	NY 55110 04150
Site type	Farmstead
Period	Medieval / post-medieval
SMR No	5191
Source	Clare pers comm from SMR
Description	Farm buildings incorporating the remains of an earlier farmstead.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**08**
Site name	Crookdale
NGR	NY 55050 04970
Site type	Ruined building
Period	Medieval / post-medieval
SMR No	5192
Source	Clare pers comm from SMR
Description	A ruined rectangular structure, which is in an isolated upland context and may have been a shieling.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**09**
Site name	Red Crag Quarry I
NGR	NY 55405 05860
Site type	Quarry
Period	Post-medieval
SMR No	17046
Source	Field Survey, OS 1st edition of 1863 map, 6" Sheet XXI
Description	Red Crag quarry is depicted on the OS 1st edition map of 1863. It lies to the west of Red Crag. The quarry has been filled in with builder's rubble and spare tarmac from road re-surfacing.
Assessment	The site lies within the proposed development corridor to the west of wind turbines 1 and 2

Site number	**10**
Site name	Crookdale Bridge
NGR	NY 55020 05540
Site type	Bridge
Period	Post-medieval
SMR No	17069
Source	OS 1st edition of 1863 map, 6" Sheet XXI; Smith 1967, 139
Description	The bridge crosses Crookdale Beck at House Foot on the line of an old road which follows parish boundaries. The earliest reference to this bridge is from 1651 (Smith 1967).
Assessment:	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**11**
Site name	High Borrow Bridge
NGR	NY 55010 04040
Site type	Bridge
Period	Post-medieval
SMR No	17077
Source	OS 1st edition of 1863 map, 6" Sheet XXI
Description	A bridge described as 'High Borrow Old Bridge' on the OS 1st edition map.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**12**
Site name	Hucks Bridge
NGR	NY 55265 03960
Site type	Bridge
Period	Post-medieval
SMR No	17078
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	Hucks Bridge carries the new road over Shap and here over the Borrowdale Beck, thus replacing the Old High Borrow Bridge (Site 11). The SMR states that an 1824 document refers to the bridge. It is shown on the OS 1st edition map of 1863.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**13**
Site name	Thunder Stone
NGR	NY 5610 03950
Site type	Possible boundary stone
Period	Unknown
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A stone described as 'Thunder Stone' on the OS 1st edition map (1863). It is on the line of the parish boundary between Orton and Tebay parishes and was probably a natural erratic which has served as a boundary marker.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**14**
Site name	Thunder Stone
NGR	NY 56825 06250
Site type	Possible boundary stone
Period	Unknown
Source	OS 1st edition map (1863), 6" Sheet XXI

Description	A stone described as 'Thunder Stone' on the OS 1st edition map (1863). It is on the line of a boundary marked on the OS map, but this boundary does not correspond to the modern parish boundary. It was probably a natural erratic which has served as a boundary marker.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**15**
Site name	Cloven Stone
NGR	NY 56250 06850
Site type	Possible boundary stone
Period	Unknown
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A stone described as 'Cloven Stone' on the OS 1st edition map (1863). It is on the line of a boundary marked on the OS map, but this boundary does not correspond to the modern parish boundary. It was probably a natural erratic which has served as a boundary marker.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**16**
Site name	Parrocks
NGR	NY 56475 06050
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A sheepfold shown on the OS 1st edition map, adjacent to Bretherdale Beck.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**17**
Site name	Adam's Hill
NGR	NY 57600 04300
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A rectangular sheepfold shown on the OS 1st edition map. It is shown butting on to the unenclosed side of a parliamentary enclosure boundary.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**18**
Site name	Low Borrowdale
NGR	NY 58125 02225
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A rectangular sheepfold shown on the OS 1st edition map. It is shown butting on to the unenclosed side of a parliamentary enclosure boundary.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**19**
Site name	Gillsgrassing Wood
NGR	NY 59850 01950
Site type	Sheepfold
Period	Post-medieval

Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A rectangular sheepfold shown on the OS 1st edition map. It is shown butting on to the unenclosed side of a parliamentary enclosure boundary.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**20**
Site name	Casterfell Hill
NGR	NY 59525 02400
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A sheepfold shown on the OS 1st edition map adjacent to a tributary of Roundthwaite Beck.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**21**
Site name	High Borrowdale
NGR	NY 57300 02725
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A rectangular sheepfold shown on the OS 1st edition map. It is shown butting on to the enclosed side of a parliamentary enclosure boundary.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**22**
Site name	Crowsdale Beck
NGR	NY 59150 02950
Site type	Sheepfold
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A two celled sheepfold shown on the OS 1st edition map, within a bow of Roundthwaite Beck at the junction with Crowsdale Beck.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**23**
Site name	Casterfell Hill
NGR	NY 59625 02500
Site type	Bield
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A bield shown on the OS 1st edition map near to and slightly below the sheepfold Site 20.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**24**
Site name	White Stone
NGR	NY 60925 02000
Site type	Natural Stone
Period	Unknown
Source	OS 1st edition map (1863), 6" Sheet XXI

Description	A site is shown as 'White Stone' on the OS 1st edition map. It is beside the main north/south 'A' road, and is near to an 'Old Quarry' which is also shown on the map.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**25**
Site name	Jeffrey's Mount
NGR	NY 60925 01800
Site type	Old Quarry
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A quarry site shown as 'Old Quarry' on the OS 1st edition map.
Assessment	The site lies within the boundary of the (desk-based) assessment area.

Site number	**26**
Site name	Breast High Road
NGR	NY 55450 03800 to 57500 04900
Site type	Old Road
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A road extending over the top of Bretherdale Common linking Bretherdale to Borrowdale. It is shown on the OS 1st edition map.
Assessment	The site is directly impacted upon by and access trackway.

Site number	**27**
Site name	Head of Bretherdale
NGR	NY 569 058
Site type	Wool Weight
Period	Medieval
Source	Satchell 1989
Description	A wool weight was found at the head of Bretherdale incorporated into a field wall but has an imprecise provenance. It dates to between 1359 and 1389.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**28**
Site name	Round Hills
NGR	NY 5667 0640
Site type	Well
Period	Post-medieval
Source	OS 1st edition map (1863), 6" Sheet XXI
Description	A well is shown on the OS 1st edition map (1863). It is on the line of a boundary defined in part by Sites 14 and 15.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**29**
Site name	Low Borrowbridge
NGR	NY 6094 1259
Site type	Roman Fort
Period	Roman
Source	Lambert 1996; Ferguson 1886; Hildyard and Gillam 1951
Description	The Low Borrowbridge Roman fort controlled communications through the Tebay Gorge, on the road between Lancaster and Brougham. The earthwork remains of the fort survive intact, extending over less than three acres. It was the subject of

	excavations in 1883 (Ferguson 1886), which demonstrated that the fort was a parallelogram and revealed a putative bathhouse outside the fort's south-east corner. Further excavation was undertaken in 1950 (Hildyard and Gillam 1951, 49) which demonstrated the presence of a ditch within the western rampart which was probably the surviving element of an earlier fort. The fill of this ditch contained pottery of Flavian date. The same excavation also revealed ceramics of the later fourth century which demonstrate that the fort was occupied for a considerable period.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**30**
Site name	Powsons
NGR	NY 61368 02310
Site type	Rectangular structure
Period	Medieval
Source	Lambert 1996
Description	A group of trackways, platforms and a rectangular structure on the eastern slope of the Gorge. The rectangular structure was subject to excavation in 1990 (Lambert 1996). It was 8.5m x 4.8m in size and constructed of roughly coursed dry-stone construction. The small assemblage of ceramics was generally undiagnostic and from the topsoil, spanning the Bronze Age to the post-medieval periods, and as such provides little indication as to the date of the building. It was interpreted as a shieling, although there is no documentary evidence to support transhumance.
Assessment	The site lies outside the boundary of the (desk-based) assessment area.

Site number	**31**
Site name	Greenside Crag
NGR	NY 55851 04454
Site type	Peat cutting
Period	Unknown
Source	Field Survey
Description	A possible small area of peat cutting located at the top of the slope on the south-east edge of Greenside Crag. The area is unlike the frequent erosion scars that cut away the peat along the craggy peaks and is a roughly rectangular depression with exposed peat sides. The cutting is approximately 35m long from north-east to south-west by 15m wide and up to 0.3m deep.
Assessment	The site lies within the proposed development corridor and within the footprint of the proposed development of wind Turbine 6.

Site number	**32**
Site name	Breasthigh Road
NGR	NY 56356 04065
Site type	Quarry
Period	Post-medieval
Source	Field Survey
Description	A small sub-square quarry scoop located to the south of Breasthigh Road and directly adjacent to the north side of the enclosure boundary wall, (Site 3). The quarry is approximately 5m square with a single quarry face at the south end that is 4m wide by up to 2m in height. The quarry is presumably a localised quarry for the construction of the boundary wall.
Assessment	The site lies within the proposed development corridor to the south-west of wind Turbines 10 and 11.

Site number	**33**
Site name	Borrowdale Edge
NGR	NY 56451 03942
Site type	Enclosure Boundary Wall
Period	Post-medieval
Source	Field Survey, OS current mapping
Description	A denuded enclosure boundary wall running along the upper limits of enclosure on the top of Borrowdale Edge and just to the south of Dennison Hill. The wall runs along the contour of the valley from north-west to south-east and survives as two sections of drystone wall that turns and runs downslope at the south-east end. The wall is shown on the current OS mapping but is much denuded and is rarely over two courses high. The wall is approximately 450m long by 0.7m-1m wide and up to 0.3m in height and is constructed of flat, angular locally quarried stone slabs from nearby quarries (Sites 32 and 35). The wall could possibly be from an enclosure that is earlier than the enclosure walls on Greenside Crag to the west. It could be of a similar date, however, has not been subject to repair.
Assessment	The site lies within the proposed development corridor to the west of wind Turbine 10.

Site number	**34**
Site name	Whinash
NGR	NY 57317 03752
Site type	Linear bank
Period	Unknown
Source	Field Survey
Description	A linear earthen bank located to the north east of Whinash crag. The bank survives as two stretches of bank running roughly north-west to south-east. The overall length is approximately 160m long and the bank is about 2.5m wide and 0.4m high on the downslope side (to the north east). The bank does not look geological and is probably anthropogenic. At the south eastern end on the east side, there are several possible low earthfast banks running to the east and a flattened circular feature up to 16m diameter. The features in this area problematic as they were only seen in low slanting light conditions and could easily be natural erosion.
Assessment	The site lies within the proposed development corridor and adjacent to the route of an access trackway, approximately 100m to the north of wind Turbine 14.

Site number	**35**
Site name	Dennison Hill
NGR	NY 56548 03817
Site type	Quarry
Period	Post-medieval
Source	Field Survey
Description	As small sub-rectangular quarry located on Dennison Hill and directly to the north east of the enclosure boundary wall (Site 33). It is similar in size and function as to the quarry at Site 32 and was also probably used for the construction of the wall. It is roughly 4m², cut into a craggy outcrop with a working face to the north end. The working face is approximately 4m long by up to 1.5m high and there is a small pile of spoil stones to the centre of the scoop.
Assessment	The site lies within the proposed development corridor to the south-west of wind Turbine 11.

Site number	**36**
Site name	Winterscleugh
NGR	NY 57649 02853
Site type	Cairn

Period	Unknown
Source	Field Survey, OS current mapping
Description	A small cairn located on the top of Winterscleugh Crag. It is sub-circular, *c*3m in diameter by up to 0.4m high and is constructed of small-medium sized sub-angular bedrock slabs. The cairn could possibly be prehistoric and funerary in nature due to its prominent position but there is little lichen growth on the stone surfaces. The cairn is located at a corner of a local parish boundary and could therefore be a more recent marker cairn.
Assessment	The site lies within the proposed development corridor adjacent to the footprint of wind Turbine 26 and crane hardstanding.

Site number	**37**
Site name	Casterfell Hill
NGR	NY 59407 02083
Site type	Cairn
Period	Prehistoric
Source	Field Survey
Description	A medium sized earthfast stone cairn located on a saddle between Belt How to the west and Casterfell Hill to the east and is immediately to the north of a small flat plateau on the edge of the valley side. The cairn stands out against the surrounding topography as it has green grass covering a stone construction in an area where other than outcropping stone there is no loose stone on the ground. The cairn is a sub-oval mound of earthfast stones that is approximately 5m long east-west by 3.5m wide and up to 0.7m high. The cairn is possibly prehistoric as it commands extensive views into both Borrowdale and Bretherdale and is very prominent.
Assessment	The site lies within the proposed development corridor between wind Turbines 23 and 24. It lies adjacent to the route of an access trackway.

Site number	**38**
Site name	Pipers Hill
NGR	NY 56379 05319
Site type	Peat Cutting
Period	Unknown
Source	Field Survey
Description	A distinct area of peat cutting located on the east side of Pipers Hill, on the slope of the valley side of Brotherdale Bank. The site consists of three sub-square areas of peat cutting, each measuring approximately 15m square. The westernmost two are banked up to the east, downslope side, and the easternmost is banked up to the west on the upslope side. The cuttings are only 0.3m deep but are distinct and contrast with the more irregular natural erosion scars within the study area.
Assessment	The site lies partially within the proposed development corridor to the west of wind Turbine 8

Site number	**39**
Site name	Red Crag Quarry II
NGR	NY 55420 05977
Site type	Quarry
Period	Post-Medieval
Source	Field Survey
Description	A small sub-circular quarry scoop located immediately to the north of Red Crag Quarry I (Site 9). Unlike the first quarry this has not been filled-in. It measures *c*18m diameter by up to 0.6m deep. The site is a localised quarry possibly associated with road building and enclosure walling.
Assessment	The site lies within the proposed development corridor to the west of wind Turbines 1 and 2

ILLUSTRATIONS

LIST OF FIGURES

LIST OF PLATES

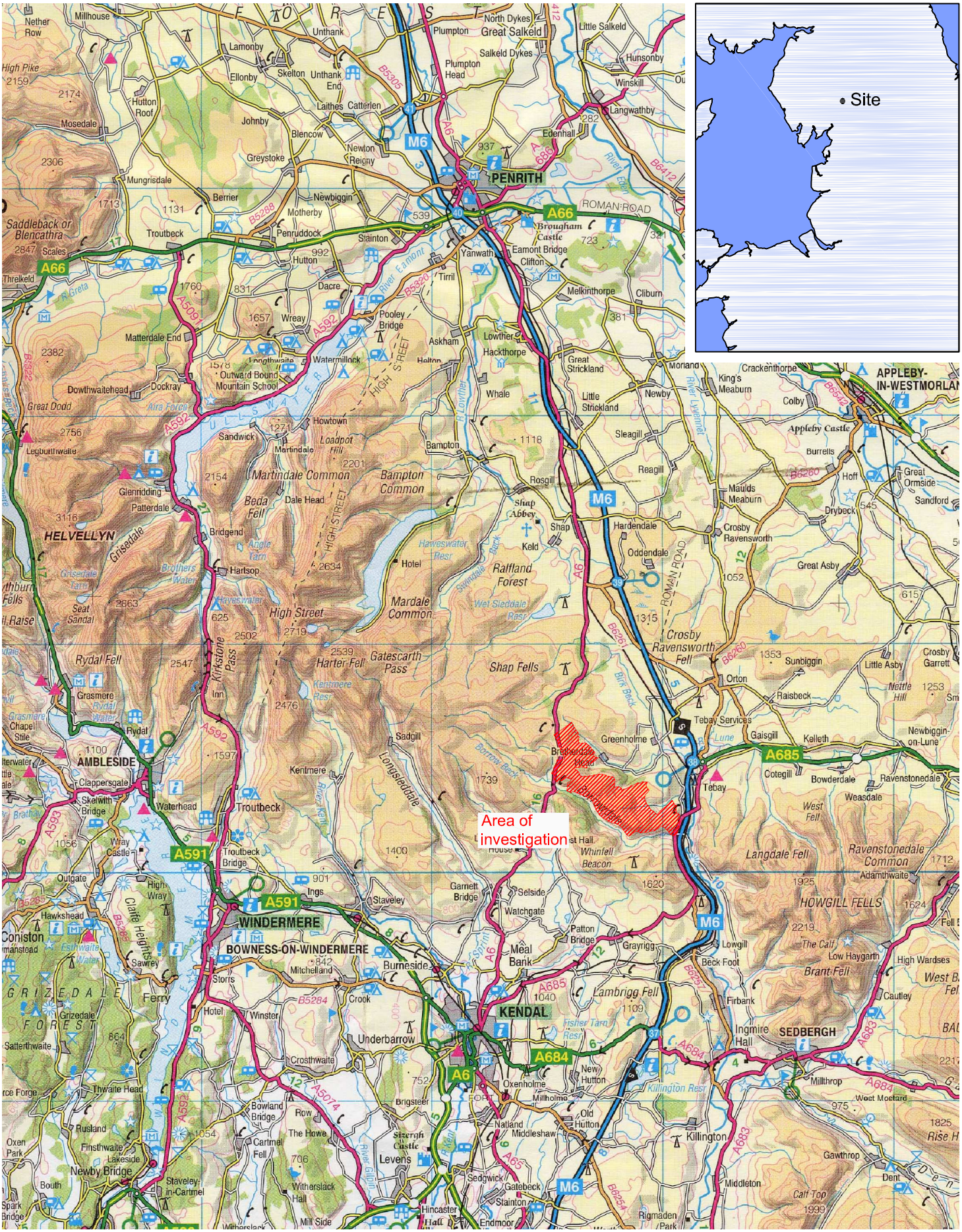
Plate 1: Borrowdale Edge, boundary wall (Site **33**), facing north-east.

Plate 2: Dennison Hill, quarry (Site **35**), facing north-east.

Plate 3: Winterscleugh, cairn (Site **36**), facing north.

Plate 4: Casterfell Hill, cairn (Site **37**), facing north.

Plate 5: General view looking south-east into Borrowdale from Winterscleugh.



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0 250 500
metres

Figure 1: Location Map

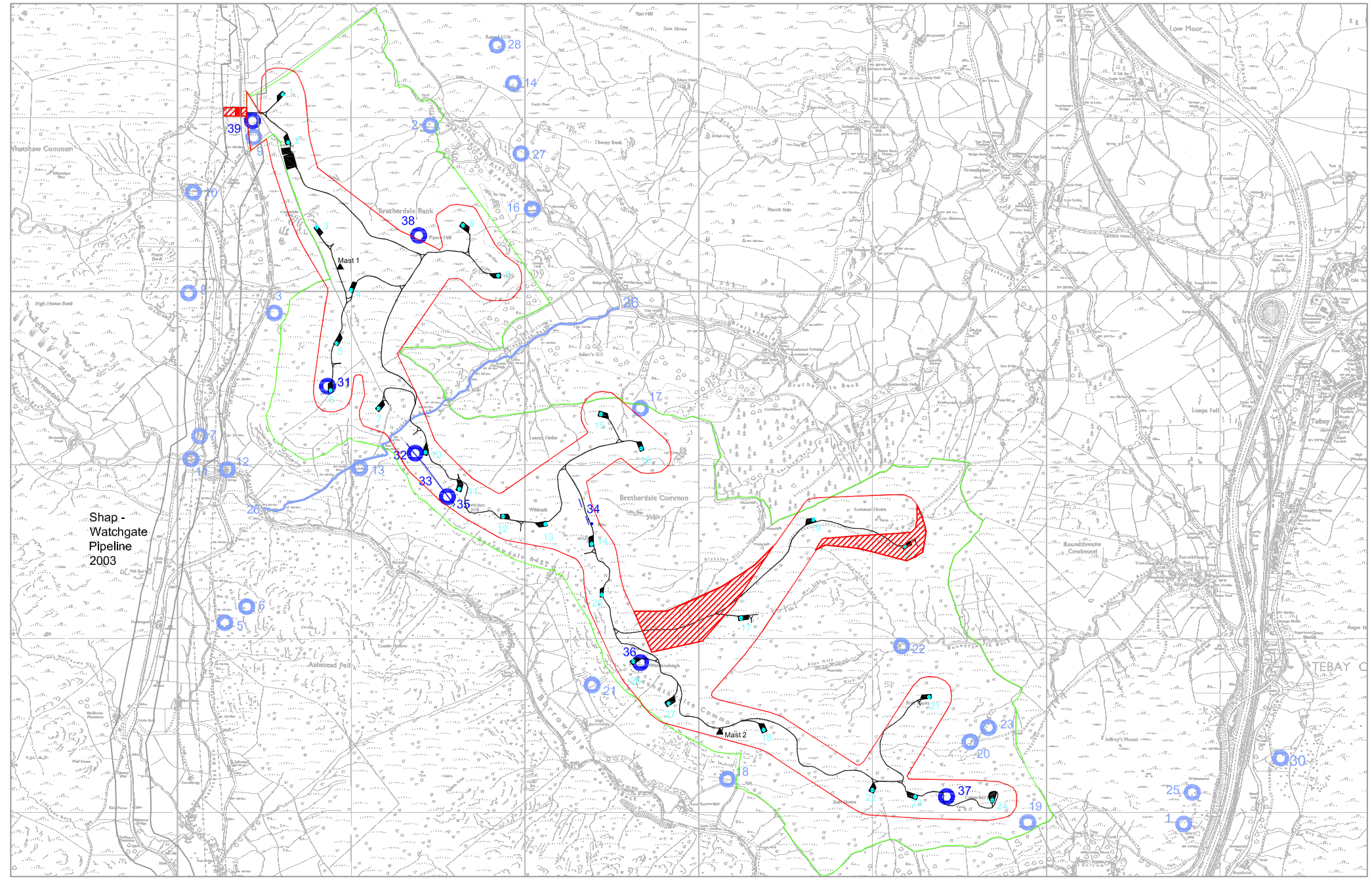

Figure 2 : Whinash; Site Map