# NORTH PENNINES ARCHAEOLOGY LTD

# Project Designs and Client Reports No. CP/128/04

# ARCHAEOLOGICAL ASSESSMENT FOR A PROPOSED DEVELOPMENT AT THE CUMBERLAND PENCIL FACTORY KESWICK

# FOR VERTE PROPERTIES

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#### **EXECUTIVE SUMMARY**

In May 2004 North Pennines Archaeology Ltd was commissioned by Verte Properties to undertake an archaeological desk study in advance of a proposed development on the site of the Cumberland Pencil Factory, Keswick, Cumbria. The scheme includes the redevelopment of the existing factory and the construction of 39 apartments.

The study involved the collection of all readily available information regarding the archaeological landscape of the study area, including the locations and settings of Scheduled Ancient Monuments, Listed Buildings, Parks and Gardens and other, non-designated archaeological remains. The report also sets out priorities for further investigation in accordance with the guidance set out in the Cumbria and Lake District Joint Structure Plan.

The development area lies close to the centre of Keswick, an early medieval settlement in origin, within an area of archaeological potential. The site lies close to a number of important archaeological remains, particularly dating to the prehistoric and Roman periods.

The assessment has concluded that there is limited archaeological potential within the development site. This conclusion is based on a study of all existing information from documentary, aerial photographic and cartographic sources and from a borehole survey carried out in order to assess existing ground conditions.

The results described below are appropriate to the scheme as submitted to North Pennines Archaeology Ltd. Any changes to the scheme options will require revision of the results described in this report.

## **ACKNOWLEDGEMENTS**

Thanks are due to the following people and institutions who gave help and assistance during the compilation of this report: John Hodgson and Eleanor Kingston of the Lake District National Park Archaeology Service, Stephen Lancaster, and all the staff at the County Record Office, Carlisle.

The report was written by Chris Jones BA, MA, NPA Archaeologist and edited by Juliet Reeves BA. Overall responsibility for the project rested with Frank Giecco BA, Dip Arch, NPA Principal Archaeologist.

#### 1 Introduction

- 1.1 The Cultural Heritage can broadly be defined as the man made elements within a landscape, which make and contribute to an area's historic character. It is regarded as being an important national resource of value to future generations, but one that is subject to evolution and change. Within an urban environment, the landscape has been subject to a succession of changes over time. It is important that the knowledge of past land use informs future development in order to maintain the historic character of the area. Impacts upon the historic environment can affect its historic character as an entity in its own right and from the perspective of the local community, the latter being known as visual impact.
- 1.2 This section describes those cultural heritage elements on the site of the Cumberland Pencil Factory, Keswick. This is limited in scope to a map of all designated sites and areas of potentially important archaeological remains within the proposed development area. In addition to a written description of the archaeological constraints of the proposals, the requirement for further work and the extent and scope of such work and any time constraints on the development will also be included.
- 1.3 The development site is located close to the centre of Keswick at Greta Bridge, adjacent to the River Greta and accessed via Carding Mill Lane, a reference to an earlier mill on the site. The site comprises an area 3500m² (0.35ha) in extent. Additional impacts, such as visual impact upon the settings of nearby Scheduled Monuments, Listed Buildings and non-designated archaeological sites, will include all areas from which the site is visible and forms a significant visual element in local views. The area is shown in figure 1.
- 1.4 The principal objective of this assessment is to undertake sufficient work in order to identify and characterise the archaeological constraints associated with the development area, in order to fully inform the development proposals.

## 2 Assessment Techniques and Methodology

#### 2.1 Guidelines

2.1.1 The methodology used for this assessment is based on guidance set out in the Cumbria and Lake District Joint Structure Plan (Cumbria County Council/Lake District National Park Authority 2003).

#### 2.2 References

2.2.1 The Joint Structure Plan provides detailed guidance on the type of archaeological constraints to development appropriate to the Carlisle Region. Other guidance includes Planning Policy Guidance Note 15, *Planning and the Historic Environment* (DoE 1990) and Planning Policy Guidance Note 16, *Archaeology and Planning* (DoE 1990).

#### 2.3 Methodology

#### **2.3.1** Baseline Survey

- 2.3.1.1 The Assessment involved the consultation of the Cumbria County Council Historic Environment Record. 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, Listed Buildings And Conservation Areas.
- 2.3.1.2 An electronic enquiry was also made of English Heritage's National Monuments Record and the website of the Archaeology Data Service. This was in order to enhance and augment the data obtained from a search of the appropriate repositories.
- 2.3.1.3 Further documentary study was undertaken at the County Record Office, Carlisle, which involved the collection of all relevant historical maps and documents including surveys, Tithe and Enclosure Maps, Acts of Parliament and early Ordnance Survey maps.
- 2.3.1.4 The desk study was undertaken in accordance with the Institute of Field Archaeologists *Standards and Guidance for Archaeological Desk-Based Assessments* (IFA 1994).

#### 2.3.2 Definition of Scales of Impact

- 2.3.2.1 The impact upon the cultural heritage is defined by the presence or probable survival of archaeological remains both within the development area and its immediate environs. These remains constitute all designated and non-designated sites including: World Heritage Sites, Scheduled Ancient Monuments, Areas of Archaeological Importance, Listed Buildings, Registered Parks and Gardens and Battlefield sites and non-designated sites and includes above ground remains and buried archaeological remains. The scales of impact vary according to the importance of the site according to its designation, and its area in relation to the proposed scheme.
- 2.3.2.2 Potential impacts upon above ground archaeological remains, i.e. those clearly visible to the human eye, such as buildings, burial mounds and earthworks may also include visual impacts upon their landscape setting. Noise may also be a factor where the remains are open to public access. Buried remains are vulnerable to groundworks, including ploughing and construction works, which could directly destroy the archaeological remains.
- 2.3.2.3 Impacts upon the buried archaeology can include direct physical damage, changes in the water table due to cuttings or drainage measures, or by disturbance, which reduces the value of a site as a historical record, such as severance of a site from its landscape setting and linked features.
- 2.3.2.4 Archaeological remains can be damaged by mitigation planting, care therefore needs to be taken when deciding where to plant in respect of buried archaeology.

#### 2.3.3 Development of Mitigation Measures

- 2.3.3.1 According to Planning Policy Guidance Note 16 (PPG16, DoE 1990), Para A:8, "where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development, there should be a presumption in favour of their physical preservation" (DoE 1990).
- 2.3.3.2 Mitigation measures where there is a clear danger to the survival of archaeological remains could include:
  - the siting of foundations and service trenches away from archaeological remains and their setting,
  - the design of the scheme's vertical alignment and associated earthworks so that archaeological remains are not disturbed,
  - to provide for an excavation and recording of the remains prior to the start of earth-moving,
  - to provide for an archaeologist to be 'on call' so that any finds during construction can be recorded.

2.3.3.3 Reducing the impact of a development on archaeological remains is one of the factors to be considered when choosing foundation design and servicing options, conflicts can occur, such as raising vertical alignments may have a detrimental visual impact and increase noise for local people.

#### 2.3.4 Assessment of Impacts

2.3.4.1 The assessment of impacts upon the archaeological remains is based upon the importance of the site which is itself based upon the criteria set out in the Ancient Monuments and Archaeological Areas Act 1979 (HMSO 1979). It is likely that further survey will be required before the full impact of the scheme can be understood.

#### 2.3.5 Limitations to Surveys or Assessments

2.5.3.1 The aim of this assessment is to provide a map of the study area showing the archaeological constraints within the site of proposed development, and to provide a statement describing those constraints, detailing which areas may require additional surveys.

#### **3** The Base Line Conditions

#### 3.1 Existing Baseline

#### 3.1.1 Topography, Geology and Hydrology of the Study Area

- 3.1.1.1 The study area is situated on low-lying ground, approximately 93m AOD. It is located approximately 0.25km west of Keswick Town Centre, within an area of mixed industrial and residential use.
- 3.1.1.2 The geology of the development site consists of boulder clay which underlies alluvial sand and gravel, which has occurred along the river Greta, merging into marine alluvium near the upper limits of tidal waters. The boulder clay has been deposited by ice and is derived from bedrock traversed by glacial movement and is heterogeneous (SSEW 1984).
- 3.1.1.3 The site is situated within a meander of the River Greta, a tributary of the Derwent, which borders the site to the north and west. In the 19<sup>th</sup> century a millrace was diverted from the River Greta to provide water power for the Carding Mill, which existed on the site prior to the Pencil Factory.

#### 3.2 The Archaeological Landscape

- 3.2.1 The scheme exists in an industrial urban landscape within the modern town of Keswick. The town is situated to the north of Derwent Water and is of early medieval origin and lies adjacent to the line of a Roman road, although the precise location of the road is not known. There are also a number of prehistoric monuments located on the fells, which surround the town, including Castlerigg stone circle. There are a significant number of post medieval industrial complexes, including woollen mills, smelt mills and factories, which attest to the industrial development of the town.
- 3.2.2 Within the development site lay a post medieval Carding (woollen) Mill. This mill and associated mill race was located along Carding Mill Lane, and was superseded when the Keswick Pencil Works moved to the site from its location towards the town centre. The present factory dates to the mid 20<sup>th</sup> century and does not appear to contain any elements of the pre 1899 factory.

#### 3.3 Legislative Framework

#### 3.3.1 National Policy Context

3.3.1.1 Department of Environment's (DoE) Planning Policy Guidance Notes 15 'Planning and the Historic Environment' and 16, 'Archaeology and Planning' (PPG 15, 16; DoE 1990) underlines the national importance of many archaeological sites and the need for their preservation. PPG16 advises that archaeological remains should be seen as a finite and non-renewable resource, in many cases highly fragile and vulnerable to damage and destruction. It states that care must be taken to ensure that archaeological remains are not needlessly destroyed. They contain irreplaceable information about our past and the potential for an increase in future knowledge. The policy guidance notes makes it clear that where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development, there should be a presumption in favour of their physical preservation (DoE 1990).

#### 3.3.2 Statutory Designations

- 3.3.2.1 Under the Ancient Monuments and Archaeological Areas Act 1979, the Secretary of State for Culture, Media and Sport and the Executive Offices in Wales and Scotland can designate any building, structure or other work above or below ground which appears to be of national importance because of its historical, architectural, traditional, artistic or archaeological importance. This designation does not affect the ownership of the monument, but is binding to successive owners. No work can take place on a scheduled site without application for Scheduled Monument Consent to English Heritage, the statutory body for Historic Buildings and Monuments, in accordance with the Ancient Monuments (Application for Scheduled Monument Consent) Regulations 1981 and the Ancient Monuments (Class Consent) Order 1994.
- 3.3.2.2 The list of Scheduled Ancient Monuments is a selective example of the nation's Cultural Heritage and as such differs from a more comprehensive list of buildings of special architectural or historic interest compiled under Section 1 of the Planning (Listed Buildings and Conservation Areas) Act 1990. Listed Buildings are classified according to grades (Grade I being the most important and reserved for buildings of exceptional interest, through Grades II\* and II to Grade III which is a non-statutory grade employed by some local planning authorities to indicate local significance). The most common form of listing is Grade II. In addition to the listing of buildings of historic interest, in cases of non-listed buildings of particular architectural or historic interest in danger of demolition or alteration, the local planning authority may serve a Building Preservation Notice. Such notices are effective for 6 months during which time the building may be listed or a decision taken not to do so.

- 3.3.2.3 In addition to the designation of Scheduled Ancient Monuments, as part of the Ancient Monuments and Archaeological Areas Act 1979, Part II, the historic town centres of Canterbury, Chester, Exeter, Hereford and York were designated as Areas of Archaeological Importance (AAI's).
- 3.3.2.4 Further to the statutory designations, the National Trust's land is inalienable by Act of Parliament, and cannot be removed from the ownership of the Trust without consent. The Trust was established "to promote the permanent preservation, for the benefit of the nation, of lands and buildings or historic national interest or natural beauty."

#### 3.3.3 Non-Statutory Designations

3.3.3.1 English Heritage maintains a non-statutory Register of Parks and Gardens of Special Historic Interest. The main purpose of this register is to ensure that 'highway and planning authorities, and developers, know that they should try to safeguard them when planning new road schemes and new developments generally' (DoE Circular 8/87). Inclusion on the register does not involve new restrictions on development, nor does it affect the statutory listing or planning controls on any listed building within a registered park or garden but is a material consideration for planning purposes.

3.3.3.2

English Heritage also maintains a non-statutory Register of Historic Battlefields, which includes 43 of the country's most significant landscapes where armed conflict took place. The register is a planning tool, designed to highlight the importance of those places that we wish to protect from inappropriate development (English Heritage 2003). There is also a Buildings at Risk Register, published annually, which brings together information on all Grade I and II\* listed buildings, and scheduled ancient monuments (structures rather than earthworks), known to English Heritage to be 'at risk' through neglect and decay, or vulnerable to becoming so. In addition, the Grade II listed buildings in London, which are considered at risk, are included (English Heritage 2003).

3.3.3.3 L

Local authorities may designate a section of land or buildings as Conservation Areas. This is a local, non-statutory designation where the area is of special architectural or historic interest, 'the character or appearance of which it is desirable to preserve or enhance'. Section 72 (1) of the Planning (Listed Buildings and Conservation Areas) Act 1990 requires authorities to have regard for the fact that there is a conservation area when exercising any of their functions under the Planning Acts and to pay special attention to the desirability of preserving or enhancing the character and appearance of conservation areas.

#### 3.3.4 Local Policy Framework

- 3.3.4.1 The study area falls within the jurisdiction of the Lake District National Park Authority and Keswick Town Council, and is subject to the policies enshrined in the Cumbria and the Lake District Joint Structure Plan. The policies for the Historic Environment have the principal objectives:
  - Policy E31 Development and other land use changes in areas or features of national or international conservation importance, or within their settings, which are detrimental to their characteristics will not be permitted. Exceptions will only be made where: there is an over-riding need for development required to meet local infrastructure needs which cannot be located elsewhere and which is sited to minimise environmental impacts and meets high standards of design. These areas are defined as: World Heritage Sites, National Parks, Areas of Outstanding Natural Beauty (AONB), Special Protection Areas, Ramsar Sites, Special Areas of Conservation, Limestone Pavements protected by Order, National Nature Reserves, Sites of Special Scientific Interest (SSSI), Grade I or Grade II\* Listed Buildings, Grade I or Grade II\* Registered Parks and Gardens, Scheduled Ancient Monuments and Battlefields.
  - Policy E34 Measures will be taken to identify, record, protect, conserve or enhance areas, sites, buildings and settings of archaeological, historic and architectural importance, Proposals which fail to preserve or enhance the character or appearance of Conservation Areas or which damage, obscure, or remove important archaeological sites or other historic features or are detrimental to the character or setting of a listed building will not be permitted unless the harm caused to their importance and intrinsic interest is clearing outweighed by the needs of development.

*Cumbria and the Lake District Joint Structure Plan* (2003)

#### 3.4 Previous Work

3.4.1 There has been no previous archaeological assessment undertaken within the study area.

## 4 Historical Background

#### 4.1 Place Name Evidence

4.1.1 The place name Keswick, is derived from the Old English *cese-wic* or Cheese Farm (Armstrong et al 1971). Many places, which have 'wick' as an element, have Roman roads, which pass through, and it is possible such a road passed through Keswick, although there is little evidence in support of this (Lee 1998).

#### 4.2 Prehistoric

4.2.1 Little is known regarding Keswick in prehistory, however, there a number of prehistoric monuments within the vicinity of the town, including Castlerigg stone circle. There have also been a number of stray finds from the area recorded on the Lake District National Park Historic Environment Record. Keswick is also situated within a valley between West Cumbria and the North Pennines, which was almost certainly an important trade route in prehistory.

#### 4.3 Roman

4.3.1 The valley route in prehistory was almost certainly the route taken by a Roman road, linking the forts of Brougham in the east and the West Cumberland forts along the coast (see figure 3). The place name evidence also suggests a road passed through or close by the town. According to West, a possible fort site was situated within a meander of the River Greta, 'a meadow peninsulated by the river just north of the town and called Goats field' (West 1778). However, according to Hindle, the meander is much more likely to have been upstream of its present position and the site of the fort would have been on higher ground, 'now heavily built over, largely by Keswick School' (Hindle 1984).

#### 4.4 Medieval

4.4.1 The place name Keswick is an Old English word for 'Cheese Farm' (Armstrong et al 1971) and it is from this early medieval date that the first evidence of settlement dates from. The scale of the settlement is unknown, and it is likely that it remained a small settlement until the post medieval period, when a number of industries were brought to the area. The Moot Hall in Keswick, a Grade II\* Listed Building and Scheduled Ancient Monument, first dates to 1571, although the present building is early 19<sup>th</sup> century in date.

#### 4.5 Post Medieval

4.5.1 There are a number of listed buildings within Keswick, which date to the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> centuries, covering the period that was the most important in the development of the town. The town's location within an area rich in mineral ores, close to the River Greta and in addition to a long tradition of pastoralism saw a number of industries brought to the area. Such industries included the textile and ore smelting industries.

4.5.2 During this period plumbago or graphite was brought from the mines at Seathwaite for use in the production of pencils, and a pencil works was constructed a short distance west of the town centre. This works was moved further away from the centre to the site of a Carding Mill, within a meander of the River Greta west of Greta Hamlet. It was on the site of this works that the present Cumberland Pencil Factory was constructed in the 20<sup>th</sup> century.

#### 4.6 Modern

4.6.1 The site at present is occupied by the Cumberland Pencil Factory, which consists of two large building complexes, and a smaller, rectangular building which houses the Cumberland Pencil Museum. The remainder of the site consists of car parking. Most of the ground is made-ground consisting of sandy gravelly clay interleaved with ash and pencil lead.

#### **5** Assessment Results

## 5.1 International Designations

#### **5.1.1** World Heritage Sites

5.1.1.1 There are no World Heritage Sites (UNESCO 1972) within any of the areas under consideration.

#### **5.2** National Designations

#### **5.2.1** Scheduled Ancient Monuments

5.2.1.1 There is 1 Scheduled Monument within the vicinity of the site, the Moot Hall, which dates to the 16<sup>th</sup> century although the present building was constructed in the early 19<sup>th</sup> century.

#### 5.2.2 Areas of Archaeological Importance

5.2.2.1 There are no Areas of Archaeological Importance within or adjacent to the study area.

#### 5.2.3 Listed Buildings

5.2.3.1 There are a number of listed buildings within the vicinity of the site. These include nos. 2, 3-6 and 18 High Hill which are all Grade II listed and date between the 17<sup>th</sup> and 18<sup>th</sup> centuries. The Crosthwaite Sunday School, a 19<sup>th</sup> century Grade II listed building is also situated close to the site.

#### **5.2.4** Building Preservation Notices

5.2.4.1 There are no known Building Preservation Notices within any of the areas under consideration

#### **5.2.5** Battlefield Sites

5.2.5.1 There are no registered battlefield sites within the study area under consideration.

#### **5.6.6** Local Designations

#### **5.2.6.1** Conservation Areas

5.2.6.1.1 The study area does not fall within a designated Conservation Area. However, as the area falls within the Lake District National Park it is subject to the policies set out in the Joint Structure Plan (CCC/LDNPA 2003).

#### 5.3 Non-Designated Buildings and Sites

5.3.1 There are no known important non-designated sites within the vicinity of the development site.

## 6 Map Regression

#### 6.1 Keswick Tithe Map

6.1.1 The majority of the site was undeveloped in the 1840s when the Tithe Map was drawn, and consists of three fields, Goat Field, High Goat Field and Low Goat Field. These were owned by Robert Gibson, John Hudson and Isabella Hudson respectively, and consisted of meadowland approximately 6 acres in total. The map also shows the position of a Carding Mill and millrace on the site of the present pencil factory.

# 6.2 Ordnance Survey 1st Edition, 1865

6.2.1 By the mid 1860s the site was much the same as depicted on the Tithe Map, consisting of three fields and a Carding Mill. A series of 'tenters' are visible on this map, within Low Goat Field, adjacent to the Carding Mill which was not represented on the Tithe Map.

## 6.3 Ordnance Survey 2<sup>nd</sup> Edition 1899

By 1899 the Carding Mill had become the Keswick Pencil Works, although this appears to have reused the Mill buildings, with slight alterations. The millrace is still visible on this map and the tenter grounds have by this date fallen into disuse, and have not been included in the survey (see figure 6).

## 6.4 Ordnance Survey 4<sup>th</sup> Edition 1964 - Present

By 1964 the site is much as it is at present. There are no traces of the three fields mentioned on the 19<sup>th</sup> century maps and the majority of the site has been developed comprising the Cumberland Pencil Works. A rectangular building, now housing the Pencil Museum, is visible on the site of the millrace, which appears to have been filled in. It is likely by this date that large areas of the site between the factory and the river consisted of 'made ground' caused by waste from the works (see figure 7).

# 7 Borehole Survey

- A borehole survey was undertaken in March 2004 by Robinson Environmental, to ascertain the current ground conditions (see figure 4). A total of 12 boreholes were excavated to a depth of 6.0m. These revealed a sequence of boulder clay which was overlain by alluvial sand and gravel, which in turn underlies a layer of 'made ground', consisting of moss overlying sandy gravelly clay, with pencil lead and fragments of ash (Robinson Environmental 2004). Anthropogenic materials were also found within the made ground including brick, pencil lead, ash, clinker, ceramic and concrete fragments (Ibid.).
- 7.2 The survey recommended that the ground was unsuitable for supporting any proposed foundations, and proposed conventional strip or pad foundations taken down and based within alluvial sand and gravel deposits to a depth of between 0.65m and 2.75m.

## 8 Impacts Of The Proposed Development

- The scheme proposes to demolish the existing Museum building and rehouse this in the present main factory building, which will see the erection of an additional floor in order to provide key worker accommodation. The scheme also proposes to erect two modern factory units as an extension to current office premises in order to rehouse the Pencil Factory. Further to this a series of 39 apartments are proposed along the north bank of the River Greta (see figure 2).
- 8.2 The scheme proposals involving the excavation of deep strip or pad foundations and service trenches will have a potentially high negative impact upon buried archaeological remains. It is possible that archaeological remains of Roman or prehistoric date exist within the development site. Factors to consider include the type and design of foundations to be used: i.e. the use of relatively shallow 'raft' type foundations may have a limited impact upon buried archaeological remains and also the number and locations of service trenches.
- 8.3 Any minor groundworks required in the construction of car parking facilities may have a negative impact on any buried archaeological features.
- 8.4 It is anticipated there will be no visual impacts upon the settings of Scheduled Ancient Monuments, Listed Buildings or Conservation Areas as a result of the proposed development.

## 9 Proposed Archaeological Mitigation

9.1 It is anticipated that, owing to the possibility of buried archaeological remains within the site, further archaeological investigation prior to the commencement of the construction programme will be required. This could take the form of a field evaluation, in line with Policy E34 of the Cumbria and Lake District Joint Structure Plan. Any further archaeological work required will be requested and monitored by the Lake District National Park Authority Archaeologist.

## 10 Summary

#### 10.1 Overview

- 10.1.1 The development site falls within an area of previously undeveloped land prior to the mid 19<sup>th</sup> century, consisting of meadowland and referred to as 'Goat' Fields. It is possible that buried archaeological remains of Roman date are situated within the site, although no evidence is available in support of this theory.
- The excavation of deep foundations is likely to destroy buried archaeological remains. It is anticipated that further archaeological work be undertaken on the site prior to development. This could take the form of a field evaluation, the aim of which would be to define the presence/absence, nature, extent and state of preservation of archaeological remains within the immediate impact area of the development.

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# **APPENDIX 1 List of Statutory and other Consultees**

# **Statutory Consultees**

John Hodgson Archaeologist Lake District National Park Authority Murley Moss Oxenholme Road Kendal Cumbria LA9 7RL

# **APPENDIX 2 List of Archaeological Sites and Monuments**

Smr no	SAM no	Grid Ref E	Grid Ref N	Site Type	<b>General Period</b>	Specific Period
1114		327150	523490	Findspot	Unknown	Unknown
1115		326990	523240	Findspot	Unknown	Unknown
1116		327060	523330	Findspot	Unknown	Unknown
1119		326420	523710	Findspot	Unknown	Unknown
1122		327100	523400	Findspot	Prehistoric	Neolithic
1687		326630	523420	Town Hall	Post Medieval	Georgian
4177		326600	523700	Factory	Post Medieval	Regency
4177		326600	523700	Weaving Mill	Post Medieval	Regency
4178		326300	523700	Factory	Post Medieval	Unknown
30614		326710	523660	Mill	Unknown	Unknown
30615		326770	523580	Mill	Unknown	Unknown
30616		326830	523560	Tannery	Unknown	Unknown
30617		326360	523860	Woollen Mill	Unknown	Unknown
30620		327090	523580	Smelt Mill	Unknown	Unknown
30621		327030	523530	Watermill	Unknown	Unknown
30623		327220	523720	Smelt Mill	Unknown	Unknown
32089		326480	523640	Viewing Station	Post Medieval	Unknown
6322		326700	523500	Tenement	Medieval	Unknown

Table 1: List of Sites, Monuments and Findspots held in the Lake District National Park Historic Environment Record (LDNPA HER).

# **APPENDIX 3 Illustrations**

# **APPENDIX 4** The Bore Hole Survey