



# **HAYESWATER PIPELINE**

## **BARTON TO HARTSOP AND BRAESTEAD TO GRISEDALE**

Cumbria

### **Archaeological Appraisal**

### **Second Revision**

**Oxford Archaeology North**



September 2004

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The desk-based study was undertaken by Paul Gajos and the walkover survey was conducted by Peter Schofield, and both prepared the report. The drawings were produced by Emma Carter and Peter Schofield. Jamie Quartermaine and Emily Mercer edited the report and the overall project management was by Jamie Quartermaine.

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## SUMMARY

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Oxford Archaeology North (OA North) has been requested by United Utilities to examine the archaeological implications of the construction of two sections of a proposed pipeline route in central Cumbria (Fig 1). Section 1 (Figs 2-4) extends through the area around Barton, Howtown, Martindale and Hartsop (NY 4662 2171 – 4096 1346). Section 2 (Fig 3 and 5) runs through Braesteads and Grisedale (NY 3907 1613 – 3767 1563). Section 1 crosses extensive landscapes containing a range of archaeological monuments extending from the Neolithic period through to the present. One of the sites (Site 230) is a Scheduled Monument, deemed to be of national importance, and as such is protected from any disturbance. Section 2 contains a number of sites of post-medieval date including a group of charcoal burning platforms at Glenamara Park.

The requirement of the study was for a rapid appraisal of the route rather than an in-depth assessment; consequently, the sources investigated were restricted to the Cumbria Sites and Monuments Record (SMR), the National Trust Sites and Monuments Record (NTSMR) and the OS First Edition maps. The descriptions of the archaeological resource have been restricted to summaries. Where possible, quantitative methods have been utilised in order to produce a more informative picture of the resource and the impact of the proposals upon it, and thereby provide a basis for recommendations to protect the resource or where this was not possible appropriate mitigative measures.

From the SMR, 47 sites were identified as being within a 200m corridor of the pipeline, one of which was identified as a Hazard Area and one was a Scheduled Monument. The sites have been scored on the basis of their archaeological significance, rarity, archaeological status, condition, period, and proximity to the proposed pipeline; in broad terms this means that sites with a high score should warrant the re-routing of the pipeline, whereas sites with a low score should require little or no further action. In this way, the site with the highest score is the cup-marked stones at Beckstones and the lowest score is that for a Victorian gravel pit, remote from the pipeline.

The recommendations are presented in tabular form. These seek to preserve the resource *in situ* where possible. In practice, however, for most of Section 1 the new pipe will be drawn through an earlier pipe and the only intervention will be access trenches at various points along the route. The more important sites should be protected by re-routing the pipeline (if a new pipe is to be lain) or by relocating the access trenches, and small, localised sites should also be avoided/protected within the easement corridor. If it is not possible to avoid the sites then options for evaluation as a preliminary to further recording, as mitigation, are presented.

For Section 2 it is recommended that the re-routed pipeline within Glenamara park be constricted and any surrounding archaeological sites be marked out; furthermore a topographic survey followed by detailed trenching is advised to be undertaken on charcoal burning platforms **247**, and **239** and the lynchet boundary **252** as there is no scope for a re-route around these sites. A small number of sites (Sites **232**, **237**, **243**, **245**, **248**, **250** and **251**) will need to be avoided within the 15m easement of the pipeline. It is also recommended that a general archaeological evaluation be undertaken of Section 2, which would entail a 5% investigation of the proposed route.

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## 1. INTRODUCTION

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### 1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 Oxford Archaeology North (OA North) has been requested by United Utilities to examine the archaeological implications of the construction of two sections of a proposed pipeline route in central Cumbria (Fig 1). Section 1 extends through the areas around Barton, Howtown, Martindale and Hartsop (NY 4662 2171 – 4096 1346). Section 2 runs through Braesteads and Grisedale (NY 3907 1613 – 3767 1563). Section 1 crosses extensive landscapes containing a rich range of archaeological monuments extending from the Neolithic period through to the present. One of the sites (Site 230) is a Scheduled Monument, deemed to be of national importance, and as such is protected from any disturbance. Section 2 contains a number of sites of post-medieval or uncertain date. The initial appraisal was undertaken in July 2003. This report is an updated, second version of the original appraisal, undertaken in June 2004, and examines the same sources of evidence for an additional route extension from Braestead to Grisedale, Section 2 of pipeline (Fig 5). A walkover survey to identify additional sites was conducted along the entire route of Section 2, and a short section of Section 1 at Boredale Head (NY 4193 1712 - 4140 1639), where a new pipeline trench will be dug instead of slip-lining old pipelines.
- 1.1.2 **Rapid Appraisal:** United Utilities has requested, at this stage, a statement outlining the archaeological potential and impact of the proposed routes, rather than a detailed archaeological assessment. Consequently, only a basic level of documentary work has been undertaken, and only summary descriptions of the archaeological resource are presented in this preliminary study. Where possible, quantitative methods have been utilised, in order to produce a more informative picture of the resource and impacts upon it. The Impact Section (*Section 5.1*) examines the specific impact of the route on each of the known archaeological sites. The recommendations section (*Section 6.1*) suggests mitigation measures, including re-routing, to protect the archaeological resource. Following on from the first version of this appraisal report, several areas of the proposed pipeline have been subject to walkover survey in response to a change in pipe laying strategy for these areas, and an additional extension of pipeline route (Section 2) has been assessed in order to minimise the impact on the archaeological resource. The addition of sites identified from the National Trust Sites and Monuments Record and walkover survey, and the appraisal of the new section of pipeline route upon the Braestead to Grisedale pipeline (*Section 2*), has produced new impacts on the archaeological resource, by comparison with those identified by the original appraisal.
- 1.1.3 **Walkover Survey:** in addition a walkover survey was undertaken within the assessment corridor of the pipeline route (Figs 4 and 5) on unchanged original route sections (Section 1) with new pipeline trenches and the new re-routed areas on Section 2. The walkover survey has identified five new sites.
- 1.1.4 All of the information concerning archaeological sites within the assessed areas 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; a summary description of each site is also provided and the sites have been marked on digital maps (Figs 4-6). Other sites beyond the extent of the study area considered to be of background relevance, are mentioned in the text with appropriate SMR references, but are not depicted on the mapping or included in the site gazetteer.

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## 2. METHODOLOGY

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### 2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 1*) was submitted by OA North to United Utilities for an archaeological appraisal for two sections of the Hayeswater pipeline, examining a corridor of 200m width centred on the proposed route:
- Section 1 Barton to Hartsop (NY 466 521 to NY 409 513) c14km
  - Section 2 Braesteads to Grisedale (NY 390 516 to NY 376 515) c1.5km
- 2.1.2 After the first version of the appraisal report a re-routed section of proposed pipeline was added to the Braestead to Grisedale section of the pipeline, and this took the pipeline into the National Trust estate at Glenamara Park (Fig 6, NY 3898 1593 - 3830 1568)
- 2.1.3 The project design for the appraisal of this part of the Hayeswater pipeline was produced in accord with a verbal brief from Eleanor Kingston of the Lake District National Park Authority (LDNPA). The project design was adhered to in full and the work was consistent with the relevant standards and procedures of the Institute of Field Archaeologists, and generally accepted best practice.

### 2.2 RAPID APPRAISAL

- 2.2.1 Four main sources were consulted for the Rapid Appraisal: the County Sites and Monuments Record (SMR); the National Trust Sites and Monuments Record (NTSMR); the OS First Edition maps for the route; and the aerial photograph collections held at the SMR. These sources were sufficient to identify the principal archaeological monuments along the alignment of the proposed pipeline, but will not have identified all the archaeological resource. A more intensive desk-based assessment would be necessary to provide a comprehensive examination of documentary and cartographic sources, as well as antiquarian accounts and numerous other sources and published works necessary to provide a full picture of not only the known sites, but also the archaeological potential of the area. In addition to these sources, a walkover survey of assessment corridor along the proposed trenched areas of the development routes was undertaken.
- 2.2.2 ***Cumbria Sites and Monuments Record (SMR)***: a detailed digital record of all sites noted on the Sites and Monuments from along the line of the proposed route was obtained from the Cumbria and Lake District National Park SMRs.
- 2.2.3 ***National Trust Sites and Monuments Record (NTSMR)***: a detailed digital record of all sites noted on the Sites and Monuments from along the line of the proposed route within Glenamara Park was obtained from the National Trust SMR.
- 2.2.4 ***Aerial Photography***: the aerial photographic collection at the SMR was consulted and photographs were selectively examined where they appeared to be able to enhance information about a specific site. Other photographs covering the area, both oblique and vertical, may be held at the NMR (Swindon) and these may produce additional results.

- 2.2.5 **Cumbria Record Office (Kendal):** the First Edition OS maps are a published source of printed maps at a scale of 1:10,560, (Figs 2 and 3). The maps for this area date to 1867, and show clear details of landscape features. They are regarded as accurate in both the location and the nature of the material they represent.

## 2.3 WALKOVER SURVEY

- 2.3.1 A walkover survey was undertaken by an experienced landscape archaeologist, additional sites were noted, described and accurately located. In addition, previously identified sites within the assessment area were visited and their condition noted. The survey was conducted by walking 20m wide transects within the easement corridor of the proposed pipeline. The survey was undertaken as an enhanced Level 1 type survey (OA North 2002). 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  $\pm 0.25\text{m}$ .

## 2.4 ANALYSIS

- 2.4.1 The impact of the proposed pipeline upon the archaeological resource was assessed using the guidelines set out in the appraisal document issued by the then Department of the Environment Transport and the Regions (DETR 1998) as a framework. Although this document relates to road schemes, it is a recognised, objective methodology compatible with Environmental Impact Assessments and the criteria involved in the Scheduling of monuments and sites. The qualitative information produced by the appraisal was dealt with by a system of scoring, which enabled tables of relative impact to be created, providing a quantitative approach to the appraisal. Thus a high score will denote a site of great importance that has a considerable likelihood of adverse impact by the pipeline, and a low score denotes a site of lower importance, normally remote from the pipeline and thus not directly impacted upon. The results are given in Tables 1 and 2 (*Section 5.1.3*). The Site Number refers to the site gazetteer (*Appendix 2*) and relates to Figures 4, 5 and 6, while the SMR Number is the number of the record held at the Cumbria County Council SMR in Kendal or from the National Trust (NTSMR). The columns for Period, Condition, Association and Rarity provide scores for each site, each section scoring from one to four as follows:

### Score Period

- |   |                               |
|---|-------------------------------|
| 1 | Post-medieval                 |
| 2 | Medieval                      |
| 3 | Roman or unknown              |
| 4 | Prehistoric or Early medieval |

### Score Condition

- |   |                                  |
|---|----------------------------------|
| 1 | Non-existent, not seen in survey |
| 2 | Poor, very little survives       |
| 3 | Good, over a third survives      |
| 4 | Excellent, near complete         |

**Score Association**

- 1 Single findspot
- 2 Single feature
- 3 Cluster of features = Site
- 4 Cluster of sites = Landscape

**Score Rarity**

- 1 Very Common, 5000+ in England
- 2 Moderately Common, 1000-5000 in England
- 3 Rare, 100-1000 in England
- 4 Extremely Rare, <100 in England

- 2.4.2 In addition to these categories, the designated significance of a site was included; this includes designation as a Hazard Area, which has planning restrictions, or as a Scheduled Monument, which provides legal protection. Such designated sites were given weighted scores: two points for a Hazard Area and five for a Scheduled Monument. The resulting overall scores, for individual sites, ranged from 6 to 25.
- 2.4.3 The major factor in determining the impact was the proximity of the monuments to the proposed line of the pipe. The impacts were defined as: Category 1: Certain and Direct, meaning that the monuments lie on the route of the pipeline itself or within the 15m easement, and for these the impact was gauged as scoring 4; Category 2: Certain and Indirect, meaning that the sites lie beyond the 15m easement but within 100m of the route, for which the Impact was gauged as scoring 2.
- 2.4.4 Other sites on the fringes of the scheme may also be liable to be affected by the development, as they lie within the immediate vicinity, but the impact upon these is dependent on the access points to be used. In these instances it is assumed that due care and attention will be paid to any archaeology which may be encountered.

**2.5 ARCHIVE**

- 2.5.1 The results of the rapid appraisal will become part of a full archive compiled at the completion of the project. The archive will be assembled to professional standards, in accordance with current English Heritage guidelines (1991). The project archive represents the collation and indexing of all the data and material gathered during the course of the project, and a synthesis (in the form of the index to the archive and the report) will be deposited with the National Monuments Record (RCHM(E)), as appropriate. OA North practice is to deposit the original record archive of projects (paper, magnetic, and plastic media) with the Cumbria Record Office (Kendal).



### 3. RESULTS

#### 3.1 INTRODUCTION

- 3.1.1 A total of 53 sites were identified during the rapid appraisal and the walkover survey. They fall into the categories listed below, and are described in order of their frequency within the study corridor:

Site Type	Number of Sites	Site Numbers
Charcoal burning platforms	9	<b>239, 240, 241, 242, 243, 244, 245, 246 and 247</b>
Quarries	7	<b>209, 213, 217, 231, 235, 236 and 253</b>
Structure	6	<b>208, 218, 219, 220, 238 and 251</b>
Mills	5	<b>226, 227, 228, 229 and 237</b>
Cairns	5	<b>202, 203, 204, 205 and 206</b>
Mines	3	<b>210, 212 and 214</b>
Earthwork sites	3	<b>201, 211 and 252</b>
Weir and Drains	3	<b>215, 216 and 249</b>
Findspots	2	<b>207 and 222</b>
Stone	2	<b>230 and 232</b>
Well	1	<b>248</b>
Bridge	1	<b>250</b>
Farmstead	1	<b>223</b>
Potash Kiln	1	<b>226</b>
Rain gauge	1	<b>234</b>
Castle	1	<b>233</b>
Religious Site	1	<b>221</b>
landscape	1	<b>224</b>

#### 3.2 SITES AND MONUMENTS RECORD (SMR AND NTSMR)

- 3.2.1 The majority of the sites within the site gazetteer (*Appendix 2*) were from the SMR, which was compiled as a result of a search on a 1km corridor centred on the alignment of the proposed pipeline. The sites retrieved from the SMR are specific to the alignment. If this alignment is altered in any way this will have further implications, since the areas around the corridor contained numerous other sites, which were not within the catchment of this project. Thirty-eight sites were identified in the initial appraisal and an additional nine sites were identified from the NTSMR on the subsequent re-routed proposed pipeline route. Of the forty-seven SMR entries pertinent to this updated revision, Sites **203, 204 and 205** were identified as Hazard Areas and Site **231** as a Scheduled Monument.
- 3.2.2 In terms of period, there were eight prehistoric sites of which one was Neolithic (Site **230**), one Bronze Age (Site **222**), and four unspecified (Sites **204-7**). There were also 20 post-medieval sites and 20 of unknown date.
- 3.2.3 The aerial photographs examined did not reveal any further sites other than those already included within the SMR.

### 3.3 ORDNANCE SURVEY (OS) MAPS

- 3.3.1 Several sites of potential interest were identified on the First Edition OS maps that were not included in the SMR. All the sites were in existence when the areas were surveyed for the OS First Edition (Figs 2 and 3). These sites are not individually numbered, however, and are not in the gazetteer since they have a low significance score and are outside the proposed easement corridors but are shown on the site mapping (Figs 4 and 5). The only exception to this method is the site of the now demolished well (Site **248**) that is within the easement of the proposed re-route of the Braesteads to Grisedale pipeline corridor.

### 3.4 WALKOVER SURVEY

- 3.4.1 The walkover survey identified a further five new sites which were not listed in the SMRs or on the OS First Edition mapping. The walkover survey also provided information on the current condition of all the documentary sites within the re-routes and areas to be trenched on the proposed pipeline routes. All of the five new sites were identified as being at medium risk. In terms of period, there were four Post-medieval sites and one of unknown date (Site **251**; Plate 3).
- 3.4.2 The sites fall into the following primary site types:

Site Type	Number of Sites	Site Numbers
Drains	1	<b>249</b>
Bridge	1	<b>250</b>
Structure	1	<b>251</b>
Earthwork	1	<b>252</b>
Quarry	1	<b>253</b>

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## 4. ARCHAEOLOGICAL POTENTIAL

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### 4.1 PREHISTORY

- 4.1.1 The marginal uplands and valleys of Martindale and Patterdale have been occupied and exploited since at least the Neolithic period and potentially even earlier. The main Neolithic remains in the immediate vicinity of the study area are the cup marked stones at Beckstones (Site **230**) which include a series of cup marks and associated grooved channels. Such rock art panels are found in various areas around the northern England, such as on the Pennines and Northumberland, but are not common within the Lake District. They are typically difficult to date, but where an association with adjacent sites has been identified they have been found to date broadly to the late Neolithic / Early Bronze Age period (Beckensall 1992; Bradley 1997). There is a broad context for archaeological remains of this period within the vicinity, notably on the nearby Askham Fell, where there is an early stone circle linked to communication routes and a stone avenue (OA North 2003), although it has no absolute dates.
- 4.1.2 **Bronze Age:** extensive Bronze Age remains exist for much of the area across the Haweswater Estate of United Utilities, as demonstrated by a recent survey (LUAU 1997b; Quartermaine and Leech forthcoming). These comprise various funerary round cairns or ring cairns as found on Askham Fell, or more commonly small areas of cairnfield representing localised improvement of agricultural ground, which occurred in some instances immediately following forest clearance. These are to be found in areas of Fordingdale, Cawdale and Helton Fell, which are to the east of the proposed pipeline and have all been found as a result of systematic archaeological survey. The apparent absence in the environs of Ullswater reflects, in part, the fact that no systematic survey has been undertaken in these areas. There is, however, one discrete group of clearance cairns to the south of Howtown (Sites **203-205**) which would appear to reflect a small episode of clearance; the cairns are potentially of prehistoric date, and perhaps more specifically Bronze Age. Bronze Age activity in the area is confirmed by the finding of a bronze spearhead on the edge of Ullswater near Swarthfield (Site **222**).

### 4.2 IRON AGE / ROMAN

- 4.2.1 Although the Iron Age and Roman periods are not represented within the immediate study area, there are a number of monuments within the environs of the pipeline routes that demonstrate activity during these periods. Definitive Iron Age monuments such as hillforts have been identified from the surrounding region. These consist of defended settlements enclosed by one or more ditches, often with evidence of house-platforms within the enclosures, located in good defensible positions such as the tops and sides of low-lying hills. Within the vicinity of the study area are hillforts at Castle Crag, on the north side of Haweswater, Castlesteads in Lowther Park (LUAU 1997a), Dunmallard Hill at the north end of Ullswater and north-west of Pooley Bridge, and Maiden Castle at Matterdale, north of Ullswater. All the hillforts lie within 5km of Section 1 of the pipe-route.

- 4.2.2 In addition there are a number of enclosed settlements from the region which could be of either Iron Age or Roman date. These settlements typically consist of small groups of stone hut circles within a low enclosing wall, often with associated field boundaries, paddocks and clearance cairns. Sites have been recorded within the northern part of the United Utilities Haweswater estate (within 5km of Section 1 of the pipe-route - LUAU 1997b), as well as at Hartsop Hall and Dovedale in Patterdale (3km west of Section 1 and 2km east of Section 2), Deepdale Hall and Deepdale Bridge in Deepdale (1.5km west of Section 1 and 2km east of Section 2), Broomhill Plantation in Grisedale (0.5km north of Section 2), Heck Beck in Martindale (1.5km south-east of Section 1 and 4km east of Section 2), Winder Hall and High Winder near Barton (5km north of Section 1), Soulandgate and Soulby Fell near Dacre (4km north-west of Section 1), and two settlements at Glencoyne Park in Matterdale (5km west of Section 1 and 4km north of Section 2). An unenclosed settlement has also been excavated at Baldhowend in Matterdale (5km north-west of Section 1 and 7km north of Section 2), which was dated to the late first millennium BC (Loney and Hoaen 2000).
- 4.2.3 No sites dating definitively from the Roman period are known within the study area; however, a Roman road (High Street) runs between Ambleside and Brougham (Margary 1973), east of and close to the survey area. The route appears to have continued in use until the post-medieval period, and can be detected from the variety of finds found at well-established sites along the route. Such communication routes have always been favoured for the development of sites, whether large and organised or smaller and informal, and of varying natures such as agricultural, commercial or residential. Therefore the hinterlands of the road has the potential for Roman remains.

### 4.3 EARLY MEDIEVAL / MEDIEVAL

- 4.3.1 No sites dating to the early medieval or medieval periods are known from the immediate study area; however, there are some sites of early medieval date from the wider environs. Most significant of these is the early medieval monastic site at Dacre, which is documented from the early eighth century and there was activity from then through to the present day, albeit latterly this was in association with the parish church which superseded the monastery (R Newman pers comm). At nearby Lowther, to the east of Ullswater, and associated with St Michael's Church is a series of three decorated hog back tombstones of late tenth or early eleventh century date, and inside Lowther Castle there used to be two cross shafts which were probably of eighth century date (LUAU 1997a).
- 4.3.2 Little study has been undertaken on the medieval history of the head of Ullswater, but the few indications are that there was relatively little significant settlement in the area until the post-medieval period. There was some medieval traffic extending over Kirkstone Pass and through Ullswater, on the line of the former Roman *Road* (Section 4.2.3) but even here the evidence would suggest that much of the traffic bypassed Ullswater, preferring instead the pass into Mardale and Hawswater and the northerly route through Thirlmere (Hindle 1998).

#### 4.4 POST-MEDIEVAL

- 4.4.1 The post-medieval period is well represented in the study area, with 29 of the 53 sites in the gazetteer dating to this period, and five of the sites, whose exact period is unknown, are probably of post-medieval origin. The majority focus on industrial activities, including mining, quarrying, charcoal production and fulling. In total there are seven quarries, of which two are shown as gravel pits on early editions of the OS maps (Sites **213** and **236**), one was discovered in the walkover survey (Site **253**), and the remaining four are noted in the SMR as sites of quarries but other little detail is provided (Sites **209**, **217**, **231** and **235**). None of the quarry sites are directly at risk from the work being undertaken on the pipeline.
- 4.4.2 Nine charcoal burning platforms (Sites **239-247**, Fig 6; Site **243** shown in Plate 1) were identified around the assessment area upon the re-route to the Braesteads to Grisedale proposed pipeline (Section 2). These were concentrated within the National Trust Estate of Glenamara Park where an extensive landscape of charcoal production sites and associate features has been found (Jamie Lund pers comm).
- 4.4.3 Three mines are known from the SMR, all of which are now disused. Hayeswater Gill Lower Mine and Hartsop Dodd Lower Mine (Sites **212** and **214**) are lead mines located to the south-east and south of Hartsop and beyond the southern extent of Section 1 of the proposed pipeline. Dubhow Gill Mine is a copper mine located 1.25km to the north of Hartsop and east of Section 1 which was disused by 1860 (Site **210**).
- 4.4.4 The majority of the mills identified during the assessment are in the vicinity of Section 1. These comprise: two corn mills, one of which is at Hartsop (Site **226**) and the other to the north of Martindale (Site **227**); a bobbin mill at Howtown (Site **228**); and a fulling mill also at Howtown which is considered to be at high risk from the proposed pipeline (Site **229**). An additional fulling mill is considered to be at high risk from Section 2 of the proposed pipeline (Site **237**). Little detail is known for any of the mill sites.
- 4.4.5 A small number of post-medieval sites are recorded on the SMR around Martindale and include a reading room and a school (Sites **219** and **220**), depicted on the OS second edition map; and a smithy shown on the OS first edition map (Site **218**). All of these sites are considered to be at medium risk from the proposed pipeline.

## 5. ARCHAEOLOGICAL IMPACT

### 5.1 IMPACT

- 5.1.1 Any below ground work undertaken within the study area may damage existing sites or encounter previously unrecorded archaeological deposits and features; without the recording of such finds there is a likelihood that crucial information will be destroyed. While few below ground archaeological investigations have been undertaken to date within the survey area, the evidence presented in this report suggests that there is reasonable potential for the survival of archaeological deposits. The nature of any impact can only be accurately defined for known archaeological sites and resources. The impact on potential or as yet unknown archaeological sites can only be postulated at this stage.
- 5.1.2 Within the framework for discussing the impact of the pipeline, the importance, nature and quality of each of the 53 sites within the gazetteer was gauged, both within a national context and within the context of the pipeline.
- 5.1.3 Tables 1 and 2 attempt to classify and quantify the sites and the impact of the proposed scheme upon these sites. The higher the score, the higher the value of the site or the greater the impact. The methodology of the scoring system is presented in *Section 2.3*, and the overall results are presented below (Tables 1 and 2) and graphically in Figures 4-6. The original data (thirty-eight sites) for the two proposed assessment corridors outlined in the first version of this report have been retained, with the addition of fifteen new sites (Sites **239-253**) identified in the second version of this report. The new sites include nine new National Trust SMR sites, one new First Edition OS mapping site and five new walkover survey sites.

Site No	SMR No	Period	Condition	Assoc.	Rarity	Status	Impact	Score
214	12627	1	2	2	1	-	-	6
217	12639	1	2	2	1	-	-	6
226	30913	1	2	2	1	-	-	6
253	-	1	3	1	1	-	2	6
211	12621	1	3	2	1	-	-	7
213	12623	1	2	3	1	-	-	7
215	12637	1	1	2	1	-	2	7
216	12638	1	1	2	1	-	2	7
212	12622	3	2	2	1	-	-	8
227	30914	3	2	2	1	-	-	8
228	30916	3	2	2	1	-	-	8
207	6349	4	3	1	1	-	-	9
210	12618	3	2	3	1	-	-	9
218	12642	1	3	2	1	-	2	9
201	1511	3	2	3	2	-	-	10
208	6591	3	3	2	2	-	-	10
209	12520	3	2	2	1	-	2	10
219	12643	1	3	3	1	-	2	10
220	12644	1	3	3	1	-	2	10

222	16725	4	3	1	2	-	-	10
226	30909	3	3	2	2	-	-	10
206	5338	4	3	2	2	-	-	11
221	12646	3	2	2	2	-	2	11
202	1514	3	2	3	2	-	2	12
223	16775	3	2	3	2	-	2	12
229	30917	3	2	2	1	-	4	12
224	17817	3	3	4	3	-	-	13
203	1597	4	3	3	2	Hazard Area	2	16
204	1598	4	3	3	2	Hazard Area	2	16
205	1599	4	3	3	2	Hazard Area	2	16
230	31730	4	4	3	4	SM 32872	1	21

Table 1: Section 1, Barton to Hartsop

Site No	SMR No	Period	Condition	Assoc.	Rarity	Status	Impact	Score
236	12690	1	1	2	1	-	-	5
234	12687	1	1	2	2	-	-	6
251	-	1	1	1	1	-	2	6
235	12689	3	1	2	1	-	-	7
233	12685	3	1	2	2	-	-	8
237	3058	3	2	2	1	-	-	8
243	NT27516	1	2	3	2	-	-	8
245	NT27517	1	2	3	2	-	-	8
248	-	1	1	1	1	-	4	8
250	-	1	3	1	1	-	2	8
231	1209	3	3	2	1	-	-	9
240	27523	1	3	3	2	-	-	9
241	27521	1	3	3	2	-	-	9
242	27518	1	3	3	2	-	-	9
244	27515	1	3	3	2	-	-	9
249	-	1	2	1	1	-	4	9
238	30934	3	3	3	1	-	-	10
246	28285	1	2	3	2	-	2	10
239	27520	1	3	3	2	-	2	11
247	28284	1	2	3	2	-	4	12
252	-	3	2	3	2	-	4	14
232	12684	3	3	2	2	-	4	14

Table 2: Section 2, Braesteads to Grisedale

## 5.2 PREDICTED IMPACTS OF THE PIPELINE SCHEME

5.2.1 The predicted impact of the pipeline on the archaeological resource can be divided into the impact on sites which survive on the surface and are documented, and the impact on those archaeological deposits which may exist only below ground and have yet to be discovered.

- 5.2.2 **Effects on Known Sites During Construction:** the proposed Section 1 pipeline between Barton and Hartsop will for the most part entail the reuse of an existing pipeline. The new smaller diameter pipe will be drawn through the broader original pipe, in a slip lining procedure. Consequentially, there will be no need to excavate a trench for the new pipe. However, there will be a need to excavate a series of small c2m x 2m trenches at various points along the length of the pipe in order to feed the new pipe into the old. The impact on the landscape will, consequentially, be minimal apart from the small access trenches; these will in any case be within the extent of the easement for the earlier pipeline and will therefore be excavated into disturbed ground.
- 5.2.3 There will, however, be two sections of pipeline that will be lain in newly excavated trenches, these include a small section in the area at Boredale Head on the Barton to Hartsop pipeline (Section 1), and also the entirety of the small Braesteads to Grisedale section of pipeline (Figs 4-6). In these limited sections construction work and associated ground disturbance must be seen to constitute a permanent effect upon the below ground resource. The greatest impact is likely to be through topsoil stripping and subsequent trenching. The stripping of topsoil and subsoil has the potential to destroy or severely truncate both buried and above ground archaeological remains. Until the pipeline alignment has been securely positioned, any point within the 15m easement constitutes a 'Certain and Direct Impact', although it may transpire that sections of the alignment will be routed beneath roads, rather than through fields adjacent to roads or verges.
- 5.2.4 The following sites would appear to be within a 15m easement of the pipeline alignment: Sites **229, 232, 247-249** and **252**, of which Site **229**, the fulling mill at Howtown, is on the line of a slip-lined section of pipeline. It is therefore recommended that the access trenches for the slip-lined pipe are set at some distance from Site 229 to minimise any impact on this site or its associated landscape. The construction works for the Braestead to Grisedale pipeline should now after the re-route avoid the fulling mill at Patterdale, Site **237**. Site **232**, Braesteads Stone, is likely to be subject to only limited impact, because of its localised nature, and should therefore be avoided during the course of the works. Platforms Site **247** and **239**, within Glenamara Park, will be directly affected by the re-routed pipeline and so will the well, drains, and lynchet (Sites **248, 249, 252**).
- 5.2.5 The construction work will if possible avoid the complex of charcoal burning platforms within Glenamara Park using a constricted easement corridor, including the sites closest to the proposed easement (Sites **243, 245** and **246**). It is envisaged that two of the charcoal burning platforms should be subject to further mitigative measures before being destroyed (Sites **239** and **247**).
- 5.2.6 **Effects on Potential Sites During Construction:** the predicted effects on the archaeological resource as yet to be identified are likely to range from: complete destruction of below ground and above ground archaeological features; to minor damage, depending on the scale of activity, and the extent and survival of the archaeology. In practice the impact of this activity is primarily going to be in the two sections that will not be subject to slip-lining. Heavy plant machinery used during construction would damage below ground remains, especially if the archaeological evidence is of a fragile nature. The determination of the presence of buried archaeological remains is not something that can be predicted, or conversely ruled out, with absolute certainty. The results of the present study indicate that the archaeology



within the proposed corridor may encompass sites and deposits of all periods, from the Neolithic to the post-medieval period. Since some of the known sites are of great archaeological significance, such as the prehistoric rock art at Beckstones (Site 230), it is possible that unknown archaeological remains encountered may also be of equal significance.

- 5.2.7 **Residual Effects:** the predicted effects of the construction works are the likely destruction in certain locations of the archaeological resource. Where the mitigation process is implemented the archaeology will be fully recorded, and therefore, following mitigation, there will be no residual effects.
- 5.2.8 **Predicted Effects during the Operation of the Pipeline:** the loss of the archaeological resource has already been discussed as a predicted effect during construction. This effectively means that, during operations along the site, the effects on the archaeology should not be a continuing issue. It is worth highlighting that, although the archaeology within the study area will have been appropriately recorded, any necessity to maintain, repair or improve services in or adjacent to the site of the archaeological resources should be subject to further archaeological investigations.
- 5.2.9 **Significance of Predicted Effects:** using the definitions for assessing the significance of effects on cultural heritage provided, the conclusion must be that the impact will be a Moderate Adverse Impact: *‘the proposals would have some limited direct physical impact on nationally important sites, resulting in the loss of features to such a degree that the integrity of the site is compromised but not destroyed and adequate mitigation has been specified’* and *‘the proposals would have a major direct physical impact on regionally important sites, resulting in the loss of features to such a degree that the integrity of the site is destroyed’*. In addition the scheme would *‘have a limited direct physical impact on or compromise the wider setting of multiple sites of regional importance, to the extent that the cumulative impact would seriously compromise the integrity of a related group of sites or historic landscape’* (DETR 1998, section 6.78).

## 6. RECOMMENDATIONS

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### 6.1 RECOMMENDATIONS

- 6.1.1 It has been the intention of this project to examine the archaeological potential of the resource that will be affected by the proposed pipeline; this has shown that there are large numbers of regionally, and in some cases nationally important sites and monuments, set within an extensive landscape. In its *Planning Policy Guidance, Note 16* (1990) the Department of the Environment (DoE), advises that archaeological remains should be seen as a finite, and non-renewable resource, in many cases, highly fragile and vulnerable to destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly or thoughtlessly destroyed. The project has identified the archaeological potential of the study area, thus allowing the advice of the DoE to be enacted upon. Only one of the sites which are within the proposed pipeline corridor as presently defined are Scheduled Monuments, which mean that it is a criminal offence to damage them by carrying out works without consent, cause reckless or deliberate damage, or use a metal detector or remove any object found with one, without Scheduled Monument Consent (SMC) from The Department for Culture, Media and Sport. Others are subject to Local Authority planning constraints, including Hazard Areas.
- 6.1.2 The proposed pipeline will affect landscapes of local and regional importance. Due to the majority of the pipeline being slip-lined there are only a few sites that will be directly affected by the development. The current re-route on the Braesteads to Grisedale pipeline (Section 2) is adequate if an avoidance strategy can be used for specific sites as outlined in Table 3 below.
- 6.1.3 After discussion with the Lake District National Park and National Trust Archaeologists it is envisaged that a constriction of the proposed pipeline easement will be enacted within the vicinity of Glenamara Park in order to avoid the majority of the charcoal burning platforms along the proposed re-route of the pipeline. For two of the charcoal burning platforms (Sites **239** and **247**) it is recommended that mitigative measures of topographic survey followed by archaeological evaluation be used to record the site before destruction. It is recommended that charcoal burning platforms located close to the proposed easement should be marked, and if they are to be impacted upon then further mitigation measures will be necessary.
- 6.1.4 Other sites of importance include the lynchet bank near Braesteads Farm (Site **252**) which is of unknown date. As this is to be directly affected by the development it should be topographically surveyed and subject to targeted evaluation trenching. It is recommended that the site of the former well (Site **248**) which is no longer seen above ground should be avoided if at all possible, if not a targeted watching brief should be carried out in the general vicinity of the site.
- 6.1.5 The table below (Table 3) provides a summary of the recommendations for each individual site, based on the type of site and, more importantly, its extent, which affects whether it can be avoided or not. In addition, the geographical proximity of the site to the easement corridor is considered, as well as the status of the site, be it scheduled or within a Hazard Area. On those sections of the pipeline that will not be

slip-lined, the archaeological sites should be avoided, if possible within the easement corridor. If avoidance is not possible then the site should be evaluated to determine its form and to define requirements for mitigation. Where the pipeline is being slip-lined and there is a potential impact with an archaeological monument the access trenches for the slip-lining should be moved so as to avoid the site. The recommendation to avoid a site means that the monument is relatively small and can thus be avoided within the easement corridor of the pipeline during the work. Likewise, a watching brief should be ongoing during the entirety of the construction work and may potentially involve small-scale excavation work during the project. No action indicates that the site is on the present evidence unlikely to be affected by the proposed pipeline construction.

- 6.1.6 **Scheduled Monument Consent:** only one Scheduled Monument exists in the vicinity of the proposed route, the cup marked stones as Beckstones (Site 230). At present these are approximately 100m away from the route and should not be affected, particularly as this section of the pipeline will be slip-lined.

Site Number	Site Type	Recommended Action	Scheduled Monument
201	Earthwork	No Action	
202	Cairn/Settlement	Survey / Move access trenches	
203	Cairnfield	Survey / Move access trenches	
204	Cairnfield	Survey / Move access trenches	
205	Cairnfield	Survey / Move access trenches	
206	Cairn	No Action	
207	Find Spot	No Action	
208	Structure	No Action	
209	Quarry	No Action	
210	Copper Mine	No Action	
211	Earthwork	No Action	
212	Lead Mine	No Action	
213	Quarry	No Action	
214	Lead Mine	No Action	
215	Weir	No Action	
216	Weir	No Action	
217	Quarry	No Action	
218	Forge	No Action	
219	Reading Room	No Action	
220	School	No Action	
221	Chapel	No Action	
222	Find Spot	No Action	
223	Farmstead	Survey / Move access trenches	
224	Landscape	No Action	

225	Potash Kiln	No Action	
226	Corn Mill	No Action	
227	Corn Mill	No Action	
228	Bobbin Mill	No Action	
229	Fulling Mill	Move access trenches	
230	Cup Marked Stone	No Action	SMC required if works affect monument
231	Quarry	No Action	
232	Stone	Avoid	
233	Castle	No Action	
234	Rain Gauge	No Action	
235	Quarry	No Action	
236	Quarry	No Action	
237	Fulling Mill	Avoid	
238	Manor House	No Action	
239	Charcoal burning platform	Survey/ Evaluation	
240	Charcoal burning platform	No Action	
241	Charcoal burning platform	No Action	
242	Charcoal burning platform	No Action	
243	Charcoal burning platform	Avoid	
244	Charcoal burning platform	No Action	
245	Charcoal burning platform	Avoid	
246	Charcoal burning platform	Avoid	
247	Charcoal burning platform	Survey/Evaluation	
248	Well	Avoid/Watching Brief	
249	Land Drains	No Action	
250	Bridge	Avoid	
251	Building Platform	Avoid	
252	Lynchet	Survey/Evaluation	

Table 3: Recommendations for Each Identified Site

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## APPENDIX 1 PROJECT DESIGN

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October 2002

Oxford  
Archaeology  
North

### HAYESWATER PIPELINE BETWEEN HARTSOP AND BANKWOOD, CUMBRIA

#### PRELIMINARY DESK-BASED APPRAISAL

#### ***Proposals***

*The following project design is offered in response to a request from Barbara Cardie, United Utilities for a desk-based investigation of the proposed route for a pipeline between Hartsop and Bankwood, Cumbria.*

## **1. INTRODUCTION**

### **1.1 CIRCUMSTANCES OF PROJECT**

- 1.1.1 Oxford Archaeology North has been invited by Barbara Cardie, United Utilities, to submit a project design and costs for a preliminary desk-based appraisal on the line of a proposed Hayeswater pipeline between Hartsop and Bankwood. The preliminary study is required only to inform the proposed route of the pipeline, and is therefore a rapid investigation to establish the principal archaeological resource along the line of the route and to make recommendation for the pipes alignment.
- 1.1.2 The line of the proposed pipeline is divided into four principal sections:
- Hartsop to Barton
  - Barton to Shap
  - Raisbeck to Asby
  - Asby to Bankwood
- 1.1.3 The Hartsop to Barton section will almost entirely follow the line of an existing pipeline and will not create any significant new disturbance. As such this route will minimise the threat to the archaeological resource, and is the preferred route. It is not therefore required that this route be investigated at this stage.
- 1.1.4 The Barton to Shap section will extend across areas of archaeological potential, where there is no previous known disturbance and consequently there is a need to identify the archaeological resource that will be impacted by this route. The north-westernmost part of this section, across Askham Fell, has already been examined by OA North (OA North 2002), which incorporates the results of a survey undertaken in 1988 by LUAU (now OA North). The investigation will incorporate the summarised results of this earlier study within the present study report.
- 1.1.5 The Raisbeck to Asby section extends almost entirely along the line of roads, which in some instances will have already been disturbed by services. When the pipes extend along the road there is no need for a wide top-soil stripped easement corridor and consequently will have a much reduced impact on any archaeology than routes extending across open fields. It is therefore the preferred route and it is not therefore required that this route be investigated at this stage.
- 1.1.6 The Asby to Bankwood section will, for the most part extend across fields and there is considerable potential for the impacting of archaeological monuments. There is consequently a need for a preliminary investigation of the archaeology along the route to inform the route planning.
- 1.1.7 The present study will consequently only examine the Barton to Shap and the Asby to Bankwood sections.

### **1.2 OXFORD ARCHAEOLOGY (NORTH)**

- 1.2.1 Oxford Archaeology North (OAN) (formerly Lancaster University Archaeological Unit) has considerable experience of the evaluation and assessment of sites of all periods, having undertaken a great number of small and large scale projects during the past 20 years. Evaluations and assessments have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables. OA North has undertaken numerous archaeological assessments and landscapes within Cumbria; the most pertinent being a detailed survey of Askham Fell, as part of the Lake District National Park Survey (OA North 2002) and a survey of the United Utilities Haweswater Estate (LUAU 1997), through which the proposed pipeline extends.
- 1.2.2 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 OA North is a registered organisation with the IFA (No 17).

## **2. OBJECTIVES**

2.1 The following programme has been designed to provide a preliminary documentary study in order to assess the alignment of the proposed route. The required stages to achieve these ends are as follows:

2.2 **Desk Top Survey**

To accrue an organised body of data to inform the scheme. It requires an appraisal of the archaeological and landscape resource, including an examination of the County Sites and Monuments Record (SMR), any aerial photography at that source, and the Ordnance Survey First Edition coverage for the proposed route.

2.3 **Report**

A written report will assess the significance of the data generated by this programme within a local and regional context in order to inform the proposed routing of the pipeline. It will advise on the impact of the pipeline on the archaeological resource, and will identify both opportunities and constraints for the pipeline.

### 3. METHODS STATEMENT

3.1 The following work programme is submitted in line with the stages and objectives of the archaeological work summarised above. The defined programme provides for both a documentary study and a field identification survey of the study area.

#### 3.2 DESK- BASED STUDY

3.2.1 The following will be undertaken as appropriate, depending on the availability of source material and will examine the following sections of the pipeline:

- Barton to Hartsop (NY 466 521 to NY 409 513) c14 km
- Braesteads to Grisedale (NY 390 516 to NY 376 515) c1.5 km

The work will examine a corridor of 1km centred on the proposed route line.

3.2.2 **Documentary and cartographic material:** this work will rapidly address those sources of information that may inform alignment of the proposed pipeline. It will include an appraisal of the Cumbria Sites and Monuments Record, as well as the OS First Edition maps for the relevant sections of the route (see above). Particular emphasis will be upon the early cartographic evidence which has the potential to inform the post-medieval occupation and land-use of the area. Any photographic material lodged in the County Sites and Monuments Record or County record Office will also be studied. This work will involve visits of the following repositories: Cumbria Sites and Monuments Record and the Cumbria Record Office (Kendal).

3.2.3 **Aerial Photography:** a brief survey of the extant air photographic cover will be undertaken, and will examine those records held by the Cumbria Sites and Monuments.

#### 3.3 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.

3.3.2 This archive can be provided in the English Heritage Central for Archaeology format, both as a printed document and on computer disks as ASCII files (as appropriate), and a synthesis (in the form of the index to the archive and the report) will be deposited with the National Monuments Record (RCHM(E)), as appropriate. OA North practice is to deposit the original record archive of projects (paper, magnetic, and plastic media) with the Cumbria Record Office.

3.3.3 **Collation of data:** the data generated by 3.2 (above) will be collated and analysed in order to provide an appraisal 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 establishing the route of the proposed pipeline.

- 3.3.4 **Report:** one bound and one unbound copy of the report will be submitted to the Client, and a further copy submitted to the Cumbria Sites and Monuments Record. 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 corridor. 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. It will include a copy of the project design.
- 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 for the identified resource.
- 3.3.6 **Proposals:** the report will make a clear statement of the impact of the pipeline upon the identified archaeological resource. It will identify both the opportunities and the constraints for the development and will make recommendations for the alignment of the pipeline.
- 3.3.7 **Confidentiality:** the report is designed as a document for the specific use of the client, for the particular purpose as defined in the project brief and 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

- 4.1 It is envisaged that the various stages of the project outlined above would follow on consecutively, where appropriate. The phases of work would comprise:

##### ***I Desk-Based Study***

5 days (on site)

##### ***ii Report***

6 days (desk-based).

- 4.2 OA North can execute projects at very short notice once an agreement has been signed with the client. The desk-based study is scheduled for completion within two weeks from the completion of the field work.
- 4.3 The project will be under the project management of **Jamie Quartermaine, BA Surv Dip MIFA** (OA North Project Manager) to whom all correspondence should be addressed. All Unit staff are experienced, qualified archaeologists, each with several years professional expertise.

## APPENDIX 2

### GAZETTEER OF SITES

#### SECTION 1: BARTON TO HARTSOP

<b>Site Number</b>	<b>201</b>	<b>NGR</b>	NY 406 131
<b>Site name</b>	Low Hartsop Farmstead	<b>Period</b>	Unknown
<b>Site Type</b>	Earthwork	<b>APs</b>	-
<b>SMR Number</b>	1511		
<b>Description</b>	A possible settlement recorded by Dr Ogilvie ( <i>Pers comm: cited in SMR</i> ). According to Birkett ( <i>Pers comm: cited in SMR</i> ) there were foundations of four buildings belonging to a possible farmstead.		

<b>Site Number</b>	<b>202</b>	<b>NGR</b>	NY 443 5193
<b>Site name</b>	The Combs Settlement, Cairn	<b>Period</b>	Unknown
<b>Site Type</b>	-	<b>APs</b>	-
<b>SMR Number</b>	1514		
<b>Description</b>	The site was identified and listed by Hay (1936, 74). According to Birkett ( <i>Pers comm: cited in SMR</i> ), there was nothing more than levelling with a steep crag behind and therefore he suggests the grid reference may be inaccurate. A site visit in March 1993 suggested that the site might be at NY 438191 and connected with the mounds/cairns recorded as Sites <b>203-205</b> . Near to three definite cairns and other possible cairns are traces of what appears to be an enclosure. There are also other unidentified stone structures either side of the track, which runs east from Lanty Tarn towards Howtown.		

<b>Site Number</b>	<b>203</b>	<b>NGR</b>	NY 4387 19180
<b>Site name</b>	Howtown Cairnfield	<b>Period</b>	Prehistoric
<b>Site Type</b>	Hazard Area	<b>APs</b>	-
<b>SMR Number</b>	1597		
<b>Description</b>	Three groups of small mounds and grassed heaps are located on the north side of a col 200-250m above sea level. See also Sites <b>204</b> and <b>205</b> .		

<b>Site Number</b>	<b>204</b>	<b>NGR</b>	NY 438 191
<b>Site name</b>	Howtown Cairnfield	<b>Period</b>	Prehistoric
<b>Site Type</b>	Hazard Area	<b>APs</b>	-
<b>SMR Number</b>	1598		
<b>Description</b>	Three groups of small mounds and grassed heaps are located on the north side of a col 200-250m above sea level. See also Sites <b>203</b> and <b>205</b> .		

<b>Site Number</b>	<b>205</b>	<b>NGR</b>	NY 4387 19180
<b>Site name</b>	Hazard Area	<b>Period</b>	Prehistoric
<b>Site Type</b>	Cairnfield	<b>APs</b>	-
<b>SMR Number</b>	1599		
<b>Description</b>	Three groups of small mounds and grassed heaps are located on the north side of a col 200-250m above sea level. See also Sites <b>203</b> and <b>204</b> .		

<b>Site Number</b>	<b>206</b>	<b>NGR</b>	NY 4104 1304
<b>Site name</b>	Low Hartsop	<b>Period</b>	Prehistoric
<b>Site Type</b>	Cairn	<b>APs</b>	-
<b>SMR Number</b>	5338		

---

**Description** A group of cairns is recorded at this location but no further details were available.

---

**Site Number** 207 **NGR** NY 411 127  
**Site name** Hartsop Flint Flake Find **Period** Prehistoric  
**Site Type** Find Spot **APs** -  
**SMR Number** 6349  
**Description** The site of a flint flake which was found near Hartsop.

---

**Site Number** 208 **NGR** NY 413 170  
**Site name** Martindale, Hawk crag **Period** Unknown  
Rectangular Hut **APs** -  
**Site Type** Structure  
**SMR Number** 6591  
**Description** The site of a rectangular hut is located in a gully measuring 3m x 3m. One wall is standing to a height of 1.5m, two other walls have fallen and the fourth side is open. This structure has better than average stonework. Dr Delap (*Pers comm: cited in SMR*) suggests it was a bothy for transient slate splitters as there are slate workings in the area.

---

**Site Number** 209 **NGR** NY 4373 1927  
**Site name** The Hause Quarry **Period** Unknown  
**Site Type** Quarry **APs** -  
**SMR Number** 12520  
**Description** The site of a now disused quarry is recorded at this location.

---

**Site Number** 210 **NGR** NY 408 1437  
**Site name** Dubhow Gill Copper Mines **Period** Unknown  
**Site Type** Mine **APs** -  
**SMR Number** 12618  
**Description** Dubhow Gill Copper Mines, already disused by 1860, consisting of two shafts on either side of Dubhow Gill and a waste tip adjacent to the lower shaft.

---

**Site Number** 211 **NGR** NY 4122 1283  
**Site name** Hayeswater Gill Mill Race **Period** Post-medieval  
**Site Type** Earthwork **APs** -  
**SMR Number** 12621  
**Description** Hayeswater Gill Mill Race left the Gill at NY 41630 12890 by a weir, served the Corn Mill (SMR 3135) via a sluice, and re-entered the Gill at NY 41220 12830. The millrace had disappeared from the map and the corn mill was ruined by 1898 (OS second edition 25" to the mile map). The entire length of the millrace is traceable on the ground, leaving the Gill at the now disused ford.

---

**Site Number** 212 **NGR** NY 412 1286  
**Site name** Hayeswater Gill Lower Lead Mine **Period** Unknown  
**Site Type** Mine **APs** -  
**SMR Number** 12622  
**Description** Hayeswater Gill Lower Lead Mine, shown in-use on the OS first edition mapping as a sub-oval spoil heap on the north side of Hayeswater Gill to the south-east of Hartsop village. It is shown on the OS second edition 25" to the mile map as disused by 1898 and on the current mapping as having an adit on the north side of the spoil heap. The site lies opposite Hartsop Dodd Lower Mine (Site 214) which is to the south, across Hayeswater Gill and further up the valley side.

---

---

<b>Site Number</b>	<b>213</b>	<b>NGR</b>	NY 4112 1298
<b>Site name</b>	Hartsop Gravel Pit	<b>Period</b>	Post-medieval
<b>Site Type</b>	Quarry	<b>APs</b>	-
<b>SMR Number</b>	12623		
<b>Description</b>	Hartsop Gravel Pit, shown as an old gravel pit approached by a short track from the main Hayeswater track, on OS second edition 25" to the mile, 1898. It is still a recognisable feature.		

---

<b>Site Number</b>	<b>214</b>	<b>NGR</b>	NY 410 1262
<b>Site name</b>	Hartsop Dodd Lower Mine	<b>Period</b>	Post-medieval
<b>Site Type</b>	Mine	<b>APs</b>	-
<b>SMR Number</b>	12627		
<b>Description</b>	The site of Hartsop Dodd Lower Mine, a disused lead mine. It is shown on the first edition mapping as a small sub-circular level with drainage gully/stream on the south hillside of the valley containing Hayeswater Gill and to the south-east of Hartsop village. It is opposite the Hayeswater Gill, Lower Lead Mine (Site <b>212</b> ) which lies on lower down on the opposite side of Hayeswater Gill.		

---

<b>Site Number</b>	<b>215</b>	<b>NGR</b>	NY 444 1959
<b>Site name</b>	Howtown Lower Weir	<b>Period</b>	Post-medieval
<b>Site Type</b>	Weir	<b>APs</b>	-
<b>SMR Number</b>	12637		
<b>Description</b>	The site of Howton Lower Weir (see also Site <b>116</b> ). The weir and sluice are on the Fusedale Beck just above Howtown. They are not marked on the OS second edition 25" to the mile map.		

---

<b>Site Number</b>	<b>216</b>	<b>NGR</b>	NY 4445 1953
<b>Site name</b>	Howtown Upper Weir	<b>Period</b>	Post-medieval
<b>Site Type</b>	Weir	<b>APs</b>	-
<b>SMR Number</b>	12638		
<b>Description</b>	The site of Howtown Upper Weir (see also Site <b>115</b> ). The weir and sluice are on the Fusedale Beck, just above Howtown. They are not marked on the OS second edition 25" to the mile map.		

---

<b>Site Number</b>	<b>217</b>	<b>NGR</b>	NY 4358 1924
<b>Site name</b>	Hause Quarry	<b>Period</b>	Post-medieval
<b>Site Type</b>	Site of a quarry	<b>APs</b>	-
<b>SMR Number</b>	12639		
<b>Description</b>	The site of Hause Quarry.		

---

<b>Site Number</b>	<b>218</b>	<b>NGR</b>	NY 4336 1903
<b>Site name</b>	Martindale Smithy	<b>Period</b>	Post-medieval
<b>Site Type</b>	Forge	<b>APs</b>	MU E77, not found
<b>SMR Number</b>	12642		
<b>Description</b>	A roofed building is shown on the OS first edition 6" to the mile map (date 1867).		

---

<b>Site Number</b>	<b>219</b>	<b>NGR</b>	NY 4337 190
<b>Site name</b>	Martindale Reading Room	<b>Period</b>	Post-medieval
<b>Site Type</b>	Reading Room	<b>APs</b>	-

---

<b>SMR Number</b>	12643
<b>Description</b>	A site which consists of a note added in pencil to the OS second edition 25" to the mile map.

<b>Site Number</b>	<b>220</b>	<b>NGR</b>	NY 4338 18985
<b>Site name</b>	Martindale Endowed School	<b>Period</b>	Post-Medieval
<b>Site Type</b>	School	<b>APs</b>	-
<b>SMR Number</b>	12644		
<b>Description</b>	Martindale School was mentioned but apparently not located on OS first edition map but added in pencil to the OS second edition 25" map.		

<b>Site Number</b>	<b>221</b>	<b>NGR</b>	NY 4086 1573
<b>Site name</b>	Chapel in the Hause, Patterdale	<b>Period</b>	Unknown
<b>Site Type</b>	Ruined building	<b>APs</b>	-
<b>SMR Number</b>	12646		
<b>Description</b>	A chapel known to be ruined by 1860. It lies on the boundary between Martindale and Patterdale, on Boardale Hause.		

<b>Site Number</b>	<b>222</b>	<b>NGR</b>	NY 449 210
<b>Site name</b>	Martindale, Ullswater Spearhead	<b>Period</b>	Bronze Age
<b>Site Type</b>	Find Spot	<b>APs</b>	-
<b>SMR Number</b>	16725		
<b>Description</b>	A bronze socketed spearhead dated to Middle Bronze Age was found on 02/06/91, whilst digging a deepwater channel in the vicinity of a boathouse near Swarthfield, Ullswater. It can best be described as a straight-based, basal-looped type with furrowed blade. Its present whereabouts are unknown.		

<b>Site Number</b>	<b>223</b>	<b>NGR</b>	NY 435 190
<b>Site name</b>	Lanty Tarn Enclosure/Farmstead	<b>Period</b>	Unknown
<b>Site Type</b>	Farmstead	<b>APs</b>	-
<b>SMR Number</b>	16775		
<b>Description</b>	An irregularly shaped stone-walled enclosure consisting of tumbled rock to a height of c0.3-0.5m. Within the enclosure is a sub-rectangular feature. The site would appear to represent a farmstead/settlement, sheltered behind a rock outcrop just above Lanty Tarn and below Little Birkie Knott. A few hundred yards away, on either side of the old sessions road, are other enclosures and cairns.		

<b>Site Number</b>	<b>224</b>	<b>NGR</b>	NY 409 131
<b>Site name</b>	Grove Farm, Patterdale, NT sites	<b>Period</b>	Unknown
<b>Site Type</b>	Landscape	<b>APs</b>	-
<b>SMR Number</b>	17817		
<b>Description</b>	In 1993 the RCHME undertook a survey encompassing the two valleys immediately south-east of Hartsop village, Hayeswater and Pasture Beck, an area of about 700 hectares. It was conducted after a request from the National Trust who wanted to know the nature and extent of the archaeological remains within the newly acquired farm. As a result of the survey 87 sites were recorded for the National Trust, 35 new monuments identified and one updated. Information is held by the National Trust.		

<b>Site Number</b>	<b>225</b>	<b>NGR</b>	NY 4437 1953
<b>Site name</b>	Potash Kiln, Howtown	<b>Period</b>	Unknown
<b>Site Type</b>	Potash Kiln	<b>APs</b>	-

<b>SMR Number</b>	30909		
<b>Description</b>	The site of a potash kiln measuring 9m x 9m x 5m, consisting of a burnt stone wall.		
<b>Site Number</b>	<b>226</b>	<b>NGR</b>	NY 4115 1296
<b>Site name</b>	Corn Mill Low Hartsop	<b>Period</b>	Post-medieval
<b>Site Type</b>	Corn mill	<b>APs</b>	-
<b>SMR Number</b>	30913		
<b>Description</b>	The site of a corn mill dated approximately 1706 located at Hartsop.		
<b>Site Number</b>	<b>227</b>	<b>NGR</b>	NY 4304 1923
<b>Site name</b>	Corn Mill, Mallin Bank	<b>Period</b>	Post-medieval
<b>Site Type</b>	Corn mill	<b>APs</b>	-
<b>SMR Number</b>	30914		
<b>Description</b>	The site of a corn mill by Mill Close located at Mallin Bank.		
<b>Site Number</b>	<b>228</b>	<b>NGR</b>	NY 444 1962
<b>Site name</b>	Howtown Bobbin Mill	<b>Period</b>	Post-medieval
<b>Site Type</b>	Bobbin mill	<b>APs</b>	-
<b>SMR Number</b>	30916		
<b>Description</b>	The site of a bobbin mill located at Howtown.		
<b>Site Number</b>	<b>229</b>	<b>NGR</b>	NY 4441 19405
<b>Site name</b>	Fulling Mill, Bottom of Steel End	<b>Period</b>	Post-medieval
	Howtown	<b>APs</b>	-
<b>Site Type</b>	Fulling mill		
<b>SMR Number</b>	30917		
<b>Description</b>	The site of a fulling mill located at Steel End, Howtown.		
<b>Site Number</b>	<b>230</b>	<b>NGR</b>	NY 4033 1502
<b>Site name</b>	Prehistoric Rock Art at Beckstones	<b>Period</b>	Neolithic/Bronze Age
	Patterdale	<b>APs</b>	-
<b>Site Type</b>	Cup marked stone		
<b>SMR Number</b>	31730		
<b>Description</b>	A sloping natural outcrop into which is carved a number of motifs, including numerous cup marks, ovals, rectangles with rounded corners and grooved channels pecked into the rock. The site is located 40m to the north-west of Beckstones Farm in Patterdale (Beckensall, 1992,32).		
<b>Site Number</b>	<b>253</b>	<b>NGR</b>	NY 41829 16902
<b>Site name</b>	Boredale Head	<b>Period</b>	Post-medieval
<b>Site Type</b>	Quarry	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	A sub-oval quarry scoop located in the enclosed field to the south of Boredale Head. It measures approximately 20m long north/south by 10m wide and up to 3m deep.		

## SECTION 2: BRAESTEADS TO GRISEDALE

<b>Site Number</b>	<b>231</b>	<b>NGR</b>	NY 385 1625
<b>Site name</b>	Lanty's Tarn Quarry	<b>Period</b>	Unknown

Site Type	Quarry	APs	-
SMR Number	12091		
Description	The site of a quarry at Lanty’s Tarn.		
Site Number	232	NGR	NY 3804 1557
Site name	Braesteads Stone, Patterdale	Period	Unknown
Site Type	Stone	APs	-
SMR Number	12684		
Description	The site of Braesteads Stone beside the track on the south side of Grisedale.		
Site Number	233	NGR	NY 3839 1609
Site name	Grassthwaitehow Old Castle	Period	Unknown
Site Type	Castle	APs	-
SMR Number	12685		
Description	The site of Grassthwaitehow Old Castle, no longer marked by OS. The castle is shown as a circular earthen mound on the OS first edition 6” to the mile map, to the north of Grassthwaitehow Farm, where it was already located within the plantation.		
Site Number	234	NGR	NY 39095 16290
Site name	Patterdale Rain Gauge	Period	Post-medieval
Site Type	Rain Gauge	APs	-
SMR Number	12687		
Description	The site of the Patterdale rain gauge in a field at the head of Ullswater, it is no longer marked by OS.		
Site Number	235	NGR	NY 38305 16020
Site name	Grassthwaitehow Quarry, Patterdale	Period	Post-medieval
Site Type	Quarry	APs	-
SMR Number	12689		
Description	This is described as an old quarry on the OS second edition 25” to the mile map, and is no longer marked by OS.		
Site Number	236	NGR	NY 3822 15995
Site name	Grassthwaitehow Gravel Pit	Period	Post-medieval
Site Type	Quarry	APs	-
SMR Number	12690		
Description	This gravel pit is not shown on the OS first edition 6” to the mile map but described as “Old Gravel Pit” on the second edition 25” to the mile map and no longer marked by OS.		
Site Number	237	NGR	NY 3875 1586
Site name	Fulling Mill, Patterdale	Period	Post-medieval
Site Type	Fulling mill	APs	-
SMR Number	30758		
Description	The site of a fulling mill located at Patterdale.		
Site Number	238	NGR	NY 3886 1615
Site name	Patterdale Hall	Period	Unknown
Site Type	Manor House	APs	-
SMR Number	30934		
Description	The site of Patterdale Hall.		

---

<b>Site Number</b>	<b>239</b>	<b>NGR</b>	NY 38566 15674
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27520		
<b>Description</b>	A grass-covered charcoal burning platform located on a hillside within Glenamara Park with the footpath running immediately adjacent to the north side. The platform is circular, measuring approximately 7m in diameter and up to 2m in height on the downslope side.		

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<b>Site Number</b>	<b>240</b>	<b>NGR</b>	NY 38617 15648
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27523		
<b>Description</b>	A grass-covered charcoal burning platform with some charcoal evident and located on a hillside within Glenamara Park. The platform is circular, measuring approximately 7m in diameter and up to 2m in height on the downslope side.		

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<b>Site Number</b>	<b>241</b>	<b>NGR</b>	NY 38604 15618
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27521		
<b>Description</b>	A putative grass-covered charcoal burning platform located on a hillside within Glenamara Park. The platform is sub-circular, measuring a maximum of approximately 7.8m in diameter and up to 2m in height on the downslope side and is sat upon a rocky outcrop.		

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<b>Site Number</b>	<b>242</b>	<b>NGR</b>	NY 38573 15590
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27518		
<b>Description</b>	A grass-covered charcoal burning platform with some charcoal evident and located on a hillside within Glenamara Park. The platform is circular, measuring approximately 6.5m in diameter and up to 2m in height on the downslope side.		

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<b>Site Number</b>	<b>243</b>	<b>NGR</b>	NY 38507 15647
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27516		
<b>Description</b>	A grass-covered charcoal burning platform located on a hillside within Glenamara Park. The platform is circular, measuring approximately 7m in diameter and up to 0.6m in height on the downslope side. The platform has been eroded by the footpath which crosses the northern half of the monument. The footpath erosion has exposed charcoal to the surface of the platform.		

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<b>Site Number</b>	<b>244</b>	<b>NGR</b>	NY 38481 15599
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27515		
<b>Description</b>	A grass-covered charcoal burning platform located on a hillside within Glenamara Park. The platform is ovoid, measuring approximately 6m in diameter and up to 2m in height on the downslope side.		

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<b>Site Number</b>	<b>245</b>	<b>NGR</b>	NY 38471 15625
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	27517		
<b>Description</b>	A grass-covered charcoal burning platform located on a hillside within Glenamara Park. The platform is circular, measuring approximately 6m in diameter and up to 2m in height on the downslope side.		

---

<b>Site Number</b>	<b>246</b>	<b>NGR</b>	NY 38451 15646
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	28285		
<b>Description</b>	A grass-covered charcoal burning platform located on the hillside within Glenamara Park, and on the south-west corner of an enclosed plantation.		

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<b>Site Number</b>	<b>247</b>	<b>NGR</b>	NY 38495 15666
<b>Site name</b>	Glenamara Park	<b>Period</b>	Post-medieval
<b>Site Type</b>	Charcoal burning platform	<b>APs</b>	-
<b>NTSMR Number</b>	28284		
<b>Description</b>	A mutilated and eroded, grass-covered undulating-surfaced charcoal burning platform. It is located on the hillside within Glenamara Park, and on the south side of an enclosed plantation.		

---

<b>Site Number</b>	<b>248</b>	<b>NGR</b>	NY 38861 15810
<b>Site name</b>	Close	<b>Period</b>	Unknown
<b>Site Type</b>	Well	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	The site of a well shown on the OS first edition mapping to the south-west of Grisedale Bridge near to a cottage called Close. The site is no longer extant on the surface.		

---

<b>Site Number</b>	<b>249</b>	<b>NGR</b>	NY 37949 15570 - NY 38067 15624
<b>Site name</b>	Grisedale Beck	<b>Period</b>	Post-medieval
<b>Site Type</b>	Land Drains	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	A series of land drains on the floodplain to the south of Grisedale Beck and the east of Braesteads Farm; these consist of shallow linear earthworks with browned grass on top. The drains feed into the beck with stone lined outlets.		

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<b>Site Number</b>	<b>250</b>	<b>NGR</b>	NY 37905 15603
<b>Site name</b>	Grisedale Beck	<b>Period</b>	Post-medieval
<b>Site Type</b>	Bridge	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	A bridge located on the farm track over Grisedale Beck to the east of Braesteads Farm. It consists of a single hump-backed arch, with coping stones atop and stone revetting walls on either bank (especially on north side). It measures approximately 10m long north/south by 3.5m wide and up to 3m high.		

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<b>Site Number</b>	<b>251</b>	<b>NGR</b>	NY 37789 15627
<b>Site name</b>	Braesteads	<b>Period</b>	Post-medieval

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<b>Site Type</b>	Building Platform	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	A small rectangular building platform located to the east of Braesteads Farm. It is placed on top of boulders and measures 14m long east/west by 4.5m wide and up to 0.4m high. The building was originally built into the south side of an enclosure boundary wall with a walled up gateway to the west.		

<b>Site Number</b>	<b>252</b>	<b>NGR</b>	NY 37786 15682 - NY 37759 15639
<b>Site name</b>	Braesteads	<b>Period</b>	Unknown
<b>Site Type</b>	Lynchet	<b>APs</b>	-
<b>SMR Number</b>	-		
<b>Description</b>	An earthwork lynchet running approximately south-west/north-east in the field to the north-east of Braesteads Farm. It measures approximately 55m long.		

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## ILLUSTRATIONS

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### FIGURES

Figure 1: Location map

Figure 2: First Edition OS map with the proposed pipeline route indicated; Section 1 North

Figure 3: First Edition OS map with the proposed pipeline route indicated; Section 1 South, and Section 2

Figure 4: Section 1 Barton to Hartsop (North), showing the proposed pipeline route and the gazetteer sites

Figure 5: Section 1, Barton to Hartsop (South) and Section 2, Braesteads to Grisedale, showing the proposed pipeline route and the gazetteer sites

Figure 6: Glenamara Park, Charcoal Burning Platform Locations

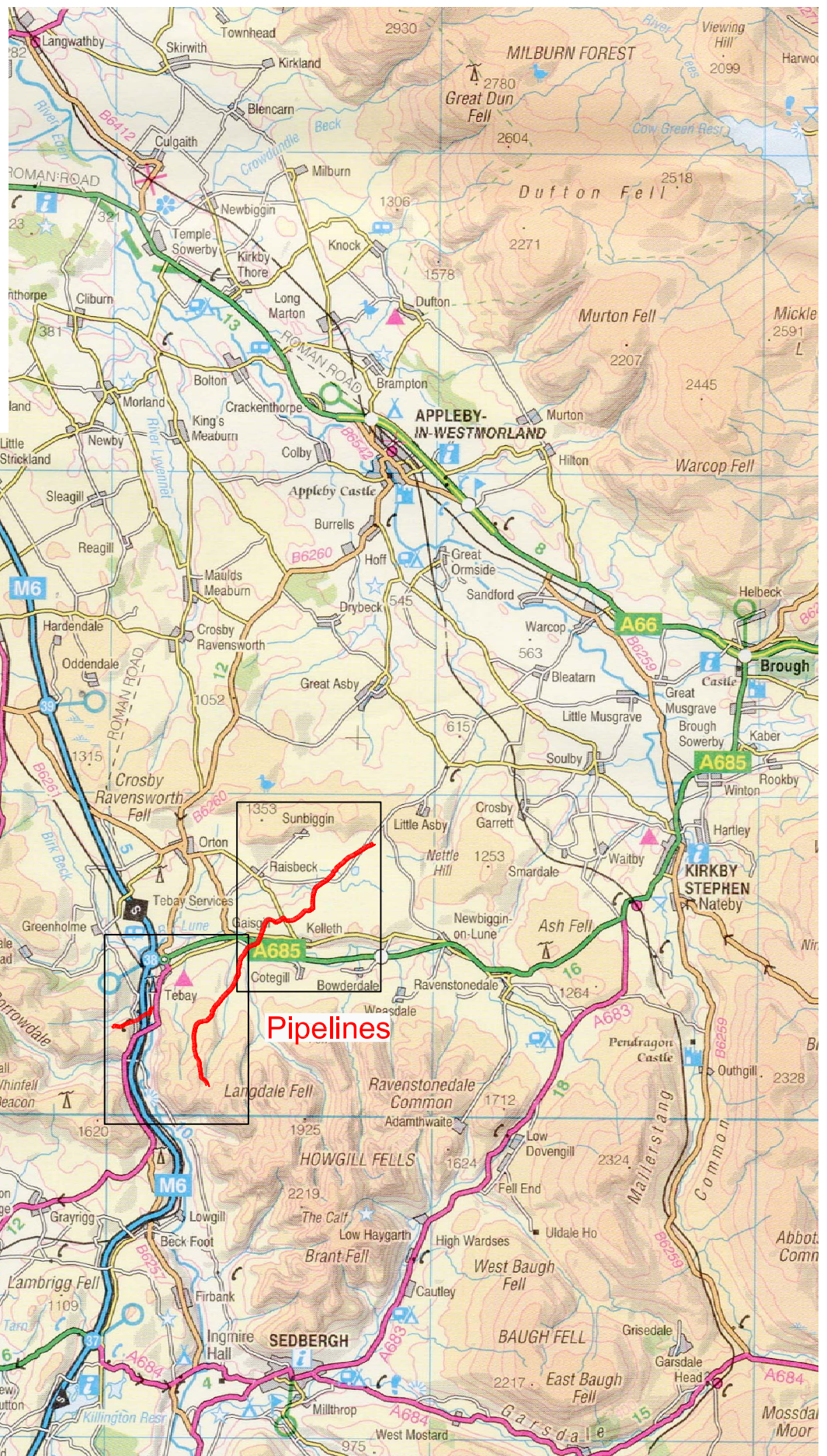
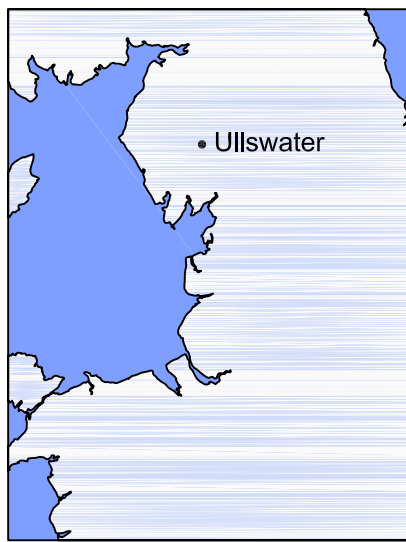
### PLATES

Plate 1: Charcoal burning platform (Site **243**) crossed by footpath, looking west

Plate 2: Grisedale Beck bridge (Site **250**), looking north-east

Plate 3: Braesteads building platform (Site **251**), looking west





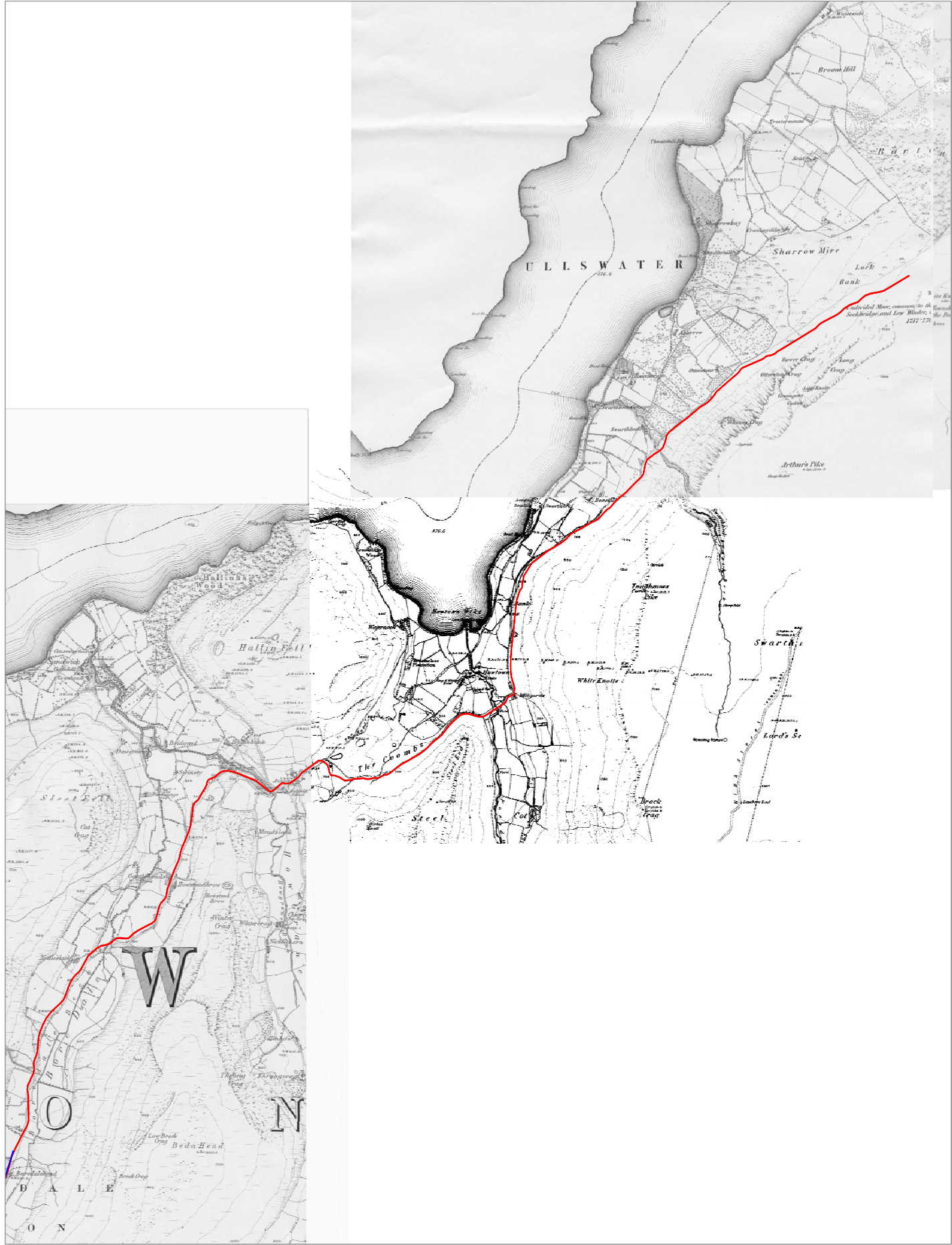
based upon the Ordnance Survey 1:500000  
with the permission of the controller of HMSO  
© Crown Copyright



0 2000 5000  
metres

Figure 1: Location Map






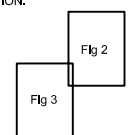
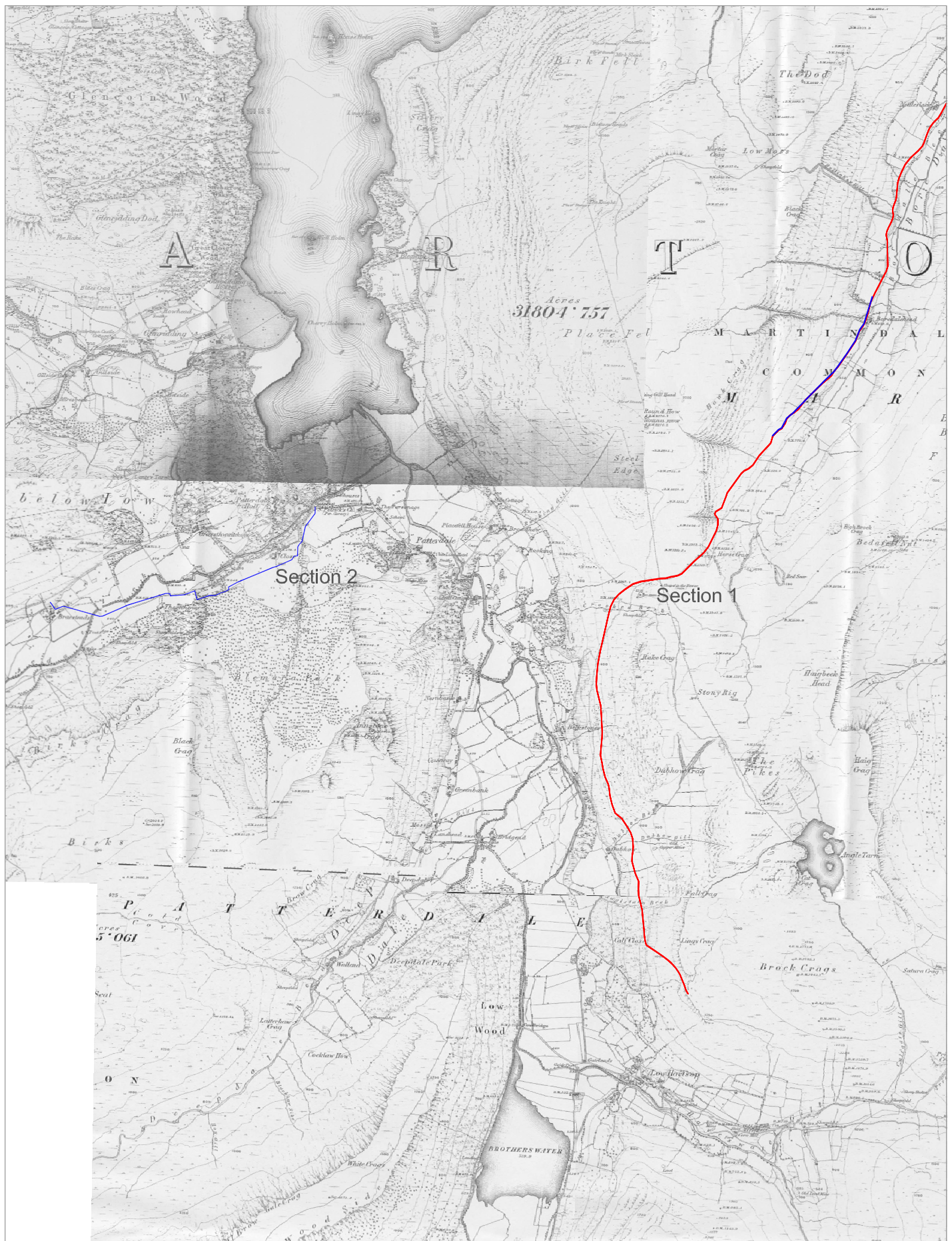
 <p><b>Oxford Archaeology North</b>  Storey Institute  Meeting House Lane  Lancaster  LA1 1TF</p> <p>Tel 01524 848666  Fax 01524 848606</p>	<p>PROJECT: Barton to Hartsop, Cumbria</p> <p>DRAWING No: 2</p> <p>SCALE: 1:20,000</p> <p>TITLE: Section 1 north</p> <p>CLIENT: United Utilities</p> <p>DRAWN BY: ELC</p> <p>DATE: July 2004</p>	<p>LOCATION:</p>  <p>0 500m</p>	<p>KEY</p> <p><span style="color: red;">—</span> slip lined pipeline</p> <p><span style="color: blue;">—</span> new pipeline</p>
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Figure 2: First Edition OS map with the proposed pipeline route indicated; Section 1 north

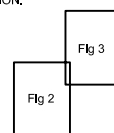




**Oxford Archaeology North**  
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 Tel 01524 848666  
 Fax 01524 848606

PROJECT: Barton to Hartsop, Cumbria  
 DRAWING No: 3  
 SCALE: 1:20,000  
 TITLE: Section 1 and 2, first edition OS map  
 CLIENT: United Utilities  
 DRAWN BY: ELC  
 DATE: July 2004

LOCATION:



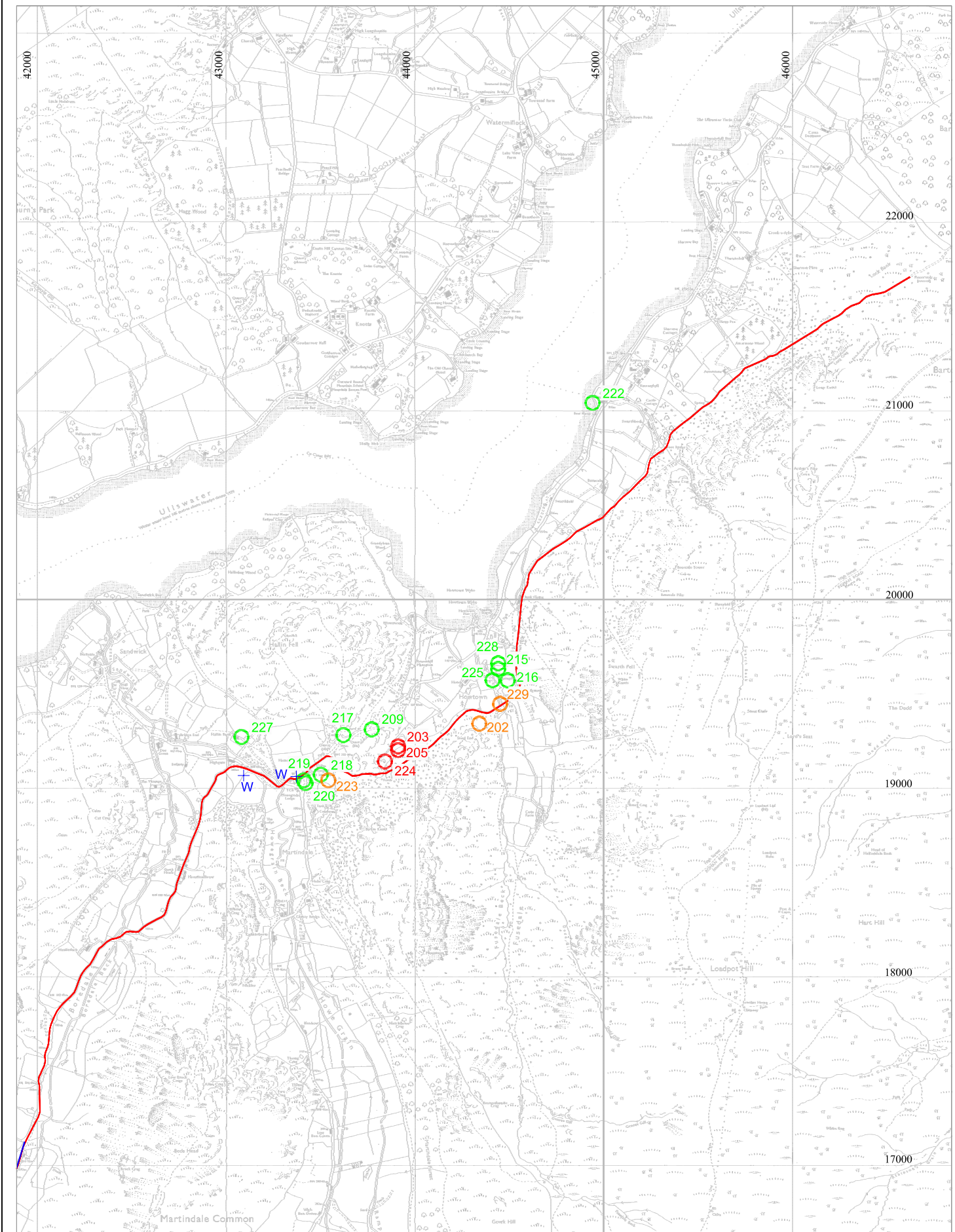
0 500m

KEY

— slip-tined pipeline  
 — new pipeline

Figure 3: First Edition OS map with the proposed pipeline route indicated, Section 1 south and Section 2

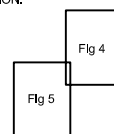




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PROJECT: Barton to Hartsop, Cumbria  
 DRAWING No: 4  
 SCALE: 1:20,000  
 TITLE: Section 1, Gazetteer sites  
 CLIENT: United Utilities  
 DRAWN BY: ELC  
 DATE: July 2004

LOCATION:



0 500m

KEY

<span style="color: red;">●</span> extreme	<span style="color: blue;">B</span> building
<span style="color: orange;">●</span> high	<span style="color: blue;">W</span> well
<span style="color: green;">●</span> medium	<span style="color: blue;">S</span> sheep fold
<span style="color: cyan;">●</span> low	<span style="color: blue;">F</span> footbridge
	<span style="color: blue;">BI</span> biold
	<span style="color: blue;">Gp</span> guide post
<span style="color: red;">—</span> Slip-lined pipeline	
<span style="color: blue;">—</span> New pipeline	

Figure 4: Section 1, Barton to Hartsop (north) showing the proposed pipeline and the gazetteer sites.

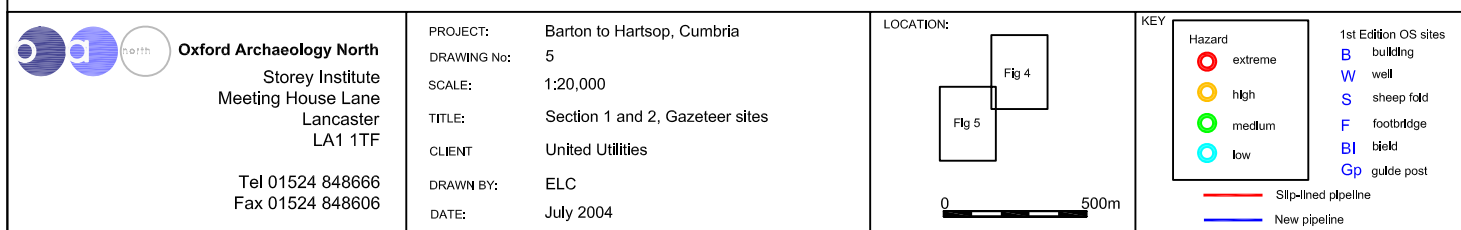
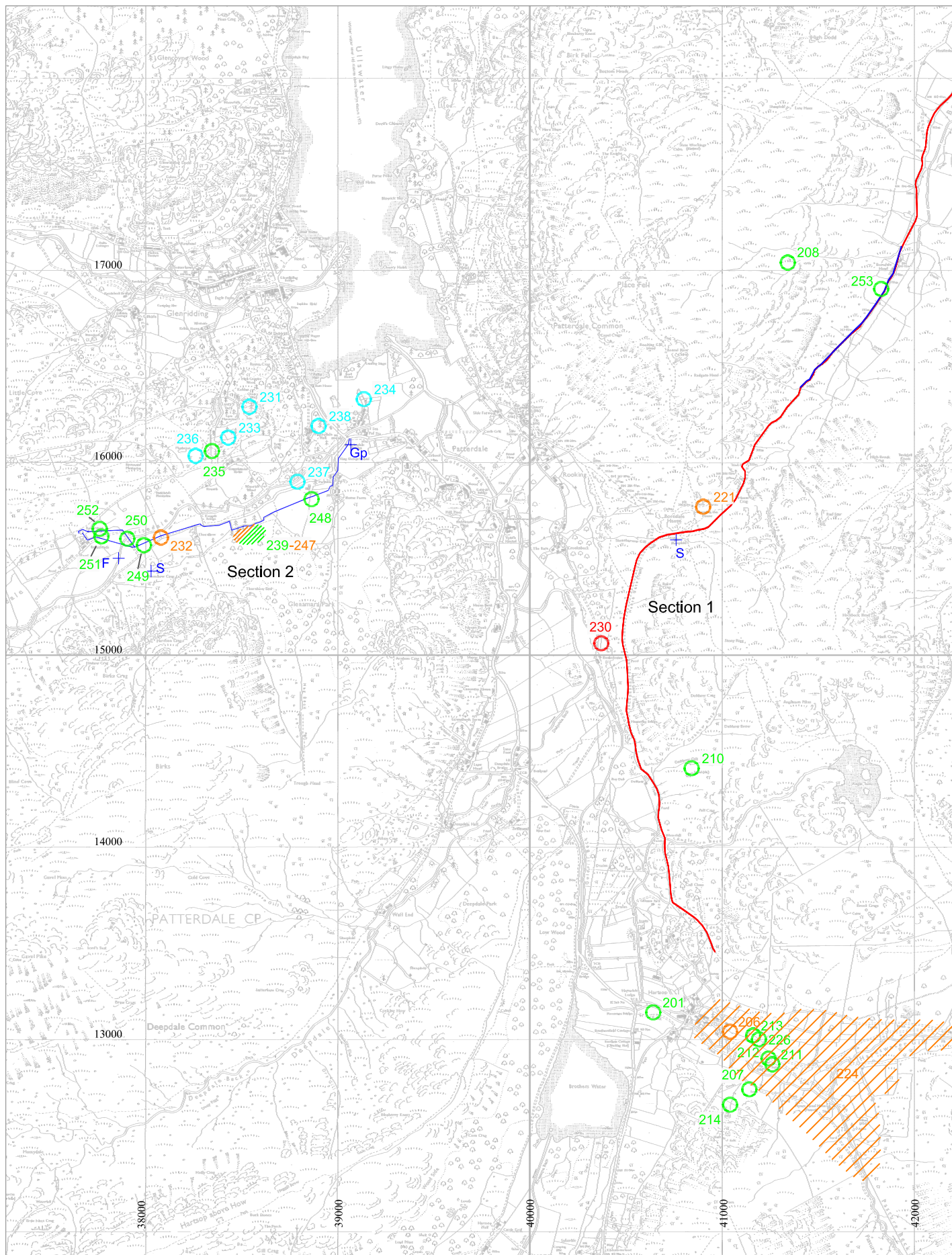
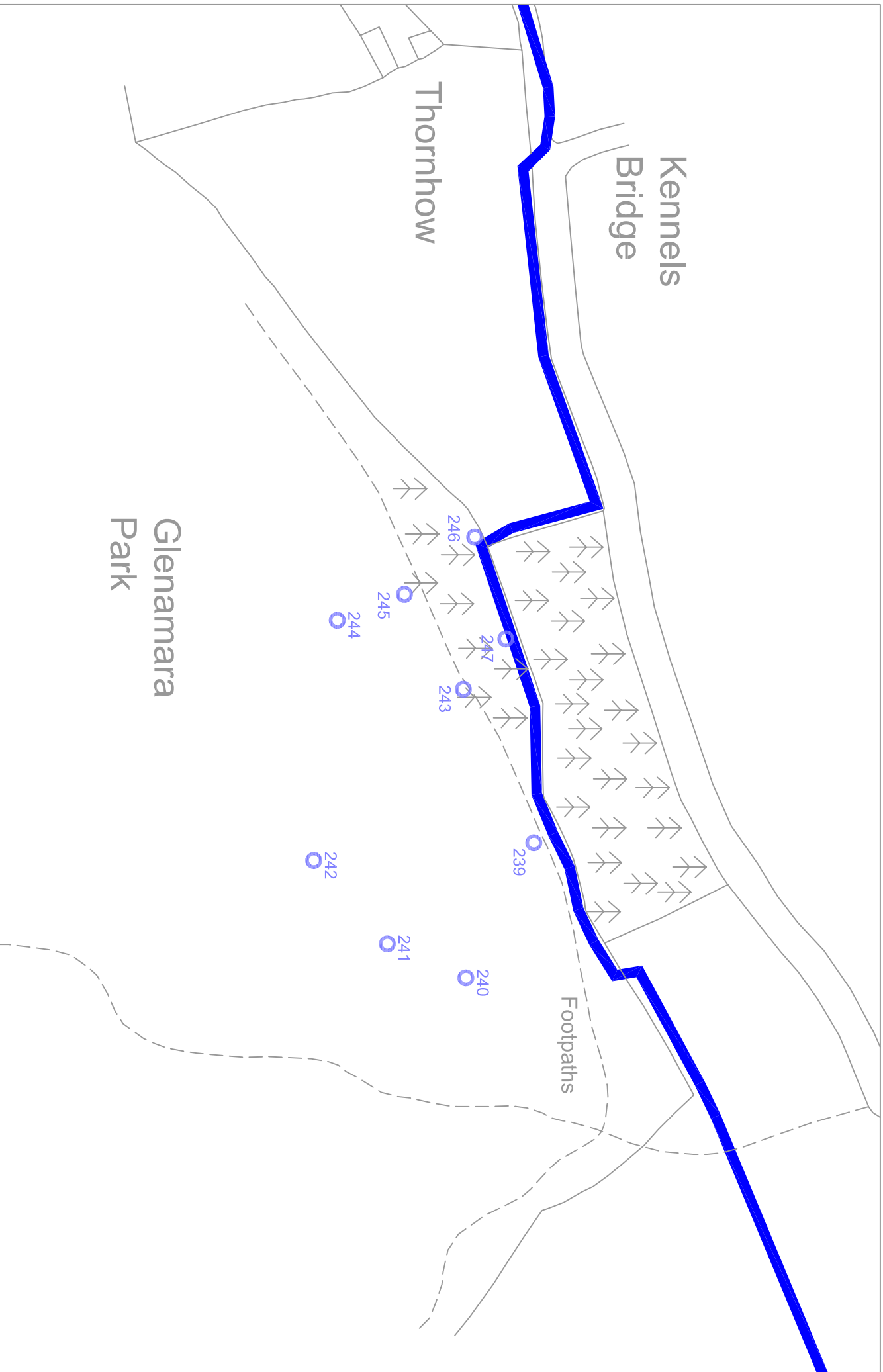


Figure 5: Section 1, Barton to Hartsop (south) and Section 2, Braesteads to Grisedale, showing the proposed pipeline and gazetteer sites.





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Scale 1:2000 at A4



Figure 6 : Glenamara Park, Charcoal Burning Platform Locations



Plate 1: Charcoal burning platform (Site **243**) crossed by footpath, looking west



Plate 2: Grisedale Beck bridge (Site **250**), looking north-east



Plate 3: Braesteads building platform (Site **251**), looking west