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ADDLEBROUGH CAIRN

NORTH YORKS

Survey Report

Addlebrough Cairn, Bainbridge
North Yorks

Archaeological Report Type

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The archaeological survey was undertaken by Chris Scurfield and Neil Wearing. The drawings were prepared by Neil Wearing and Jamie Quartermaine. This report was compiled by Jamie Quartermaine, Chris Scurfield and Chris Howard-Davis, and was edited by Rachel Newman. The project was managed by Jamie Quartermaine.

SUMMARY

This report details the findings of an archaeological survey of the summit cairn and associated rock art at Addlebrough near Bainbridge, North Yorkshire (SD 9459 8812). The work was commissioned by the Yorkshire Dales National Park Authority (YDNPA) and was undertaken to provide a management record of the monument with a view to providing public access to the summit of Addlebrough. The work was undertaken in accordance with a brief prepared by the Senior Conservation Archaeologist of YDNPA. The cairn has cup and ring marks on kerb stones around it, and in view of this the site has been declared a Scheduled Monument (Site 24523).

An extensive survey by fieldwalking was undertaken to assess the archaeological character of the immediate environs of the Addlebrough cairn, whilst an intensive survey of the topographical and archaeological features of the summit cairn and rock art was undertaken to produce detailed hachure and contour mapping. The cairn was surveyed by total station survey and the rock art was planned by manual survey techniques. The cup and ring marks were photographed from both oblique and rectified perspectives, in normal subdued lighting and also low direct lighting, taken shortly before sunset, which enhanced the surface features of the stones.

The extensive survey identified six quarry sites within the study area, which are of eighteenth / nineteenth century date and were associated with the original construction, and subsequent repair, of the field boundary walls.

The intensive provided for an assessment of the funerary monument, which is classified as a 'cairn circle' which is typologically broadly datable to the earlier part of the Bronze Age. The larger of the four kerb stones was unusually set with a flat upper face, and it is possible that there was a deliberate intention to adorn the upper surfaces with rock art.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 In April 2000 Lancaster University Archaeological Unit (LUAU) were commissioned by the Yorkshire Dales National Park Authority (YDNPA) to undertake a survey of the summit cairn and associated rock art at Addlebrough, near Bainbridge, North Yorkshire (SD 9459 8812). This was required to compile a management record of the monument in advance of the opening up of public access to the summit of Addlebrough. The work was undertaken in accordance with a brief prepared by the Senior Conservation Archaeologist of YDNPA (Appendix 1). The site is a Scheduled Monument (Site 24523).
- 1.1.2 The monument is a round cairn with large kerb stones around the periphery, and is a type of monument which had a funerary function, typically dating from the Bronze Age. It has had cups and some rings carved into the upper surfaces of the kerb stones. An ordnance survey triangulation pillar has been constructed on the top of the cairn.
- 1.1.3 At present the cairn is a focus for the few walkers that visit the site because the triangulation point advertises this low rise as being the principal summit of Addlebrough. With the onset of open access to the site there is concern that the increased visitor pressure will result in unacceptable levels of erosion to the monument and it has been proposed that the triangulation point be lowered to deter visitors from visiting this summit. The present programme of survey is intended to provide a mitigative record of the monument and pillar prior to any works and the onset of increased visitor pressure, and also to provide an assessment of its significance in order to inform any future management proposals.
- 1.1.4 A detailed survey of the cairn and an extensive survey of its environs was undertaken in May/June 2000. This report outlines the methodology and results of all elements of the programme.

2. METHODOLOGY

2.1 PROJECT DESIGN

- 2.1.1 A project design (*Appendix 2*) was submitted in March 2000 by LUAU in response to a request from the YDNPA, for a landscape survey of Addlebrough summit cairn and environs to inform the management of the site.
- 2.1.2 The project design was prepared in accordance with a brief (*Appendix 1*) by Robert White of the YDNPA. This provided for an extensive landscape survey, a detailed survey of the cairn, planning of the cup and ring marks, a full photographic survey of the site, and a written report. The survey has been carried out in accordance with the project design.

2.2 EXTENSIVE SURVEY

- 2.2.1 **Reconnaissance:** the study area for the extensive survey comprised 5.35ha of undulating, low gradient moorland at the summit of Addlebrough (Fig 2); it is edged to the south and east by field boundaries and to the north and west by steep crags. The area was systematically examined by field walking along 10m transects, taking particular care to investigate any earthwork features, and for any evidence of rock art in the surface stone; this also involved the examination of the stone within the field walls around the south and east sides of the site.
- 2.2.2 **Mapping:** by virtue of the relatively flat terrain and limited size of the study area it was decided to record the monuments by means of a total station rather than the GPS technique defined in the project design. Although the use of the total station is slightly slower than GPS it provides for a higher level of accuracy.
- 2.2.3 **Survey Control:** the control for the whole survey was established by closed traverse using a Zeiss ELTA3 total station, and was able to maintain an internal control accuracy of better than +/- 0.05m. The control was locally orientated and the final plan was located onto the Ordnance Survey National Grid by the subsequent superimposition of the CAD map onto OS raster 1:10,000 mapping provided under licence by YDNPA.
- 2.2.4 The archaeological detail and significant topographic detail was surveyed using the total station and data-logger. The digital survey data were transferred, via DXF file format, into a CAD system (AutoCAD14). The archaeological digital data were subsequently superimposed onto base topography which was provided by the client.
- 2.2.5 **Gazetteer:** a gazetteer of individual mapped features was compiled, with reference to the completed LUAU survey drawings, and this gazetteer is incorporated as *Appendix 3*. The sites are depicted on the general site map (Fig 2).

2.3 INTENSIVE SURVEY

- 2.3.1 An intensive survey was undertaken of the Addlebrough summit cairn, extending up to 15m away from it. The survey was undertaken to LUAU's Level 4 (LUAU 1996), which incorporates a detailed level of purely interpretative survey undertaken in conjunction with contour modelling of the surface. It involves very detailed hachure draughting of surface features and is intended for output at scales of up to 1:20.

- 2.3.2 **Hachure Survey:** the survey methodology employed by the intensive survey was the same as that for the extensive survey (Section 2.2.4), the only difference being that the digital data from the total station were plotted onto graticule sheets and taken back to the site to enable enhancement of the survey by manual draughting. The archaeological detail was drawn up in the field with respect to plots of the survey data and these edits were then transferred onto the raw survey data within the CAD system.
- 2.3.3 **Modelling:** a very detailed survey was undertaken of the cairn and for up to 15m around it, with points taken at 0.25m intervals. The digital survey data were transferred from the logger into a survey conversion programme (Microsurveyor); the data were then transferred to a modelling package (DGM3) which created a digital terrain model (DTM) of the mound. The modelling programme provided a two-dimensional contour output for the creation of the base map (Fig 1) and also a three dimensional mesh output for the manipulation of the model. The contour detail was transferred into a CAD system (AutoCAD14), and was superimposed with topographic detail from the hachure survey (Fig 4).
- 2.3.4 **Manual Survey of the Panels:** detailed drawings at 1:10 were created for the individual cup and ring marks on the two panels by manual survey techniques, which involved the use of a planning frame suspended over the panels. The drawings were created on drawing film and have been manually draughted (Figs 6 and 7).

2.4 PHOTOGRAPHIC RECORDING

- 2.4.1 A photographic survey was carried out in tandem with the survey to record general and detailed views of the cairn and rock art. This was undertaken both with 35mm and medium format cameras creating both black and white prints, and colour transparencies. The photographs were accompanied by a photographic index record.
- 2.4.2 **Rock art panels:** detail of the rock art panels, where appropriate, was captured through the use of rectified photography utilising a medium format camera with black and white roll film. The use of rectified photography resulted in photographs that had a minimal level of oblique distortion, although some distortion was inevitable, because the rock art was not on a perfect plane. This effect was countered by using Archis software, which, in conjunction with survey control on the photographs, allowed for the digital correction of oblique distortion within the photographs. A series of stereophotographs of each panel was created in order to provide an enhanced representation of the stones surface, but no processing was undertaken of these beyond the submission of the prints.
- 2.4.3 **Oblique Lighting Photography:** photographs were also taken of the panels in low-light conditions, at the end of the day, which, by virtue of the long shadows, enhanced the surface features of the panel.
- 2.4.4 **Triangulation Pillar:** as it is proposed that the triangulation pillar be removed from the cairn, a photographic record was undertaken of this feature in anticipation of the requirements of a scheduled monument consent application for these works. Rectified photographs were taken of all four faces of the pillar in black and white film using a medium format camera.

2.5 ARCHIVE

- 2.5.1 A full archive of the survey has been produced to a professional standard in accordance with the current English Heritage guidelines (*Management of Archaeological Projects*, 1991).

The archive will be deposited with the Yorkshire Dales National Park Authority. A copy of the report will also be given to the North Yorkshire Sites and Monuments Record.

3. BACKGROUND

3.1 TOPOGRAPHICAL BACKGROUND

- 3.1.1 Addlebrough is a large, prominent hill rising up to 476m AOD, to the south of Bainbridge and at the intersection between the Raydale and Wensleydale valleys. It is flat topped with steep crags around the northern, western and southern sides. The ground cover is almost exclusively short-grassed pasture with the exception of a small area of mire, which was possibly the location of a former tarn. The lower slopes are composed of soft shale with a peat overburden, while the upper slopes are formed of Underset limestone, but have surface erratic blocks of sandstone on the summit (Beckensall and Laurie 1998).
- 3.1.2 The cairn is in a prominent location on a high point on the northern side of the summit, with commanding views across Wensleydale, but not into Raydale and Semerwater to the west.

3.2 ARCHAEOLOGICAL BACKGROUND

- 3.2.1 **Archaeological Context:** the area of the Addlebrough cairn is rich in prehistoric and later remains, notably the Bronze Age settlement and field system at Greenber Edge (RCHM(E) 1996) to the immediate south of Addlebrough, the henge at Castle Dykes, to the south-east of Addlebrough, and a possible crannog at nearby Semerwater. There is also a multitude of funerary monuments, burnt mounds, unenclosed settlements and flint sites (Laurie nd) and the existing records clearly demonstrate considerable evidence of prehistoric activity which survives mainly on the upper slopes (Laurie and Minnitt 1993). A recent survey by LUAU, in conjunction with Bradford University (Quartermaine forthcoming), of the nearby hills on the opposite side of Raydale from Addlebrough similarly revealed a substantial number of prehistoric funerary monuments. These included two Bronze Age ring cairns, one at Silkaside (Site 114: SD 8778, 8653) and the second at Countersett Bardale (Site 136: SD 8825, 8604).
- 3.2.2 **Addlebrough Cairn:** this prominent round cairn on the summit of Addlebrough, is edged by a series of prominent kerb stones, onto which have been carved a series of cup and, to a lesser extent, ring marks which make up the 'Rock Art'. Round cairns are prehistoric funerary monuments with a primary central burial and often also satellite burials set around the periphery, which were inserted some time after the cairn was constructed.
- 3.2.3 **Rock Art:** rock art (Bradley 1996) is a world-wide phenomenon, recognised at all periods, and still, in some regions, a living tradition (Bradley 1996, 87; Layton 1992) which appears most closely associated with groups leading a mobile way of life. Numerous examples of both naturalistic and highly abstract rock art are known from throughout Europe, associated most frequently, although not exclusively, with a Neolithic/Bronze Age archaeological context. Britain, and more especially northern England and Scotland, presents a major concentration of such rock art. British examples are almost exclusively abstract (Bradley 1996, 87) and can be placed within the stylistic group more-or-less common to the whole Atlantic façade of Europe, from Galicia (north-west Spain) in the south, to Scandinavia in the north. They also hold much in common with other more Continental areas such as Switzerland.
- 3.2.4 British sites fall into two major groups: those inscribed on natural outcrops and boulders in open-air locations, or those incorporated on some megalithic ceremonial monuments, mainly burials (passage graves and cists), where one or more of the integral slabs can be decorated, such as that exhibited at Addlebrough. A third group comprises more portable objects which

bear similar decoration. Strong stylistic links can be established between the designs seen in both natural and megalithic contexts and the decorative motifs seen on contemporary pottery (Bradley 1997, 64).

- 3.2.5 It is currently held that rock art began in Britain at some time in the fourth millennium BC (c3300 BC) and remained of significance within the lives of contemporary groups until the early years of the second millennium BC (*op cit*, 65), effectively from the Neolithic period to the Early Bronze Age (*op cit*, 141). There is increasing reason to believe that the use and significance of the decorative motifs on megalithic monuments might have continued for longer, as it appears that not only were slabs removed from previously decorated boulders and reused (Bradley 1997, 141, fig. 9.2), as an example at Fowberry in Northumberland clearly shows (*ibid*, 144, fig. 9.3), but new motifs were also carved on the surfaces exposed after the removal of such slabs.
- 3.2.6 The distribution of known examples of open-air and megalithic rock art is not uniform throughout the British Isles. In England there is a very marked concentration in the northern counties; in the upland areas of Northumberland, Cumbria, the North Yorkshire Moors, Stainmore Gap (encompassing the Durham/Cumbria border), Ilkley Moor (West Yorkshire), and the Derbyshire Peak District all offer well-known concentrations. In contrast, far fewer examples are known from the southern part of the country, in part because of the paucity of appropriate surface rock. There are very few open-air rock art sites known (eg Rocky Valley, Tintagel, Cornwall) and components of some megalithic monuments appear to have been decorated (for example Waylands Smithy, and Stonehenge provides the single example of naturalistic rock art in England).
- 3.2.7 In Scotland the principal areas in which rock art are known are Galloway, Argyll, and Strath Tay. In Wales prehistoric art is not abundant, but some ornamented passage graves are known (Barclodiad y Gawres; Bryn Celli Ddu) along with a small number of cup-and-ring-marked stones. It would thus appear, on present evidence, that whilst the examples of rock art from Britain show a clear stylistic link with those of western and northern Europe at least, a strongly regionalised distribution seems likely within the British Isles.

4. SURVEY RESULTS

4.1 EXTENSIVE SURVEY

- 4.1.1 At the time of the survey (May 2000) the hilltop had short grass cover resulting from its use for sheep pasture, and this allowed clear visibility of surface features. The survey recorded the cairn (Site 7) (described in *Section 4.2*) and also six quarries which were of two distinct contexts: those adjacent to field boundaries (Sites 2, 3 and 4) and those in the centre of the present day field enclosure (Sites 1, 5 and 6). Site 2 was located adjacent to the east/west field boundary wall, and comprised a distinct break of slope extending north from the southern field boundary for 14m, but is now largely turf covered. Site 3 was a sub-circular depression (8m in diameter and up to 0.5m deep) which was adjacent to the north/south field boundary wall. Site 4 was similarly a sub-rectangular depression (3 x 2.5m and up to 0.75m deep) adjacent to the north/south field boundary wall. All three are relatively small and have a clear spatial association with the dry-stone walls.
- 4.1.3 Sites 1, 5 and 6 were located in the centre and east of centre of the study area. Site 1 (Plate 11) was a distinct break of slope some 30m in length, 8m of which is still an exposed working face. Site 5 similarly comprised a distinct break of slope, some 12m in length, turf-covered in places, but with a working face still visible. Site 6 (Plate 12) survives as a 5m limestone scar with a distinct terrace to the south of the working face.
- 4.1.4 All quarries associated with the enclosure field boundary walls are of eighteenth / nineteenth century date, although, the distinction (location, size and use) between the two forms of quarry suggests different working approaches. Sites 1, 5 and 6, being within the centre of the enclosure, have long linear working faces and were more extensively worked. As such they may have been the principal quarries for the construction of the field boundary walls. Sites 2, 3 and 4, by contrast, were located directly on the boundary walls and were typically shallow eroded pits. These were clearly worked on a more limited scale and probably reflect a different episode of wall construction or repair.

4.2 INTENSIVE SURVEY

- 4.2.1 **Addleborough Cairn:** the cairn itself is located on a pronounced ridge in the north of the study area; the north-east and north-west quadrants of the mound slope towards the north ridge, the ridge then drops off towards Addleborough Scar, leaving only some 10m of sharply sloping land between the cairn and a c12m vertical face. The cairn is a predominantly turf-covered sub-circular mound of maximum c13.5m diameter rising to a height 0.8m. The cairn is partly defined by a kerb of six sandstone boulders around the southern side of the cairn. An OS triangulation point has been mounted on a stone-built pillar in the northern part of the cairn.
- 4.2.2 The central part of the cairn is a flat topped, oval-shaped platform orientated approximately south-east / north-west. The south-east end is dominated by the presence of the six large sandstone boulders, four of which have cup and ring marks. There is also a greater presence of protruding sandstone through the turf in this area.
- 4.2.3 The slope in the north-west quadrant is uninterrupted and gradual, rising from the natural slope of the hill to the top break of slope of the cairn, a distance of between 5m and 6m. The northern part of the cairn is essentially level, rather than rounded and there were several small patches of sandstone protruding through the turf. The modern triangulation pillar has been inserted at this point into the stone core of the cairn.

- 4.2.4 The north-east quadrant again has a gradual rising slope for 5-6m which then levels out to form a small semi-circular terrace up to 4m in width and 6m in length. At the top break of slope is an area of protruding stone, including the smallest of the cup and ring marked stones (Stone 4).
- 4.2.5 The northern part of the south-east quadrant continues the gentle rising slope, which is characteristic of the lower slope around the entire cairn, over a distance of 4-5m. To the south the slope becomes steeper as it rises before falling to form a curved linear depression, containing the second smallest of the cup and ring marked stones (Stone 3). At the top of the depression are four substantial pieces of unmarked sandstone in an essentially random cluster between Stones 3 and 4.
- 4.2.6 The south-west quadrant has the same characteristic slope which is broken by a shorter, steeper break of slope. At this point there are three substantial sandstone boulders forming a broad arc under the top break of slope of the cairn. The outer two stones are the two largest cup and ring marked stones (Stones 1 and 2), while the central one is unmarked sandstone; between this and the southern marked stone there is a further outcropping stone. An erosion scar has formed to the north-west and under the northernmost stone, as a result of sheep.
- 4.2.7 **Cup and Ring Marked Stones:** Stone 1 (Plates 4 and 5) is a large sandstone 'slab' measuring 0.95m x 0.75m, which is set into the slope in the south-west quadrant of the cairn, and forms the western end of the kerb stones. Its base is firmly earthfast despite the animal erosion to its north, indicating that the stone has a substantial sub-surface component. This stone has the most extensive decoration, with at least 30 cups carved into it. Also identified were several distinct grooved channels forming 'rings' which highlight certain cups. One cup mark in the bottom right hand corner of Stone 1 has an almost complete 'ring' made up from a series of hollows (Fig 6). This stone also has an Ordnance Survey reference petroglyph, and it appears to have been damaged recently. The north-east corner of the stone has a 200mm scar from a recent fracture, which has removed carvings shown on a published drawing of the complete stone (Beckensall and Laurie 1998).
- 4.2.8 Stone 2 (Plates 6 and 7) is a large 'slab' of sandstone, the upper surface is flat and rectangular, and the lower portion is earthfast; its exact shape cannot therefore be determined. The stone again appears to be an integral element of the fabric of the cairn. The southern portion of the stone is decorated with at least 21 cup marks and two distinct grooved channels. Two of the larger cup marks have been filled with modern mortar (Fig 6), resultant probably from its use as a reference mark for the OS triangulation pillar.
- 4.2.9 Stone 3 (Plate 8) now does not have a flat upper surface, but instead has steeply inclined sides; its western edge has three cup marks and the east has a second OS reference petroglyph (Fig 7).
- 4.2.10 Stone 4 (Plate 9) has steep sides and at least 12 cup marks with a central meandering grooved channel which links two of the cup marks (Fig 7). These are located only on the steep westerly inclined surface, which is partially obscured by turf.

5. DISCUSSION

5.1 ADDLEBROUGH CAIRN

- 5.1.1 **The cairn circle:** the Addleborough cairn comprises a rounded mound 13.5m in diameter, with substantial stones set in a sub-circular arrangement around the edge of the monument, giving the appearance of a very prominent kerb. The kerb stones are very large in comparison with those of the cairn, strongly suggesting that they were deliberately intended to form an external boundary to the monument. Its form most closely matches that of the 'cairn circle', which has been characterised by Lynch (1972) as one of the types of variant circles that span the typological gap between simple round cairns and stone circles. The cairn circle has been defined as a platform cairn from which spaced uprights emerge, sometimes leaning outwards, the critical factor being the filling in of the space within the stones and the relative prominence of the kerb stones. Notable Welsh examples cited by Lynch are those at Cefn Caer Euni I and Bryn Cader Faner, Merioneth (Bowen and Gresham 1967, 79-82), although a more local example is at Moor Divock, near Ullswater, (Quartermaine and Leech forthcoming) where a 10m diameter cairn (Site AF 117) has very prominent pointed stone uprights set into its periphery. It was excavated in the last century by Greenwell (1877, 400-1), and as a result there is now a large central crater; he did, however, recover a food vessel containing a cremation. Significantly, the stones also have simple cup and ring marks cut into the internal face of one of the kerb stones.
- 5.1.2 **Cairn chronology:** the Addleborough cairn has not been subject to intrusive exploration and thus neither absolute or relative dates are available; however, it is possible to suggest a broad date range on the basis of the limited number of comparable examples. In general datable round cairns extend through the whole of the Bronze Age, however, the great majority of datable cairns from south-west Scotland have been ascribed to the early Bronze Age, primarily on the basis of ceramic finds (Yates 1984, 2-3). Very few cairn circles have been subject to modern excavation but one of the few examples that has is that at Cefn Caer Euni I, which revealed domestic beaker sherds underlying the cairn; this indicates an early to mid Bronze Age *terminus post quem* (Lynch 1972, 77) for the monument. The Moor Divock cairn produced a food vessel which would, in Northern England, suggest a late Neolithic - mid Bronze Age date (Gibson 1986). Similarly the presence of cup and ring marked stones within the fabric of the cairn points to an early Bronze Age date (Bradley 1997, 139) at the latest. Thus, without further evidence, the most probable dating for the Addleborough cairn would appear to be centred on the early Bronze Age.
- 5.1.3 **The relationship between the rock carvings and the cairn:** there seems little doubt that the sandstone boulders upon which the cup and ring marks were carved are an intrinsic part of the cairn described above, being an element of a clearly defined kerb. What is in question, however, is whether they were incorporated into the cairn from elsewhere (which must include the possibility of an earlier 'ritual monument' on the site), or were produced specifically to be part of the cairn structure. Recent investigations have raised the possibility of both practices: many instances have been cited of fragmentary cup and ring marked stones built into, or re-used in, cairns (Bradley 1997, 139-45), whilst excavations at Fulforth Farm, Witton Gilbert (Co Durham) have suggested that the decorated capstone of the central cist was purpose-made (Beckensall and Frodsham 1998, 53-6). Only where cairns appear to have been deliberately erected over decorated bedrock surfaces, for example at Fowberry in Northumberland (*op cit*, 62), can an obvious chronological relationship be determined, although it must be emphasised that the latter also contained decorated stones within the body of the mound.

- 5.1.4 Determinative factors, such as the degree of weathering (ie weathered carvings built into a cairn must have pre-dated the cairn), seem inappropriate here, as it is not known how long the cairn has been in its present condition, or whether the kerb was always exposed. Examination of the stones does, however, suggest that the surfaces as they survive today are a palimpsest (excluding the very obvious late addition of broad arrows as part of the cairn's late use as a triangulation reference mark), with, on Stone 1, a suggestion of superimposition, between one cup mark and the small rosette motif, and on Stone 3 cup marks are clearly superimposed. Such evidence must suggest that the surface of the stones was available for an extended period (although not necessarily very long) and that there was potential for revisiting the stones within whatever social context rock art was created.
- 5.1.5 It has also been established that the stones are most likely to be glacial erratics, being sandstone in an area dominated by limestone geology. Although they are now earthfast the full size of these particular stones cannot be determined without excavation, but they must have been movable to have been placed within the kerb in the first place. Again only offering tentative interpretation, it seems reasonable to assume that the stones were deliberately collected to be incorporated in the cairn and are to that extent contemporary, but whether they were selected for the carvings already upon them, for the particular qualities of the stone (ease of pecking?), or for some other factor like colour or even simply proximity, cannot be determined.
- 5.1.6 One persistent observation made of decorated stones found within cairns is that they were deliberately hidden or obscured. In the case of decorated slabs used in cists the principal carvings face inwards to the occupant of the cist (Morris 1989, 47), in the main body of the cairn decorated stones were placed face down (Bradley 1997, 142). This seems to be equally the case whether the stones were re-used or purpose-made.
- 5.1.7 Early Bronze Age cairns in north-east Yorkshire have produced numerous examples of simple cup marked stones from within their fabric (Spratt 1993, 84-6). Where carvings are known from kerbstones, these too have tended to be simple cup marks (Bradley 1997) like those on the Addlebrough stones, and to have faced inwards, for example at Glassonby, Cumbria (Thornby 1902, 380-3) or the cairn circle at Moor Divock (Site 117) (Beckensall 1995, 25 and 33). As the Addlebrough monument survives today, the latter does not appear to have been the case, as the decoration for the most part lies face up. This would appear to set it apart although, without excavation, it cannot be determined whether the stones are simply displaced, having been broken or tumbled from their original positions, especially if, as Lynch suggests (Lynch 1972) the uprights usual in circle cairns were erected at an angle, sloping outwards.
- 5.1.8 In conclusion, it is apparent that the cup marked stones were intended as part of the cairn. The re-use of decorated stones such as these erratics, or fragments 'harvested' from decorated bedrock sheets, is well known, and there is the possibility that this was the case at Addlebrough. In general, rock art is regarded as a Neolithic phenomenon, but it is becoming more and more accepted that, whatever its significance, it persisted as an important part of belief structure into the Bronze Age, although several researchers have seen its inclusion in later funerary monuments (Bradley 1997, Waddington 1996) as signalling some change in attitude towards such carvings. Thus it seems likely that the creation of the rock art at Addlebrough pre-dates the construction of the cairn, but that its deliberate inclusion within the cairn links it closely in some manner, possibly representing a changing belief-system, with the builders of the cairn.

6. RECOMMENDATIONS

6.1 SITE MANAGEMENT

- 6.1.1 The cairn is important, in part because it is a relatively uncommon form of funerary monument, but particularly because of the rock art and its association with the cairn. The anticipated opening up of public access to the site will have the potential to create a degree of erosion that would have an undue impact upon the cairn and its associated rock art. Visitors to the site who are unaware of the presence and indeed significance of the rock art are likely to use the obvious flat topped stones to walk on, sit on, and thus subject the site to increased erosion. In limited numbers visitors will not cause a significant impact, but the opening up of access onto what is one of the more visible and approachable hills in Wensleydale may result in a significant increase in visitor traffic. At present casual visitors are attracted to the site because of the presence of the triangulation point which marks it as the summit of Addlebrough, even though it is not significantly higher than other rises within the area.
- 6.1.2 The proposal by YDNPA to construct an alternative reference point, in the form of dry-stone cairn on a different Addlebrough summit, would reduce the pressure of the casual visitor who merely wants to achieve a summit, so long as the impact of the present triangulation point is reduced. It is not recommended that the triangulation pillar be removed entirely as it is concreted into the fabric of the cairn and its removal would cause an unacceptable level of disturbance to the cairn. Instead, the pillar should be considerably lowered to a point near to the present pillar foundations. Being part of a Scheduled Monument, consent needs to be granted to enable any works to the pillar. The anticipated requirement for archaeological recording of the pillar, prior to its partial removal, has in fact, as a result of the present programme, been achieved by means of rectified photography. A mitigative record of the cairn and cup and ring marks has been undertaken and there is therefore no recommendation for further archaeological recording at this stage.
- 6.1.3 The location of the new summit cairn needs to be selected with considerable care since otherwise walkers would still visit the funerary cairn if they did not consider the adopted summit to be the true summit.
- 6.1.4 The turf covering over the cup and ring stones has been steadily decreasing, as evidenced by the relatively thin lichen cover over parts of the stones. While it would seem attractive to restore the turf cover and thereby provide protection for the rock art, this cannot be achieved as long as there are the present substantial sheep numbers on the land. Sheep erosion has caused considerable erosion to the cairn, exposing substantial amounts of Stone 1 from both the sides and the top, and at present they represent a greater erosive force than the present low numbers of visitors. One option is the adoption of an Environmentally Sensitive Area (ESA) scheme for the farm, which amongst other environmental advantages would restrict the numbers of grazing sheep.

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APPENDIX 1 PROJECT BRIEF

APPENDIX 2 PROJECT DESIGN

March 2000

**Lancaster
University
Archaeological
Unit**

**ADDLEBROUGH
BAINBRIDGE
YORKSHIRE DALES**

ARCHAEOLOGICAL SURVEY

Proposals

The following project design is offered in response to a request from Yorkshire Dales National Park for an archaeological survey at Addleborough, near Bainbridge, North Yorkshire.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF PROJECT

- 1.1.1 This project design is offered in response to a request by Yorkshire Dales National Park, for an archaeological survey of the prehistoric cairn on Addlebrough Summit, near Bainbridge. The survey is intended to inform the management of the area.

1.2 BACKGROUND

- 1.2.1 The summit cairn is located on Addlebrough (SD 9459 8812) at an altitude of 476m; it includes a number of cup marked stones set into the fabric of the cairn, which have been revealed as a result of localised disturbance. It is a scheduled ancient monument.

1.3 LANCASTER UNIVERSITY ARCHAEOLOGICAL UNIT

- 1.3.1 Lancaster University Archaeological Unit (LUAU) has considerable experience of the evaluation, survey and excavation of sites of all periods, having undertaken a great number of small and large scale projects during the past 17 years. One of its particular specialisms is in the sphere of landscape recording and assessment. LUAU has the professional expertise and resource to undertake the project detailed below to a high level of quality and efficiency. LUAU is one of the few organisations registered with the Institute of Field Archaeologists (IFA / No 27), and its members of staff adhere to the IFA Code of Conduct.
- 1.3.2 LUAU has undertaken a large number of upland landscape surveys for a variety of clients (both private and national agencies such as English Heritage and RCHM(E)) and employs a qualified surveyor (James Quartermaine, BA, DipSurv, MIFA) who has many years experience of the identification and survey of upland landscapes, having worked closely with the Royal Commission on the Historical Monuments of England and the Lake District National Park Authority on a number of projects.
- 1.3.3 Since 1982 LUAU has been undertaking extensive upland landscape surveys throughout Northern England but mainly in the Lake District; the work has been on such a scale that now only the RCHM(E) has undertaken more extensive upland survey work in this country. Surveys include the Lake District National Park Survey, the Torver Common surveys (Lake District), Haweswater and Thirlmere estate surveys (Lake District), that of Lyme Park (Peak District), the whole of the Arnsdale / Silverdale AONB, much of the Forest of Bowland AONB and a multitude of smaller landscape projects which include the Otterburn Range surveys in the Northumberland National Park. To date LUAU has undertaken archaeological field surveys of over 390sqkm of upland landscapes and has recorded over 18,000 field monuments. On the Arnsdale / Silverdale project, in 1992, LUAU was the first archaeological organisation in Britain to use GPS (Global Positioning System) survey techniques and since then has considerably advanced its skills in this area. LUAU can therefore claim to be one of the foremost specialists in the field of upland landscape recording.

2. OBJECTIVES

- 2.1 The objectives of the programme are the survey of the environs of the cairn, recording all archaeological features in order to inform the management of the landscape. The programme has been designed in accordance with a brief by Robert White of Yorkshire Dales National Park, to provide an appropriate level of archaeological survey, within its broader context. The required stages to achieve these ends are as follows:
- 2.2 **Extensive Survey**
An extensive survey is to be undertaken by an experienced landscape archaeologist to record any features within the environs of the principal site and on the summit of the hill. It would examine an area of c 5.35ha. This would provide a detailed description of the sites in conjunction with a Level 1 GPS survey of the main features (See Appendix 1).
- 2.3 **Intensive Survey**
A level 4 survey of the cairn is to be undertaken.
- 2.4 **Survey Report**
A written survey report will assess the significance of the data generated by this programme within a regional and national context. It will make recommendations for the future management of the site.

3. METHODS STATEMENT

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

3.2 EXTENSIVE SURVEY

- 3.2.1 It is proposed to undertake a level 1 survey of the study area (*See Appendix 1*), which is defined approximately as the area to the south of the summit, as shown on mapping provided with the brief and extends over an area of 5.35ha. The survey will exclude the principal sites which will be the subject of the intensive survey (*Section 3.3*). The aim of the survey is to record the existence, location and extent of the archaeological features within the study area. The emphasis for the recording is on the written description which will assess the character, and establish the relationships between individual features. The descriptive assessment will examine specifically the evidence for early features, and areas of working and will be undertaken in conjunction with available documentary sources.
- 3.2.2 The sites will be located by means of Global Positioning System (GPS) techniques to locate and record the features. GPS instrumentation uses electronic distance measurement along radio frequencies to satellites to enable a positional fix in latitude and longitude which can be converted mathematically to the Ordnance Survey National Grid. The use of GPS techniques has proved to be an essential and extremely cost effective means of locating monuments, which can achieve accuracy of better than $\pm 1\text{m}$. A photographic record will be undertaken simultaneously.
- 3.2.3 The survey data will be transferred digitally into a CAD system and can there be superimposed with topographic raster OS 1:10,000 digital data to be provided by Yorkshire Dales National Park (under licence). The survey will result in the production of plans at a scale of 1:1000, recording the location of each of the sites listed in the gazetteer. All archaeological information collected in the course of field inspection will be recorded in standardised form, and will include accurate national grid references. This will form the basis of a gazetteer, to be submitted as part of the report.

3.3 INTENSIVE SURVEY

- 3.3.1 It is proposed to undertake a level 4 survey (see LUAU survey levels, *Appendix 1*) of the principal sites, which is equivalent to RCHM(E) level 3. The survey will include the full extent of the summit cairn and will be at 1:50 scale. All appropriate topographic detail will be recorded to provide an appropriate context for the archaeological detail.
- 3.3.2 Survey control will be established over the site by closed traverse and internally will be accurate to $\pm 15\text{mm}$; the control network will be located onto the Ordnance Survey National Grid by the use of Global Positioning Survey (GPS), which will locate to an accuracy of $\pm 0.5\text{m}$.
- 3.3.3 **Hachure Survey:** The surface features will be surveyed by EDM tacheometry using a total station linked to a data logger, the accuracy of detail generation being appropriate for a 1:100 output. The digital data will be transferred onto a portable computer for manipulation and later transfer to other digital or hard mediums. Film plots will be output via a plotter. The archaeological detail will be drawn up in the field as a dimensioned drawing on the plots with respect to survey markers. Most topographic detail will also be surveyed, particularly if it is archaeologically significant or is in the vicinity of archaeological features. The survey drawings will be generated within a CAD system and can be output at any scale, and can also be provided in digital format for incorporation within a GIS system. The output of the CAD mapping will allow its adaptation for presentational purposes.
- 3.3.4 **Manual Survey:** detailed drawings at 1:10 will be created for the individual cup and ring marks. This will be done by manual survey techniques, using a grid frame. The drawings will be created on drawing film but will be digitised into a CAD system for final presentation.
- 3.3.5 **Contour Survey:** a modelling survey will be undertaken to record surface of the cairn and environs. The modelling survey requires the recording of additional height controlled survey points scattered over the whole study area. The greater the density of points the more detailed the model will be depicted. It is proposed that this option would involve surveying contour points at a 0.25m metre separation across the extent of the site, although slightly denser concentrations will be undertaken in the proximity of significant archaeological features in order to enhance these features within the model.

- 3.3.6 The digital survey data is modelled within a modelling package (DTM3) which will create a diversity of outputs. As long as sufficient detail points have been captured, it will be possible to present a variety of different contour separations which can be used to provide either a general topographic perspective to the hachure survey or, alternatively, a dense contour depiction capable of defining the detailed form of the landscape (examples are included with the present project design). In addition a three-dimensional isometric model of the cairn can be created which can be presented within an appropriate CAD system (AutoCAD14) and can be viewed from a variety of differing perspectives.
- 3.3.7 **Photographic Recording:** in conjunction with the archaeological survey a photographic archive will be generated, which will record significant features and general landscapes. It will include photographs taken with a medium format camera of the rock art panels, and will include photographic scales. Photography will be undertaken using black and white film for general record shots and colour transparency film for archaeological detail and features. The photographs will be accompanied by a photographic index record.
- 3.3.8 Detail of the rock art panels will, where appropriate, be captured through the use of rectified photography utilising a medium format camera with black and white roll film. The use of rectified photography will result in photographs produced at a specified scale (1:50) and ensure that distortion of the image, as caused by oblique photography, is minimised. However, there will inevitably be some slight level of distortion to the detail furthest from the front plane of the stones, the scale only being accurate for the face. Stereophotography would eliminate this problem but has been ruled out in this case due to the cost which would be in excess of £1000.00 (call out fee). It is proposed to use Archis software, which allows for the digital correction of oblique distortion within photographs. As long as there is sufficient survey control on each stone this would be capable of significantly reducing the residual photographic distortion, that is caused by the non flat plane of the stone that the cup marks are carved into. It is also proposed to undertake a series of parallel photographs of each panel to provide a stereo effect, however, it is not proposed to undertake any processing of these beyond the submission of the prints.
- 3.3.9 It is proposed to take photographs of the panels in low-light conditions, and would require an early or later attendance on the site. However, if there are overcast conditions throughout the period of the survey then a contingency would come into play in order to allow for an additional site visit. The contingency is defined in section 5.
- 3.3.10 The survey would be accompanied by a gazetteer description of individual archaeological features, which will relate directly to the survey mapping. This stage of the survey will involve a detailed assessment of the site and its general context and will be undertaken by an experienced landscape archaeologist.

3.4 SURVEY REPORT

- 3.4.1 **Archive:** the results of Stages 3.1-3 will form the basis of a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects, 2nd edition, 1991*). The project archive represents the collation and indexing of all the data and material gathered during the course of the project. It will include summary processing and analysis of any features and finds recovered during fieldwork. The deposition of a properly ordered and indexed project archive in an appropriate repository is considered an essential and integral element of all archaeological projects by the IFA in that organisation's code of conduct.
- 3.4.2 This archive can be provided in the English Heritage Central Archaeology Service format, both as a printed document and on computer disks as ASCII files, and a synthesis (in the form of the index to the archive and the report) will be deposited with the Yorkshire Dales National Park. LUAU practice is to deposit the original record archive of projects (paper, magnetic, and plastic media) with the Yorkshire Dales National Park.
- 3.4.3 **Report:** five bound and one unbound copy of a written synthetic report will be submitted to the Yorkshire Dales National Park. 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 a map and gazetteer of known or suspected sites identified within or immediately adjacent to the study area. It will also include a complete bibliography of sources from which the data has been derived, and a list of further sources identified during the programme of work, but not examined in detail.
- 3.4.4 This report will examine the significance of the landscape within a national and regional context. It will specifically present the evidence for prehistoric activity within the environs. Illustrative material will include a

location map, and survey plans; it can be tailored to the specific requests of the client (eg particular scales etc), subject to discussion. The report will be in the same basic format as this project design.

- 3.4.5 **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; it is not suitable for publication as an academic report, or otherwise, without amendment or revision. Any requirement to revise or reorder the material for submission or presentation to third parties beyond the project brief and project design, or for any other explicit purpose, can be fulfilled, but will require separate discussion and funding.

3.5 OTHER MATTERS

- 3.5.1 **Access:** liaison for basic site access will be undertaken through The National Trust.
- 3.5.2 **Health and Safety:** full regard will, of course, be given to all constraints (services etc) during the excavation of the trenches, as well as to all Health and Safety considerations. LUAU provides a Health and Safety Statement for all projects and maintains a Unit Safety policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1991) and risk assessments are implemented for all projects.
- 3.5.3 **Insurance:** the insurance in respect of claims for personal injury to or the death of any person under a contract of service with the unit and arising out of an in the course of such person's employment shall comply with the employers' liability (Compulsory Insurance) Act 1969 and any statutory orders made there under. For all other claims to cover the liability of LUAU, in respect of personal injury or damage to property by negligence of LUAU or any of its employees, there applies the insurance cover of £ 2m for any one occurrence or series of occurrences arising out of one event.

3.6 PROJECT MONITORING

- 3.6.1 **Yorkshire Dales National Park:** any proposed changes to the project brief or the project design will be agreed with the National Park Archaeologist. LUAU will arrange a preliminary meeting, if required.

4. WORK TIMETABLE

The phases of work will comprise:

- 4.1 **Extensive Survey**
A one day period is required for the extensive survey
- 4.3 **Intensive Survey**
A four day period is required to undertake the intensive survey
- 4.3 **Prepare Survey Report**
A five day period would be required to complete this element.
- 4.4 LUAU can execute projects at very short notice once an agreement has been signed with the client.
- 4.5 **STAFF**
- 4.5.1 The project will be under the management of **Jamie Quartermaine BA DipSurv** (LUAU Project Manager) to whom all correspondence should be addressed. He will supervise the survey and will monitor the progress of the project ensuring adherence to all agreed programmes and timetables. He will also provide technical back-up, advice, and will have editorial control over the compilation of the full report. He has many years experience of surveying upland landscapes, particularly in the Lake District and Yorkshire Dales National Parks. He has undertaken an intensive survey of the nearby Anglezarke and Rivington moors for North West Water Ltd.

APPENDIX 3

SITE GAZETTEER

Site number 1
Site name Addlebrough (summit)
NGR SD 9457 8805
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000
Description A disused quarry evidenced by a characteristic break of slope, which extends perpendicular to the east-facing slope. It incorporates the remains of a crescent-shaped working face which forms a limestone scar and is 8m long and up to 1m in height.

Site number 2
Site name Addlebrough (summit)
NGR SD 9457 8798
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000
Description A disused quarry which is now largely turf-covered. It is adjacent to the east/west field boundary which forms the southern edge of the study area. As with Site 1, the quarry is marked by a break of slope associated with a limestone scar, which outcrops in short lengths of up to 5m. The quarry extends north from the field boundary for about 14m. The location of Sites 1 and 2 shows that the limestone bedrock has been worked along a line of thin soils, which would have allowed easy access to deposits of less heavily weathered limestone.

Site number 3
Site name Addlebrough (summit)
NGR SD 9477 8804
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000
Description The site is c3m west of the north/south field boundary, which defines the easterly limit of the study area. It is evidenced by a small, sub-circular turf covered depression 8m in diameter and up to 0.5m deep. This was probably a quarry providing stone for the construction of the adjacent wall.

Site number 4
Site name Addlebrough (summit)
NGR SD 9477 8801
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000
Description The site is located c6m west of the north/south field boundary, which defines the easterly limit of the study area. A small sub-rectangular turf-covered depression, 2.5 x 3m in size, associated with a curved break of slope in the southerly-facing slope. The sites position may indicate that the site functioned as a localised quarry for the north/south field wall.

Site number 5
Site name Addlebrough (summit)
NGR SD 9469 8806
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000

Description A two-bay quarry located some distance away from the field boundaries towards the centre of the summit enclosure. The northern quarry bay is 9m long, aligned north/south, and is evident as a scar up to 0.75m high. The southerly bay is a marked 3m long scar, which is up to 0.5m high. Apart from sections of working face, the site is turf covered and is notable in that there is a clear difference in the ground surface here which is clear of the weathered bedrock, forming a soil-covered, karst topography.

Site number 6
Site name Addleborough (summit)
NGR SD 9465 8802
Site type Quarry
Period Nineteenth century
Source Identification Survey 2000
Description This site is evidenced by a low limestone scar, which extends 5m around the base of a south-west-facing slope. There is also a notable terrace to the south of the working face.

Site number 7
Site name Addleborough (summit)
NGR SD 9459 8812
Site type Cairn
Scheduled
Monument No 24523
Period Bronze Age
Source Identification Survey 2000
Description The mound is situated on a pronounced symmetrical ridge close (c10m) to the crest of the scarp slope. The limestone ridge is aligned north-west to south-east and the mound is at the north-westerly end, close to Addleborough scar (a 12m vertical face).

The cairn is visible as a low mound, which is generally turf covered and has a diameter of c13m with a height of up to 0.8m. It is edged by a kerb of six large glacially worn sandstone boulders some of which are partially earthfast. These boulders form a 5m diameter array, which is interrupted by the triangulation cairn. Four of these sandstone boulders incorporate cup and ring marks on the upper surfaces, and two of these stones have modern triangulation reference marks.

The weathering of the rocks and lichen growth is the same across both the cup and ring marks and the triangulation mark, which would indicate that the lichen growth is relatively recent. Molehills, a very obvious feature of the surrounding landscape, were largely absent from the mound itself, presumably due to the high stone content of the cairn.

Stone 1 is the most extensively decorated stone (0.95m x 0.75m), with at least 30 cups, ranging from 40mm up to 56mm in diameter. The stone has recently been damaged, resulting in the disappearance of a 200mm wide corner of the stone. There is a published drawing of the complete stone from 1998 (Beckensall and Laurie 1998) which indicates that Stone 1 originally comprised a total of at least 35 cup marks. Distinct channels were observed in the current survey and appear as ring segments which emphasise certain cups. Only one cup on the stone has a complete ring, which on close examination appears to consist of a series of hollows.

Stone 2, forms a rectangular upper surface (1m x 0.65m) which tilts to the south. There are at least 21 cup marks on the upper surface, which are distributed across the southern half of the stone. Two of these cups are associated with ring segments, both of which and another, having also been partially filled with modern cement. This was probably inserted as a reference mark for the adjacent triangulation pillar.

Stone 3 does not have a flat upper surface, as is the case with Stones 1 and 2; the stone has instead steeply inclined sides (1.15m x 0.7m in size), and is roughly aligned north-east to south-west. Across one natural dish-shaped facet, there is a series of three cups, each with a diameter of around 0.07m. On the eastern side of the stone there is a triangulation mark.

Stone 4 is 0.8m x 0.5m in size and is roughly aligned north/south. It has at least 12 cup marks and a central meandering channel, which links two of the cup marks. The diameter of the cups varies from

0.04m to 0.09m and these are located only on the steep westerly-inclined surface, which is partially obscured by turf.

ILLUSTRATIONS

Fig 1 Site Location Map

Fig 2 Addlebrough Summit General Plan

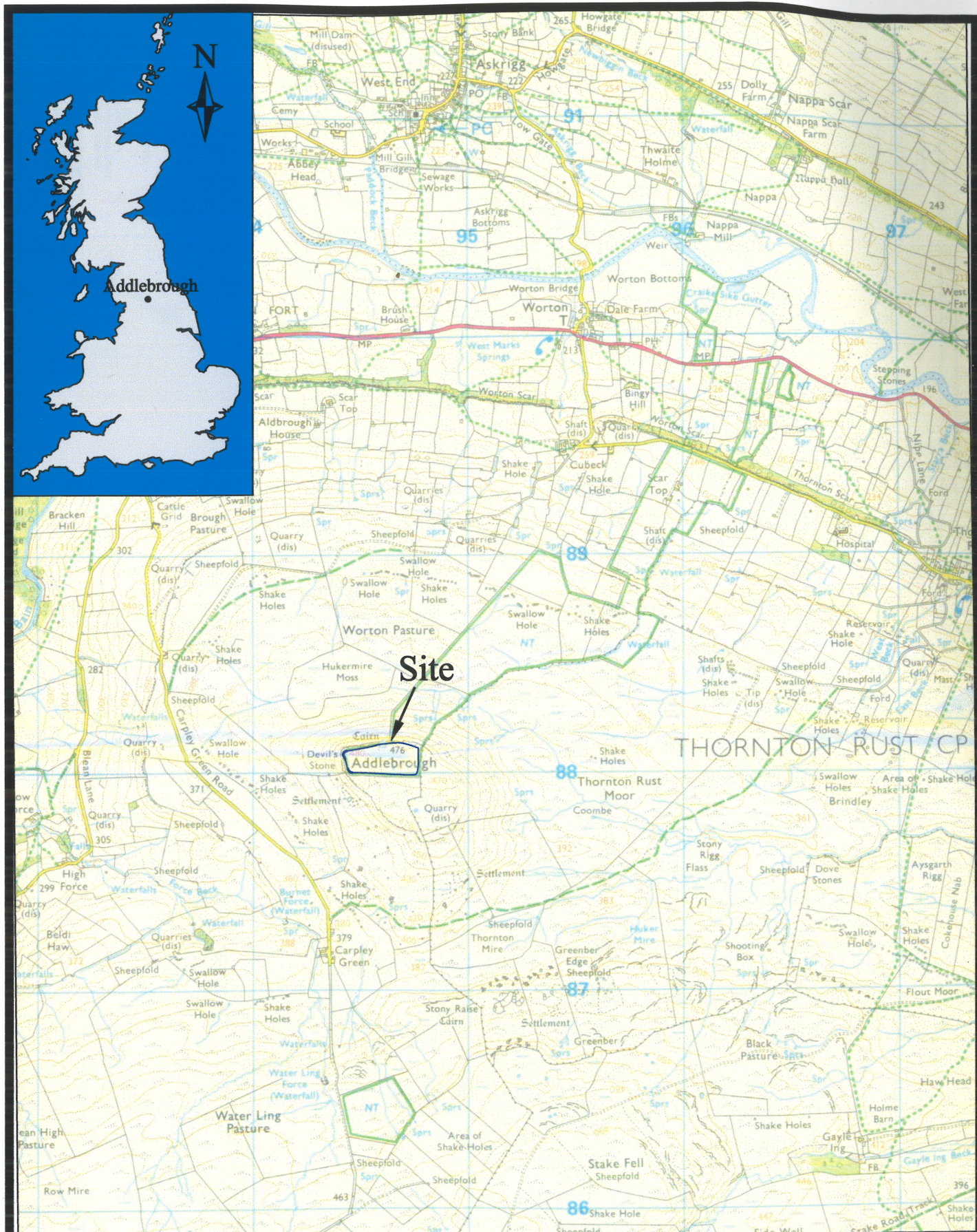
Fig 3 Addlebrough Cairn Hachure Survey Plan

Fig 4 Addlebrough Cairn Contour Map (excluding hachures)

Fig 5 Addlebrough Cairn Contour Map (including hachures)

Fig 6 Cup and Ring Marked Stones 1 and 2

Fig 7 Cup and Ring Marked Stones 3 and 4



based upon the Ordnance Survey 1:25000
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Fig 1: Addleborough Location Map

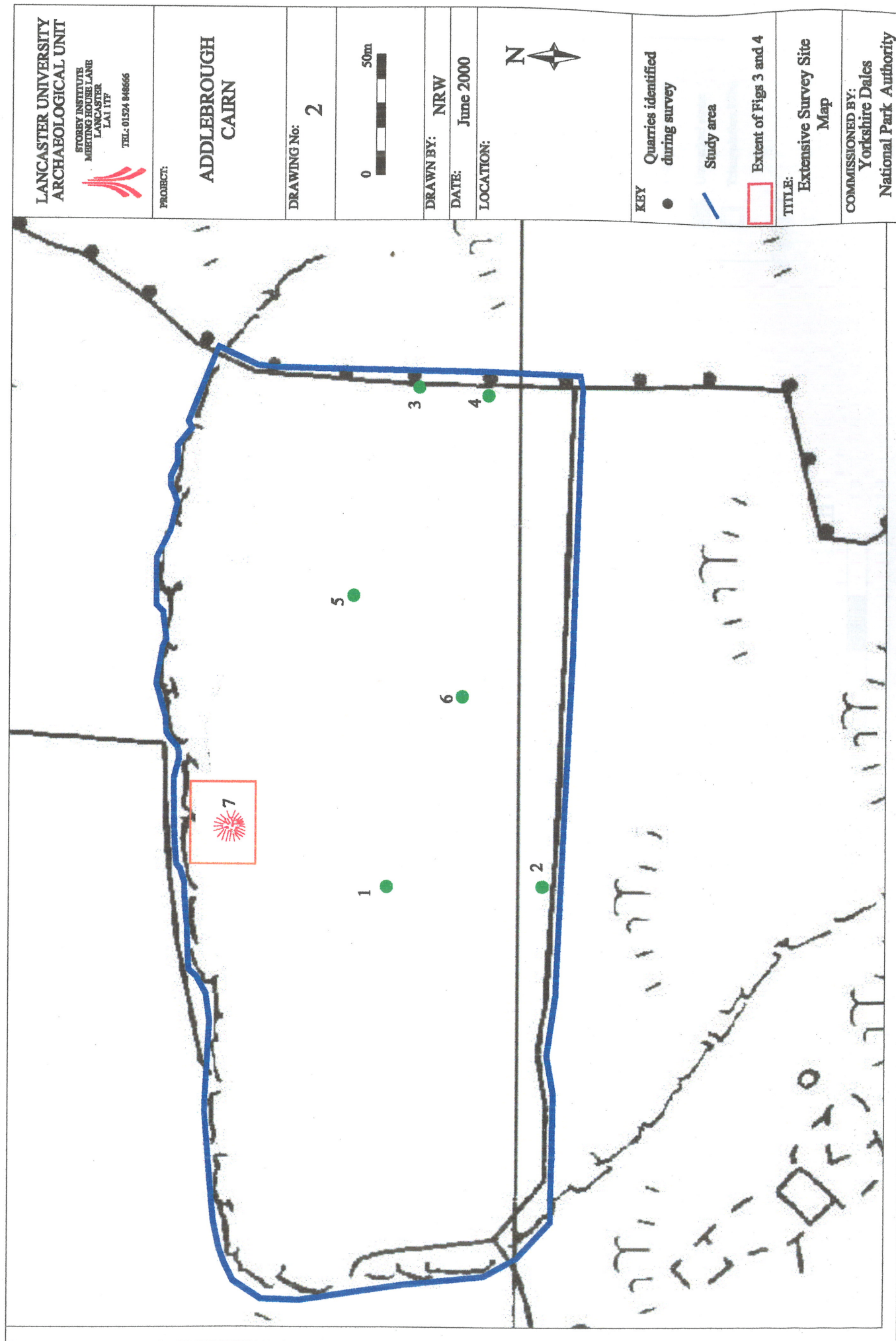
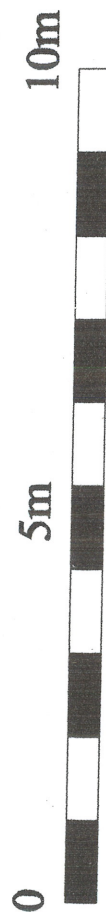
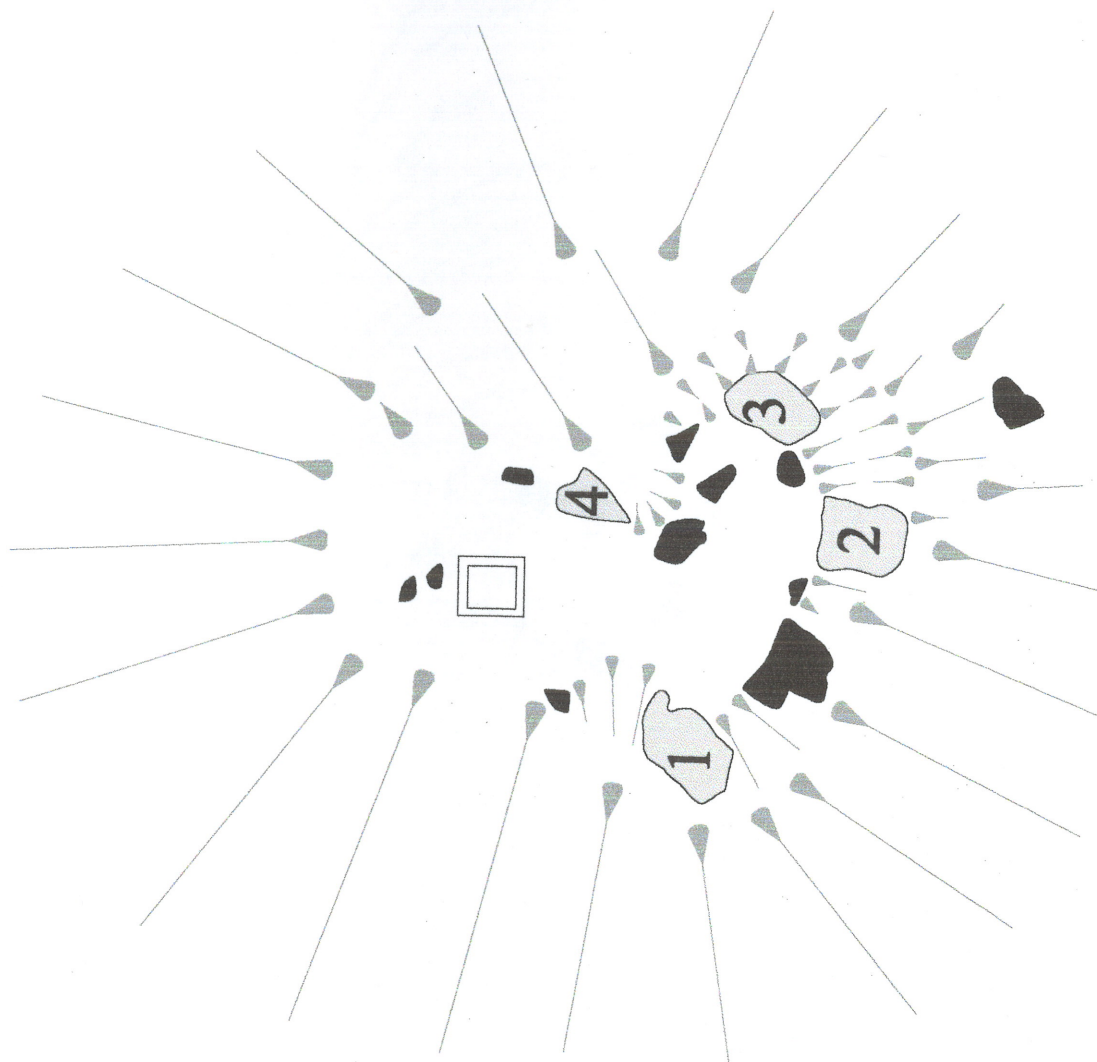


Fig 2 Addleborough Summit General Plan



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ARCHAEOLOGICAL UNIT
STOREY INSTITUTE
MEETING HOUSE LANE
LANCASTER
LA1 1TF
TEL: 01524 848666

PROJECT:

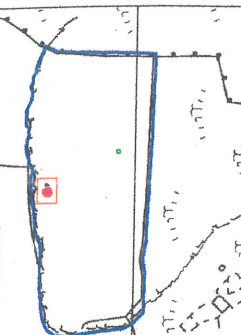
ADDLEBROUGH
CAIRN

DRAWING No: 3

DRAWN BY: NRW

DATE: June 2000

LOCATION:



KEY

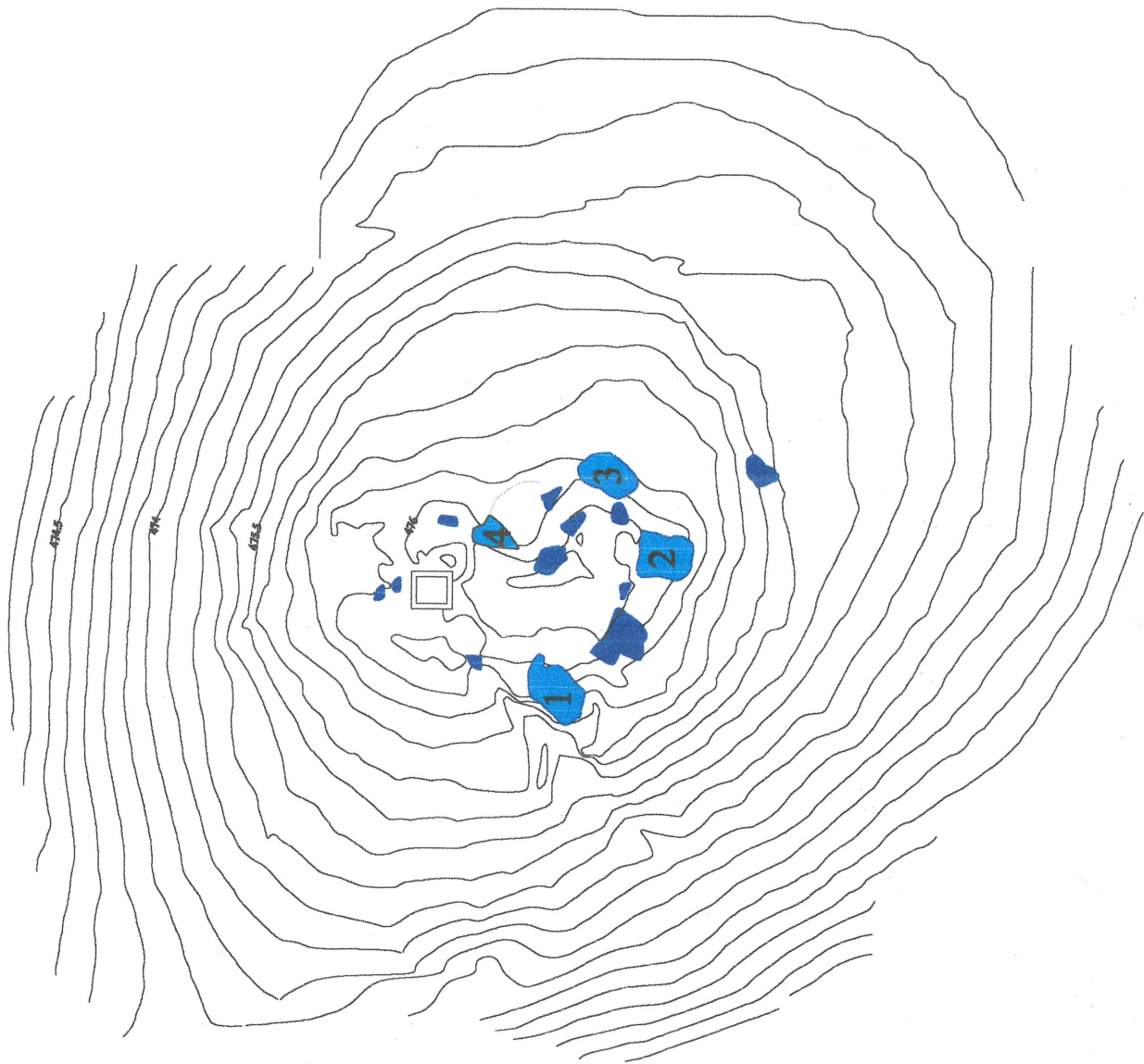
- Cup marked stone
- Unmarked stone
- Triangulation Pillar

TITLE:

Hachure Survey Plan

COMMISSIONED BY:
Yorkshire Dales
National Park Authority

Fig 3 Addlebrough Cairn Hachure Survey Plan



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PROJECT:

ADDELBROUGH
CAIRN

DRAWING No:

4

0

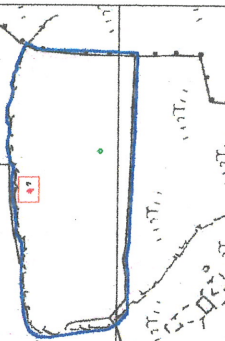


DRAWN BY: NRW

DATE:

June 2000

LOCATION:



KEY

Contour and height

Cup marked stone

Unmarked stone

Triangulation Pillar

TITLE:

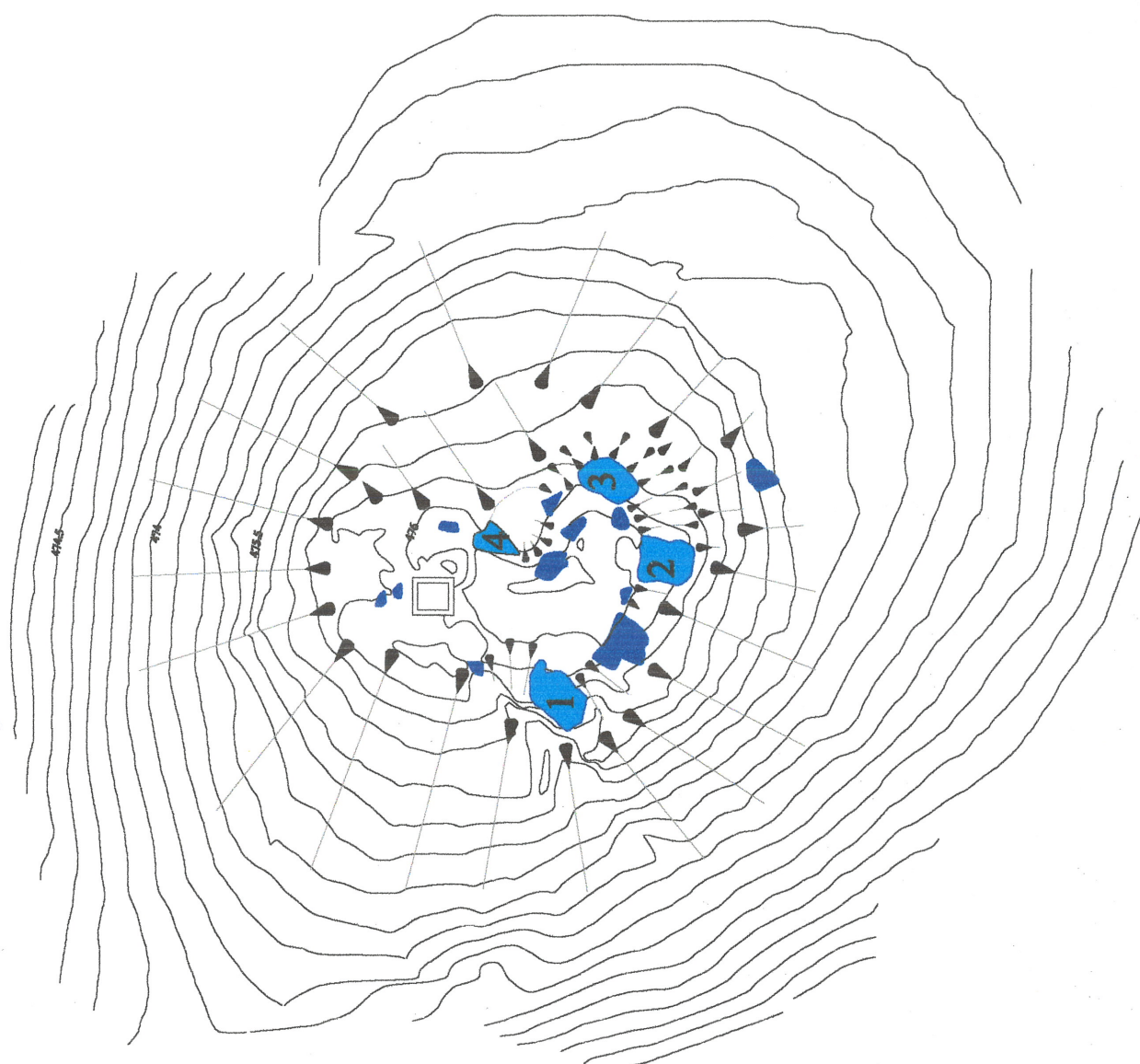
Contour Map

COMMISSIONED BY:

Yorkshire Dales

National Park Authority

Fig 4 Addlebrough Cairn Contour Map (excluding hachures)



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PROJECT:

ADDLEBROUGH CAIRN

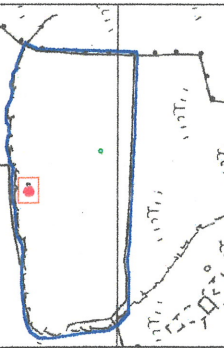
DRAWING No: 5

0 5m

DRAWN BY: NRW

DATE: June 2000

LOCATION:



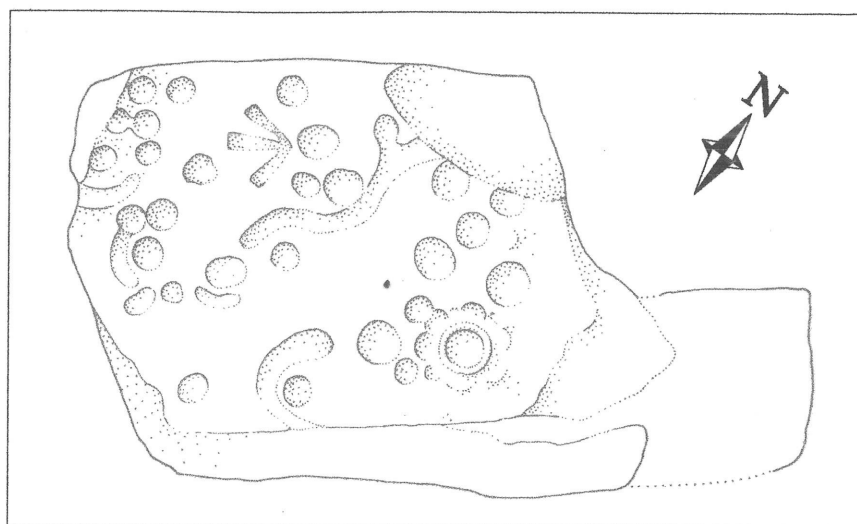
KEY

- Contour and height
- Cup marked stone
- Unmarked stone
- Triangulation Pillar

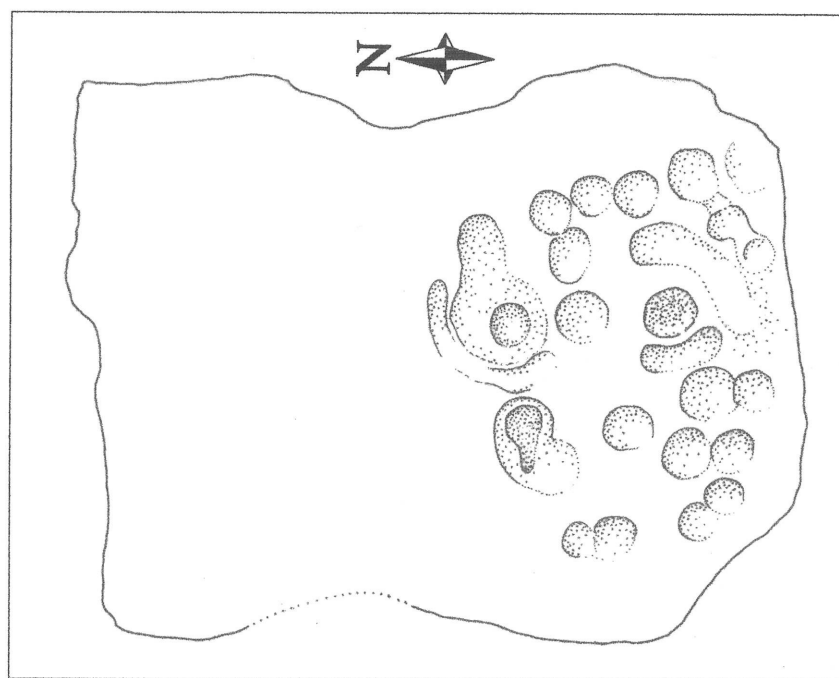
TITLE: Contour Map

COMMISSIONED BY:
Yorkshire Dales
National Park Authority

Fig 5 Addlebrough Cairn Contour Map (including hachures)



Stone 1

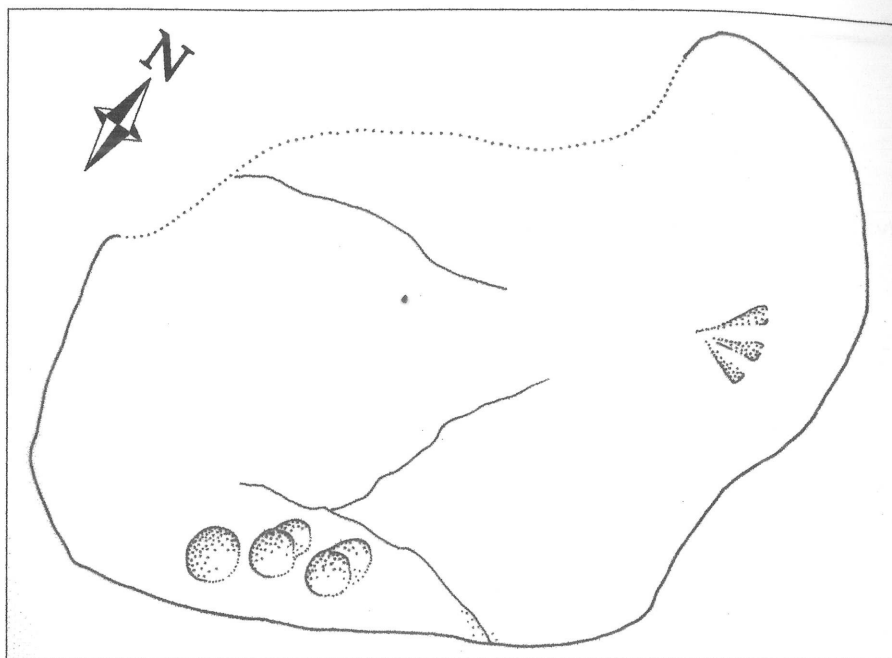


Stone 2

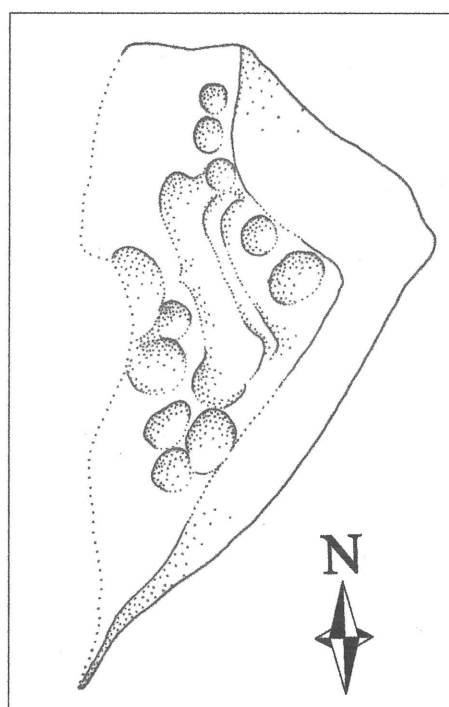
0 500mm


 A horizontal scale bar with alternating black and white segments, representing a length of 500mm.

Fig 6 Cup and ring marked stones 1 and 2



Stone 3



Stone 4

0 500mm

Fig 7 Cup and ring marked stones 3 and 4

PLATES

- Plate 1 Addlebrough Summit looking east
- Plate 2 Addlebrough Summit looking west
- Plate 3 Addlebrough Cairn looking west
- Plate 4 Rectified photograph of the triangulation point, east elevation
- Plate 5 Stone 1 in low light conditions (uncorrected)
- Plate 6 Stone 1 in low light (corrected by Archis)
- Plate 7 Stone 2 in low light conditions (uncorrected)
- Plate 8 Stone 2 in low light (corrected by Archis)
- Plate 9 Stone 3 in low light conditions
- Plate 10 Stone 4 in low light conditions
- Plate 11 Quarry Site 1 looking north
- Plate 12 Quarry Site 6



Plate 1 Addlebrough Summit looking east



Plate 2 Addlebrough Summit looking west



Plate 3 Addlebrough Cairn looking West



Plate 4 Rectified photograph of the triangulation point, east elevation



Plate 5 Stone 1 in low light conditions (uncorrected)

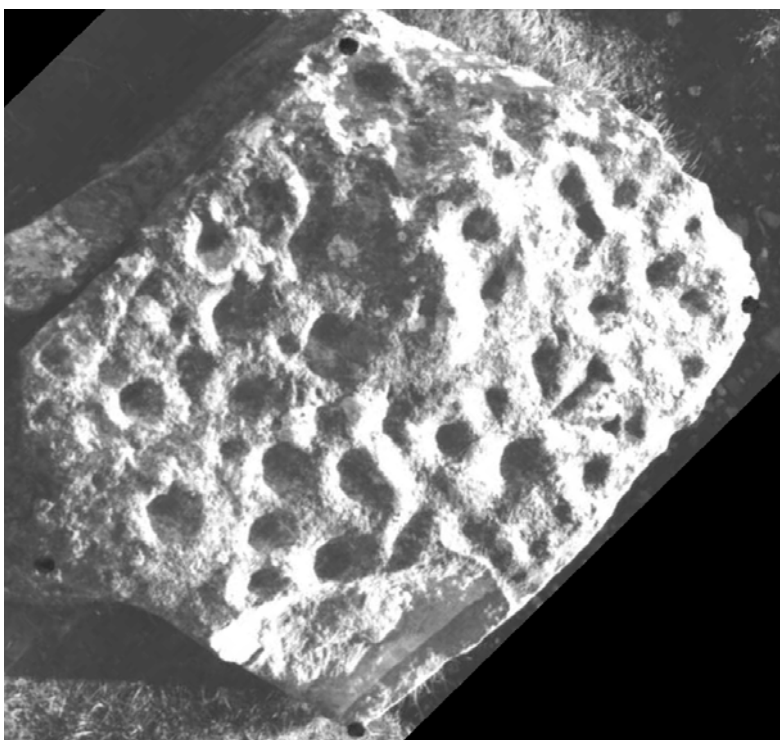


Plate 6 Stone 1 in low light (corrected by Archis)



Plate 7 Stone 2 in low light conditions (uncorrected)

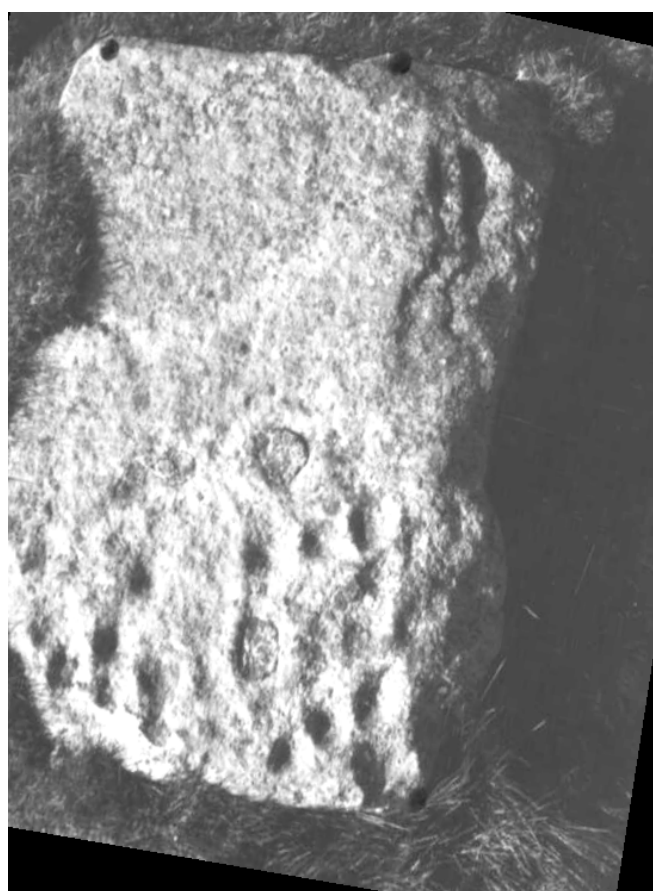


Plate 8 Stone 2 in low light (corrected by Archis)

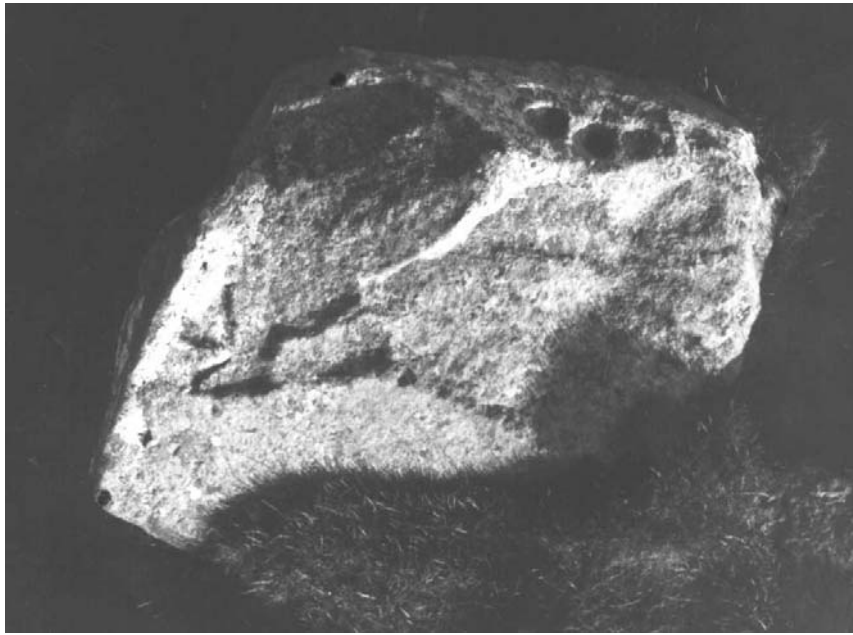


Plate 9 Stone 3 in low light conditions



Plate 10 Stone 4 in low light conditions



Plate 11 Quarry Site 1 looking north



Plate 12 Site 6