

An Analytical Earthwork Survey of the Hillfort at Fin Cop, Derbyshire



Aerial photograph of the scarp edge Hillfort at Fin Cop viewed from the north-west. (© English Heritage)



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Report Compiled By:

Andrew Burn and James Brightman
Archaeological Research Services Ltd
Angel house
Portland Square
Bakewell
Derbyshire
DE45 1HB

Checked By:

Dr Clive Waddington
Tel: 0191 447 5111
Fax: 0191 447 7687
admin@archaeologicalresearchservices.com
www.archaeologicalresearchservices.com

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EXECUTIVE SUMMARY

In April and May 2009 an analytical archaeological survey and field investigation of a prehistoric hillfort at Fin Cop, Monsal Head, Derbyshire was undertaken by Archaeological Research Services Ltd and members of the Longstone Local History Group. The aim of the survey was to better understand the nature of the surviving earthwork remains of the prehistoric bank and ditch and any other previously unrecorded or unknown remains surrounding the hillfort. The survey is part of a staged programme of archaeological investigation and the results of the survey, along with geophysical data, will help inform the position of excavation trenches during the next phase of fieldwork.

The survey provided an accurate measured plan of the principal ramparts and also highlighted the extent of robbing and quarrying on the site as well as previously unrecorded lead mining in the immediate vicinity. Also revealed were several robbed out potential Bronze Age round barrows/ cairns and possible prehistoric house platforms within the ramparts. The survey also highlighted several areas that may have been subject to previously unrecorded antiquarian excavation of the ramparts.

1. Introduction

- 1.1 In April and May 2009 an analytical survey of the earthworks of a prehistoric hillfort on the crest of Fin Cop, located 1.15km west of Monsal Head, Derbyshire (Figs. 1 and 2) was undertaken by Archaeological Research Services Ltd (ARS Ltd) and the Longstone Local History Group. The hillfort is a Scheduled Ancient Monument (SAM number 23283) and was scheduled in 1993 to include the fort, lime kiln and the large robbed barrow. Prior to this scheduling it was assigned the Old County Number (OCN) of DR80. The western fringe of the site is unimproved common land and is also part of the Wye Valley designated Site of Special Scientific Interest (SSSI). There is also recorded Romano-British settlement at Deep Dale (SAM number 2982) to the south-west of the hill fort and two cairns on the escarpment edge to the north which are also scheduled (SAM numbers 13383 and 13384). In Derbyshire and the Peak District, prehistoric cairn monuments are known as barrows, even when they are of 'stone cairn' form; here the terms are used interchangeably.
- 1.2 The survey was carried out as part of a community project funded by the Heritage Lottery Fund and is led by the Longstone Local History Group (LLHG) comprising a staged investigation of the site including a desk based assessment. A geophysical survey has also been carried out and both this geophysical survey, the desk based research and the archaeological survey will then feed into targeted excavations on the monument in summer 2009.

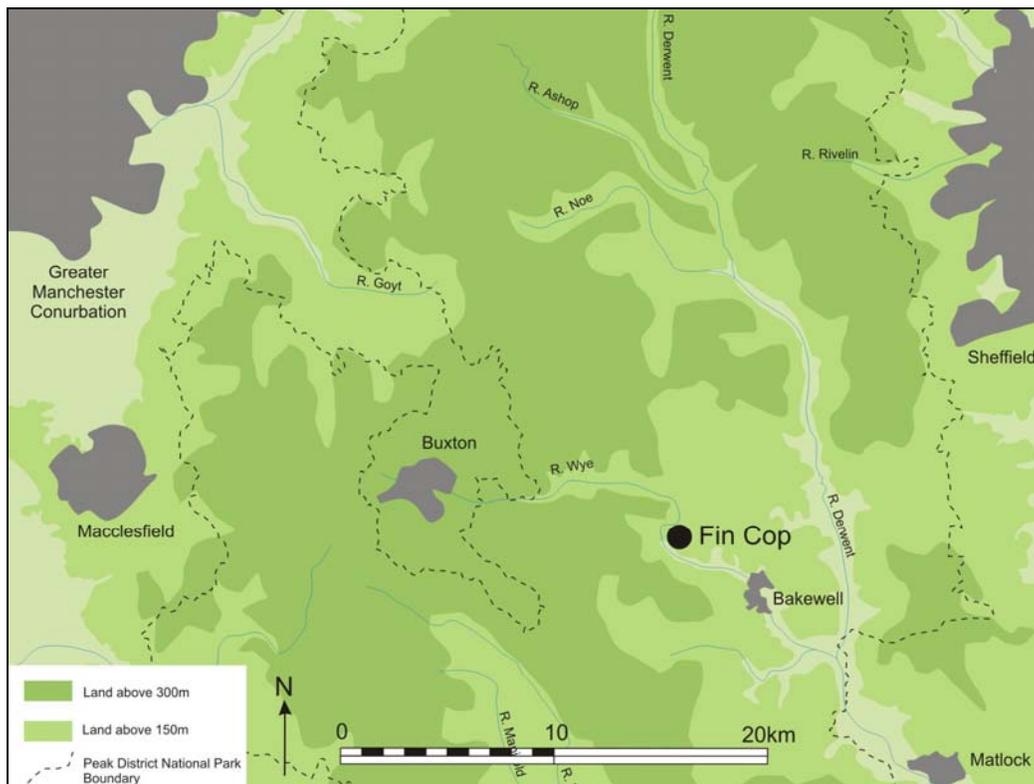


Fig. 1 Location of Fin Cop Hillfort.

- 1.3 The analytical survey of the monument was undertaken at a scale of 1:1000 at Level 3 (Ainsworth *et al* 2007) and involved the use of survey grade GPS to pick up archaeological features and hard detail. This was then complemented by extensive graphical survey of the rampart and some of the environs of the fort by volunteers from the LLHG using the tape and offset method and supervised by ARS Ltd staff. The results of these two methods were combined to produce a detailed hachured plan of the whole site and its immediate environs. The GPS data collected was also used to produce a 3-D digital terrain model (DTM) of the hillfort and its immediate environs using the ArcGIS geographical information system.
- 1.4 Identified during the course of the survey were several distinct phases of archaeological activity. These included possible barrows or cairns on the summit of the hill, the scarp edge hillfort itself including the main ramparts, the subsequent robbing of the fort for stone, lead mining, ploughing and quarrying. The survey also identified several possible excavation trenches across the rampart and this possibly relates to previously unrecorded antiquarian investigation of the monument. The current earthwork survey is the most detailed of the monument to date and has revealed many subtle features previously unrecorded or unknown.

2. Methodology

- 2.1 The earthwork survey was produced within the Ordnance Survey National Grid, using Global Positioning System (GPS) equipment and traditional graphical survey techniques of taped baselines and offsets. A Trimble R8 / 5800 GPS receiver was used to observe one permanent base station and a network of temporary observed control points marked with yellow survey paint and red plastic pegs. The base station (station 1) itself was marked by a rivet placed in a natural outcrop of limestone. The location of station 1 was fixed using GPS to allow the local divorced survey to be converted to national grid coordinates. This was done using a Trimble R8 series base station utilising a VRS now solution and two 5800 rovers to pick up further control points and archaeological detail across the site.



Fig. 2 Members of Longstone Local History Group being instructed by Alistair Oswald from English Heritage.

2.2 This data was all downloaded and computed via Trimble Geosite V software and then transferred into AutoCAD 2007 to produce a plot on polyester drawing film at a scale of 1:1000 for graphical completion in the field. The completed drawing was then scanned into AutoCAD and detail traced onto it to produce a final hachured plan of the survey area utilising the graphical detail and archaeological detail recorded with GPS. The 3-D data from this survey was also transferred from AutoCAD to ArcGIS software to produce a 3-D digital Terrain Model (DTM) with additional 5m lidar data to allow some of the surrounding terrain to be modelled.

3. Location

3.1 Fin cop is located on a Carboniferous limestone promontory rising up to a height of 325m above Ordnance Datum, approximately 5km north west from Bakewell, on the eastern side of the Peak District National Park (Figs. 1 and 2). The hillfort on Fin cop overlooks the Wye valley to the north and west. The land that the ramparts now sit on is typical of this part of the Peak District, partitioned by enclosure period dry stone walling and can be characterised as improved pasture with cattle and sheep periodically grazing it. There is an area of rough pasture, designated as part of the Wye Valley Site of Special Scientific Interest (SSSI), on the western fringe of the fort and this represents a preserved fragment of how large parts of the upland landscape must have once looked in this area when it was common land.

3.2 The landscape character of the largest percentage of the site can be described as post 1650 parliamentary enclosure; this can be traced back through the early

Ordnance Survey maps and enclosure maps. The area of the SSSI can be described as dale side or steep slope enclosure relating to the enclosure award of 1767. Below the hillfort, on the eastern slope the character changes again with the surviving dry stone walls representing the fossilised remains of an extensive strip field system. At the foot of the steep escarpment on the eastern side of the hillfort most of the former enclosure land is now managed plantation woodland.

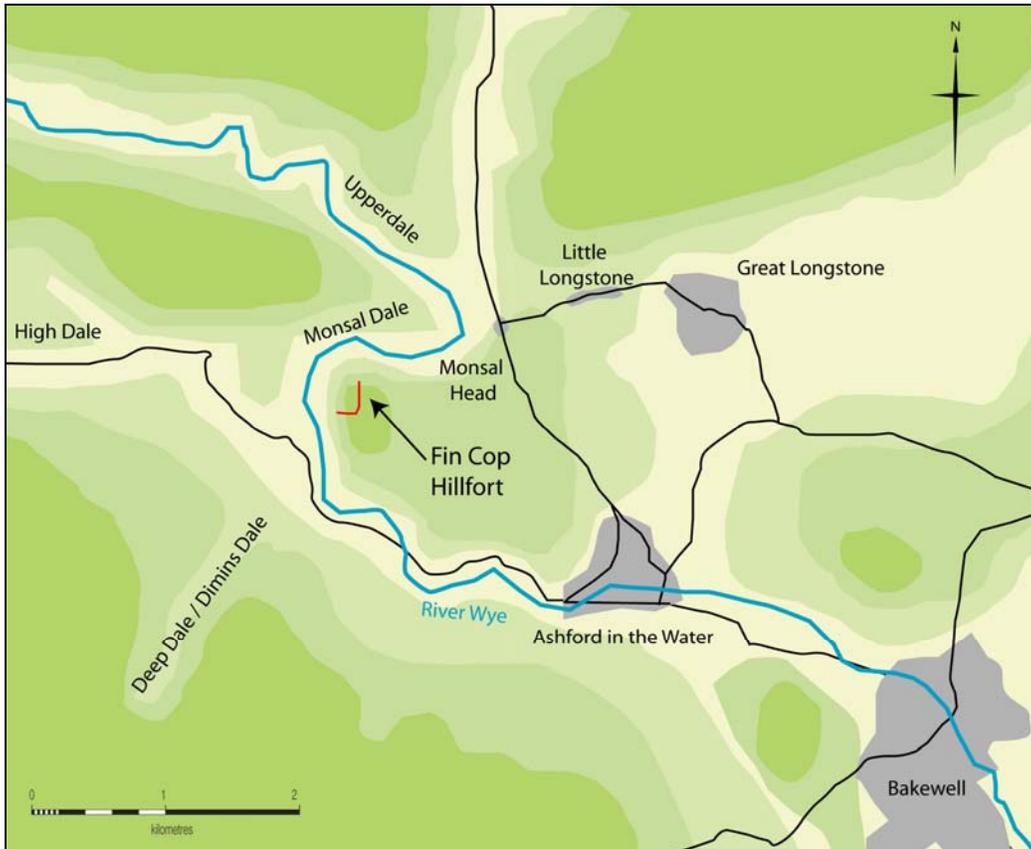


Fig. 3 Locality of Fin Cop Hillfort

- 3.3 There is also recorded evidence of small-scale lead-mining in the area surrounding the hillfort although there is no evidence for large-scale industrial workings in the immediate vicinity; most of what is recorded is small-scale miner-farmer lead mining. There is also extensive quarrying for limestone in the area surrounding the hillfort and within it as well including extensive robbing of the main ramparts. This is likely for the construction of enclosure-period dry stone walls, and the presence of two lime kilns within the survey area also demonstrates the existence of historic lime production presumably for marking the fields.
- 3.4 The hillfort itself is a large scarp edge enclosure and has an impressive vista over the surrounding landscape, with views to other hill top enclosures including Burr Tor, Ball Cross and Gardom's Edge in good weather and a commanding position over a bend in the valley of the River Wye and junctions with its tributary valleys of Deep Dale, High Dale and Upper Dale as well as Monsal Dale itself. It also has views up to Longstone edge to the east and down Deep Dale (known locally

as Dimins or Demons Dale) in the west where there is recorded a presumed Bronze Age enclosed settlement and the Romano-British settlement at Brushfield on the other side of the Wye Valley to the north. The positioning of the hill fort and the cairns that preceded it must have taken this prominent position into consideration.

4. Previous Archaeological research

- 4.1 Extensive historical research has been carried out by the Longstone Local History Group including a full historic map regression and investigation of documents and images relating to the area surrounding Fin Cop. Aerial photographic interpretation has also been carried out by the ARS Ltd aerial survey team. This research will be presented in a separate report and what is presented here is only a brief summary of previous archaeological research carried out on the hillfort and its immediate environs and not a full historical background.
- 4.2 There is recorded antiquarian interest in Fin cop although the investigations that took place seem to be limited to the barrows on the western crest of the Fin Cop area. Investigations were carried out in 1795 by Hayman Rooke (1796) which resulted in the uncovering of two cists, one rock cut, and three burial urns with cremations as well as some flints. There are no recorded excavations of the hillfort rampart itself although there is some earthwork evidence of possible archaeological or antiquarian investigation of the rampart on the north side of the entrance in particular, but this will be discussed further in Section 5. Rooke also suggested an outer vallum lower down the slope and this is probably the same feature that was investigated in 1993 and is discussed below.
- 4.3 There were further investigations of the barrows in 1832 and it is clear that many of the extant barrows on Fin Cop have been heavily robbed and disturbed. Further investigations and excavation of one of the southern barrows was also carried out in 1925 by Major Harris who reportedly uncovered another cist burial.
- 4.4 A previous earthwork survey of the ramparts was undertaken by Sheffield University in 1976 at 1:2500 and although this shows the main elements of the hillfort rampart the current LLHG and ARS Ltd 1:1000 survey is much more detailed and has picked out some previously unrecognised or unknown features.
- 4.5 Excavations were carried out on an area 170m downslope from the main bank and ditch of the hillfort by John Wilson and Eric English in 1993. This investigation consisted of an evaluation trench placed across an earthwork mooted as a possible outer bank and ditch of the hillfort, later field boundary or possible lead mining remains (Wilson and English 1998). The results of the investigation were inconclusive with a shallow ditch identified and no dateable finds other than residual earlier prehistoric flint work. It is unlikely that the excavated feature represents an outer defence of the hillfort or earlier prehistoric feature as both the scale and location of the remains are uncharacteristic of these periods. The remains are more likely to be representative of an earlier field boundary, now defunct, and are discussed further in Sections 5 and 6.

5. Earthwork Description

5.1 This section discusses the form, possible date and function of the earthworks recorded during the course of the survey. All features discussed have been given alpha numeric identifiers so that they can be easily located on Fig. 3 at the rear of the report. The survey area has been split into separate areas for the purpose of description in this report. These areas are shown on Fig. 3, with Area 1, Area 2 and Area 4 corresponding to the three fields that contain the principal earthworks and Area 3 being the strip of scrubland along the scarp edge to the west of Areas 1 and 2.

5.2 Bronze Age

5.2.1 Along the western edge of the escarpment of Fin Cop on which the Iron Age enclosure sits there is evidence of at least five extant barrows with a possible sixth. These can be seen on Fig. 3 as B1-B6. The make-up of these features is not entirely clear from surface observation but they do appear to comprise stone mounds, and if so they are better described as ‘cairns’ (see note above concerning terminology). The largest of this group is B1 located in Area 2, being approximately 12m across and extant to a height of 0.8m. B1 has been extensively robbed and is now a “doughnut-shaped” earthwork with a distinct break through the eastern side. It is overlain by the most western dry stone wall that runs north-south across the site, although little evidence of B1 can be seen on the other side of the wall in Area 3, due to the extent of quarrying. This break can be explained as a combination of antiquarian excavation and ploughing, as a furrow can be seen running directly into this part of the barrow from the east. It is almost certain that B1 is the barrow excavated by Hayman Rooke in 1795. This is inferred by the size of the monument, and the fact that it would certainly have been the most prominent of the barrows on Fin Cop. The extent of destructive excavation that has taken place also suggests that B1 is the Hayman Rooke barrow.



Fig. 4 Barrow/cairn B4 surviving as a low mound in Area 3

- 5.2.2 B2 lies approximately 15m to the north of B1 in Area 2. This barrow/cairn takes the form of a low sub-circular hollow with a very slight outer bank. B2 is slightly smaller in size, only 7m across and extant to a height of 0.4m and is also partially overlain by the dry stone wall that runs north-south across the site. There is a slight corresponding earthwork in Area 3 on the western side of the wall. B2 has also been extensively robbed, although rather than deliberate excavation, the nature of stone removal here suggests quarrying for stone as it appears more random.
- 5.2.3 Further to the north, 20m west of the north-west corner of Area 1, but located in Area 3, is another low sub-circular mound interpreted as barrow/cairn B3, which although heavily degraded, shows no obvious evidence of robbing. It is much smaller being only 3m across and survives to approximately 0.3m in height. It is possible that the size and close proximity of larger barrows may mean that this has been effectively missed, as it is only a slight feature. Alternatively it may have been robbed but evidence of that robbing has subsequently been ploughed away. Another possibility is that this barrow formed part of a field boundary and there is some evidence for this preserving the profile of the remains even if it has been robbed.
- 5.2.4 B4 is located just to the south of the north-west corner of Area 1 and this has again been extensively robbed. It is also overlain by the north-south wall and now exists on both sides in Fields 1 and 3. B4 has been extensively robbed and can be seen as a sub-circular negative earthwork 4m across in Area 1 and as a 0.5m high extant earthwork in Area 3.

- 5.2.5 In Area 2 there is another small sub-circular mound (B5) interpreted as a possible barrow/cairn just south of B1. B5 is overlain by some quarry spoil and seems to have been inadvertently preserved by the development of the large quarry hole (Q1). This is a very slight feature only surviving 0.2-0.3m in height and less than 3m across. This again does not appear to have been robbed and survives in the same way as B3.
- 5.2.6 B6 is a possible barrow/cairn located in the south-western corner of Area 1 and although similar in form to the other probable barrows already discussed, the fresh nature of these earthworks are suggestive of a more recent date and mean that this could in fact be the remains of post-medieval quarrying. The earthwork again takes the form of a 'doughnut shape' approximately 4m wide and 0.5m in height. This could represent a barrow or cairn quarried for stone rather than having experienced antiquarian excavation.

5.3 Later Bronze Age/Iron Age

Ramparts

- 5.3.1 The ramparts of the hillfort are the most prominent features on the site and the 2009 investigation is the most detailed survey of them to date. They can be seen as a circuit of one main bank (BK1), with corresponding ditch, along with fragmentary remains of an outer bank and ditch immediately outside them (BK2), which is most probably its counterscarp. The ramparts are approximately 450m long enclosing an area of 3.5ha. Where the ramparts survive best, in Area 1 at the northernmost end, the extant height from the base of the in-filled ditch to top of the main bank (BK1) is approximately 2.5-3.5m. The main bank itself (BK1) is approximately 5-6m wide on average although it is likely that the internal edge has been spread by the effects of ploughing and erosion. The outer bank or counterscarp (BK2) is lower at *c.* 1.5-2m high from the base of the ditch to the top of bank, and is narrower at 2m wide although this bank only survives discontinuously and is more heavily degraded than the main rampart (BK1). The outer ditch that is extant at the northernmost end of the rampart in Area 1 is approximately 1.5m wide and 0.5m deep. The main ditch between the two banks is approximately 2m wide.
- 5.3.2 It is possible that the hillfort was originally at least partially bivallate with the outer bank that can be seen in Area 1 continuing for the full circuit of the hillfort. There is clear evidence that this outer bank and ditch continued as far as the entrance of the hillfort and this can be seen in the form of graded 0.1-0.2m high earthworks continuing the line of the outer bank, although there is no clear sign of the outer ditch. It is likely that the outer bank has in fact been pushed into the outer ditch destroying any trace of it as earthworks. However, even in Area 2 where the ramparts are much more degraded by ploughing there is the slight remnant of the outer bank also marked as BK2. This could suggest that the hillfort may have originally had two complete circuits of bank and possibly an outer ditch. This said, the outer bank is low and considerably smaller than the main inner bank and is unlikely to have provided any substantive defensive barrier. In any case, the outer bank could not have provided sufficient width for a fighting platform that could clearly be so in the case of the main rampart. Counterscarp banks are a common feature on hillforts, and its immediate

proximity to the ditch implies that this is the main purpose of this outer bank. If there is a second outer ditch on the site it has left no surface expression, but in any case this can be tested for in the subsequent excavation phase.



Fig. 5 Principal rampart ditch in Area 1 facing south.
The main bank is to the right of the shot with the counterscarp to the left.

- 5.3.3 The condition of the rampart varies; in Area 2 the main bank and ditch are heavily degraded by ploughing, identified by clear ridge and furrow running east-west, while there is no sign of the outer ditch and very slight remains of the outer bank. There is also evidence of quarrying around the monument (Q2 and Q1) while any robbing has been disguised by the ploughing. In Area 2 the creation of a large pond (P1) has also disturbed the rampart. The existence of the quarries in Area 2 can also account for several tracks (TR2, TR3 and TR4) that cut across the rampart with TR4 still being used for farm access. There is another track cutting across the rampart in Area 1 (TR1) and this probably relates to modern farm access utilising a causeway across the ditch created by an extinct field boundary that can be seen on enclosure maps and relates to the east-west field boundary that forms the southern edge of Area 4.
- 5.3.4 In Area 1 outside the hillfort the modern ploughing appear to have stopped short of the main rampart (BK1) and preserved a small section of the outer bank (BK2). A series of quarry or robber pits along the centre line of the rampart can be seen along its whole length including in the entrance into the interior. It is interesting to note that in Area 1 there is extensive robbing and little large-scale quarrying while in Area 2 the quarrying is much more extensive but there is less evidence for small-scale robbing of stone from the rampart. This suggests that robbing of the rampart in Area 1 may have been associated stone-getting for constructing the dry stone walls whilst the quarrying in Area 2 is likely to have

been associated with acquiring stone for the lime-kiln – indeed the existence of the hillfort remains may be a reason why the limekiln was sited here.

- 5.3.5 There is evidence of quarrying in Area 1 (Q3 and Q4), however this is of much smaller scale than that in Areas 2 and 3. What can be seen on the rampart in Area 1 is possible evidence of antiquarian excavation (EX1 shown on Fig. 3) that could relate to excavations by Hayman Rooke and others, or more recent unrecorded excavations. With the extent of excavation of the barrows it would seem more likely that the antiquarian excavators may have investigated the rampart as well. There is also evidence of excavation, probably more recent, on the rampart in Field 2 (EX2). The nature of these excavations is further discussed in section 5.5
- 5.3.6 The rampart can be seen extending to the escarpment edge beyond the walling to the north and to the west but there is no clear earthwork evidence to suggest that the rampart was ever a complete circuit. An earthwork seen on aerial photographs running from the south western terminus to the north is actually the natural outcrop of limestone that has been quarried probably in the post medieval period. This said, there may have been some form of low bank to enhance the scarp edge in order to define the precinct of the enclosure on this side and this is hinted at by the subtle but continuous line that forms the break of slope. It is also possible that there may have been some form of timber palisade enclosing this edge of the enclosure but this is considered less likely given that bedrock is close to the surface here.

Hillfort entrance

- 5.3.7 The hillfort only appears to have ever had one entrance located approximately mid-way along its straight eastern side. The entrance is located 100m south of the northern wall in Area 1, and takes the form of a prominent in-turned entrance, with both the northern and southern terminals turned in to the west. The rampart turns in at right angles for a distance of 5m from the main line of the rampart and the entrance causeway is 1.5m wide, although it is possible that this has been narrowed by erosion and degraded from continued use after the abandonment of the hillfort. There are two possible stone kerbs, one on either side of the entrance, and it is possible these have been partially excavated possibly in the same antiquarian phase as the bank and the barrows. If these kerbs denote the original edges of the entrance through the ramparts then it would have measured approximately 2.5m in width although this can be tested by subsequent excavation. The top of both entrance terminals appear to have been robbed in the same way as the rest of the bank in Area 1 with the robbing most evident on the northernmost terminus of the entrance.



Fig. 6 Entrance to the hillfort looking east downslope from the interior of the hillfort.

House Platforms

- 5.3.8 The survey identified two possible house platforms (RH1 and RH2) in Area 3, located below a natural break in slope above the western escarpment edge. They are different in nature to the barrows/cairns as they are terraced into the slope with a corresponding platform on the downslope side. Both are approximately 3.5m wide and are visible as earthworks less than 0.5m high. Both represent the only visible above ground remains of possible occupation within the rampart. House platforms such as this are common on northern British hillforts and have the potential to provide detailed information on the occupants of the hillfort, their diet and subsistence practices.

5.4 Romano British

- 5.4.1 There is no recorded evidence of Romano-British occupation on Fin Cop but it is not impossible that field boundaries such as FB1 could relate to remnants of Romano-British field systems. There is a Romano-British settlement and cultivation terraces recorded at Brushfield close to Fin cop indicating the general occupation of this area at this time. There is as yet no evidence to definitively suggest there was activity on Fin Cop itself although.

5.5 Medieval

- 5.5.1 It is possible that field boundaries FB1 and FB2 could represent the remnants of medieval fields, if there was clear evidence for medieval ridge and furrow ploughing. There is evidence further downslope towards Monsal Head where broad medieval ridge and furrow can be observed in the fields, and this suggests that field boundary FB1 could be a medieval intake boundary at the limits of agriculture 260m below the hillfort. It is possible that the agricultural landscape

downslope from the enclosed areas represents remnants of medieval strip fields, which are the subdivisions of larger common areas shared between local people for small-scale self-subsistence agriculture. Above this the fields relate to later enclosure showing a difference in land use, suggesting that the hillfort was most likely common pasture during this period. This is supported by field name evidence found on enclosure maps, and also observations during this project that the ridge and furrow higher up the slope in the hillfort itself is narrower and respects the enclosure period walls (see discussion below).

5.6 Post Medieval

Lead mining

- 5.6.1 There is evidence for a small miner-farmer lead mining complex (LM1) in Area 4; in the south-eastern corner of this field. It is contained within an area approximately 75m x 75m although it can be seen extending into the field directly to the south which also contains a small stone built building, possibly a coe. The complex appears to comprise seven small prospecting shafts, three of which are overlain by the southern stone wall of Area 4. The shafts are all shallow, apparently no more than 1m deep, which suggests the interpretation of the remains as a small post-medieval mine operated by a miner-farmer, of which several are noted in the parish registers of Great and Little Longstone. The initial phase of mining is overlain by the southern wall of Area 4 which is probably contemporary with the post-medieval enclosure of the landscape. It is possible that there was also a secondary phase of industrial activity with the mine becoming a quarry for a lime kiln marked on the 1st edition OS map and identified in Fig. 3 as K3. There are further lead mining remains 260m downslope in the form of a small lead rake, and both this and the lead mining remains described above sit on natural outcrops where the stone is closer to the surface.
- 5.6.2 The boundary (FB1) that the lead mining sits on in Area 4 follows the contours of the slope and has been suggested as an outer prehistoric boundary, however it is more likely to be a field boundary sitting on the same natural shelf that the lead mining and quarrying are utilising. This is discussed further below.

Enclosure walls and field boundaries

- 5.6.3 The enclosure walls divide the original prehistoric landscape up and, as discussed in Section 3, there is evidence of strip fields downslope, as well as the steep slope enclosure to the west.
- 5.6.4 As discussed above, field boundary FB1, which was partly excavated in 1993, represents an extinct boundary sitting on a natural shelf in the limestone. This explains the existence of lead mining and quarrying at the same level, due to the easy access to the raw material. There is little to suggest this as a prehistoric boundary. The location and scale of the earthwork, even when taking into consideration the extent of ploughing, make this unlikely to be a prehistoric feature. It is much more likely to be either a medieval or post-medieval boundary that was then reconfigured during enclosure.



Fig. 7 Volunteers from Longstone Local History Group taking part in the survey alongside the enclosure-period wall dividing Areas 1 and 2.

5.6.5 Field boundary FB2 can be seen in Area 3 as a series of eight crop marks of lush vegetation extending in a linear pattern over 115m with two blackthorn trees on the same north-south alignment as well as the barrow B3 and a small earthwork hollow being located on this alignment. This possible extinct field boundary could be a medieval or early post-medieval attempt to enclose the top of Fin Cop to stop livestock wandering too close to the edge. It also forms a junction with three other blackthorns and could be an indicator that there was a hedgerow here that predates the dry stone walling.

Ploughing

5.6.6 There is extant east-west ridge and furrow in Area 2 which survives as very low subtle undulations in this field surface (see Fig. 3). This can be seen on both sides of the main earthwork bank BK1 and appears to run up on to the top of it from the west although the ploughing does not completely over-plough the top of the bank. The ploughing then picks up again at the eastern base of the bank (BK1). The ploughing is straight and each rig is $\approx 3\text{m}$ apart making this likely to be post-medieval in date. This ploughing also appears to respect the enclosure walls and so could potentially post-date them as the same ploughing cannot be seen in Area 1.

5.6.7 Although no ridge and furrow is clearly visible in Area 1 two lines denoting the edge of ploughing can be seen either side of the hillfort ramparts (PL1 and PL2) and this shows that the ploughing in this field was possibly aligned north-south avoiding the stony rampart. It is known that in Area 1, deep ploughing was undertaken as recently as during World War II, as the then farmer collected some flint artefacts which are currently deposited in Sheffield Museum (A. Hall pers. comm.). In Area 2 the rampart is at least partially degraded by east-west post medieval ploughing, although the bank (BK1) has not been completely over ploughed.

Quarrying

- 5.6.8 As well as the quarrying for stone in the rampart, there is evidence for extensive stone removal on the south side of Area 3 and also along the escarpment edge where the limestone is close to the surface. There are several large quarries; Q1, Q2, Q3 and Q4. These are presumably both for stone for walling, and also to fuel the limekilns on the site. The quarries in Area 2 cut through, and therefore postdate, the extant post-medieval ridge and furrow in Area 2.
- 5.6.9 Quarry Q5 is a later phase of activity associated with the lead mining in Area 4. The quarry appears to take advantage of the previous working and natural shelf in the limestone by quarrying back into the hillside. There is also evidence for a small lime kiln (K3) to support this interpretation.

Lime kilns

- 5.4.5 There are three lime kilns on the site, two of these relate to the quarrying in Area 2, most demonstrably Q1. The first (K2) is a small stone-built structure in the centre of the quarry which is 4m x 6m and oval in shape with a double flue on the east side. It appears to be a double pye limekiln which would have had stone-built foundations housing the raw material and fuel; this would then be covered with turf like a clamp kiln. This type of structure would only be used once or twice and then abandoned and it is possible that the survival of these remains indicates that this kiln was later used as a shelter or store.
- 5.4.6 Kiln K1 is an earthwork built into the natural slope on the south side of the quarry Q1. It has a sub-circular shape, approximately 5m wide, and is 2.5m deep. There are the slight remains of a track leading into the top of this earthwork from the quarry and a pile of unused limestone on the western side. A track also leads from here down the south slope and has degraded the bank of the rampart BK1. This appears to be a larger more practical kiln and may pre-date K2, suggesting that the lime production was not one continuous phase.



Fig. 8 Kiln K1 in the middle of the quarry Q1 in Area 2, looking north-east from Area 3.

- 5.4.7 Kiln K3 was, as discussed in Section 5.6.9, built into the lead mining complex LM1 in Area 4 in order to make use of reworking of this complex as a quarry. It is the same in size and basic form as kiln K1 except it is built into the east facing slope. A kiln is also marked at this location on the first edition Ordnance Survey map.

5.5 Archaeological excavation

- 5.5.1 Possible previous excavation trenches can be seen in Area 1 and Area 2 across the main rampart bank (BK1). EX1 is positioned 2m north of the entrance into the hillfort and appears to be very regular. This suggests that it may be some form of archaeological prospecting possibly contemporary with the antiquarian excavations on the cairns at the top of Fin Cop. This trench is 'L'-shaped and measures approximately 10m x 5m with a 2m x 3m extension and a mound of spoil dumped in the centre, possibly as some form of backfill.
- 5.5.2 The excavation in Field 2 (EX2) is smaller measuring 2m x 4m and in comparison looks fresh and could be recent excavation of the rampart in a non-archaeological context.

6. Discussion and Conclusions

- 6.1 Fin Cop presents a large relatively well-preserved Late Bronze Age or Early Iron Age scarp edge enclosure formed by a single stone-built rampart with outer ditch and counterscarp bank. Further prehistoric remains, comprising a group of Bronze Age cairns are preserved within the interior. There are also what appear to be identifiable roundhouse platforms in Area 3, and these do not appear to have been heavily disturbed. This evidence of surviving prehistoric occupation, including the relatively well-preserved entrance into the hillfort, presents a site that has a great deal of archaeological potential. The archaeological survey of these remains has thrown light not just on the depth of prehistoric archaeology within the hillfort, but also on the continuing story of the landscape into the medieval and post-medieval periods with evidence for medieval fields and post-medieval lead mining and quarrying.
- 6.2 There are two main questions raised by the archaeological survey. The first is the exact age of the fort; given the extent of evidence for Bronze Age activity in the vicinity of the hillfort in the form of numerous cairns it is not unreasonable to suggest that the hillfort has its origins in the Late Bronze Age. Other large univallate enclosures have been shown to be of Late Bronze Age date such as the forts at Grimsthorpe in Yorkshire (Stead 1968) and Dinorben in Wales (Savory 1971). The nearby scarp edge enclosure at Gardom's Edge on the gritstone of the Peak District's East Moors has also produced radiocarbon dates for the first phase of the enclosure being Late Bronze Age in date (Barnatt pers. comm.).
- 6.3 The second question is whether the hillfort originally had two complete circuits of bank and ditch. There is earthwork evidence for a counterscarp bank (BK2) all the way round the hillfort although it is cut by later quarrying and heavily degraded by post-medieval (and presumably earlier) ploughing. However, there is no evidence that there was a second outer ditch south of the entrance in Area 1. This could have been infilled by the destruction and ploughing of the outer bank especially south of the entrance. However it is also possible that the outer bank and ditch in Area 1 represent an unfinished element of expansion of the ramparts taking place in the Iron Age but this is perhaps unlikely given the lack of a berm between the existing ditch and the counterscarp bank.
- 6.4 The entrance to the hillfort appears to be quite well-preserved although it has been heavily denuded by robbing, although this is to be expected as it has most likely been used as the easiest point of access across the rampart since the abandonment of the hillfort. Despite the level of robbing and some possible antiquarian excavation the form of the entrance seems to survive in plan and two possible stone kerbs are visible.
- 6.5 Although the survey has only picked up a relatively short stretch of the boundary bank (FB1 on Fig. 3), having looked at the extent, form, location and previous research it can be said with some confidence that this is not a prehistoric feature. The feature follows a natural contour, relating to a natural shelf in the limestone, which has been exploited for lead mining and quarrying (LM1 and Q5). After analysis of the section recorded by Wilson and English in 1993 the bank is downslope of the ditch with no visible bank behind the ditch. This makes it much more likely that the function of this earthwork is as an intake boundary

relating to broad medieval ridge and furrow fields down the slope. This boundary would then also relate to the approximate boundary between the enclosure fields and strip fields further down the slope. This would place the boundary broadly in the medieval period.

- 6.6 Further downslope there is another linear feature 260m east of the hillfort, which has previously and correctly been identified as a lead mining rake. This feature appears superficially similar to FB1 but differs in the existence of banks of spoil surrounding prospecting shafts along the rake. The boundary FB1 is close to the lead mining LM1 and continues away from it into an area without any visible mining remains to the south. This key difference is what has caused the boundary to be interpreted as prehistoric in the past.
- 6.7 The survey has produced a relative chronology for the hillfort site and its environs, although it cannot provide exact dates. The cairns are the earliest features on the site and based on the artefact evidence recorded by Rooke (1796), date to the Beaker period and Early Bronze Age. The hillfort is most likely to date to the Late Bronze Age or Iron Age and there are possible house platforms to show occupation within the ramparts. There is then evidence of a medieval field system downslope of the fort but no evidence relating to this period within the fort or its immediate environs. Following on from this, there is evidence of post-medieval lead mining with an enclosure wall overlying it, followed by narrow ridge which furrow apparently respecting this enclosure walling, and finally quarrying then cuts through the ridge and furrow. This gives a good picture of how the land use on Fin Cop has developed from common pasture in the medieval period (with medieval ploughing downslope) into improved pasture after a period of enclosure and ploughing. There has also been industrial activity in the form of lead mining, quarrying and lime production but the scale of these suggest that this is small scale miner-farmer activity with the tenant or landowner supplementing an agricultural income by using locally-available raw materials including easily-robbed stone from the hillfort ramparts. This is reflected in the construction of a double pye kiln (K2) intended for a single use, and then a second, probably earlier kiln (K1), possibly also for a single use within the hillfort. The construction of a third kiln K3 and related quarry (Q5) possibly reflects different land ownership or a different period of quarrying for lime.

7. Digital Terrain Model

- 7.1 Although the interpretation of the earthworks has largely been derived from the analytical survey drawings and interpretive diagram, the data collected has also been used to produce a Digital Terrain Model or DTM (Fig 6). This has been produced using the GPS data collected during the survey which comprised almost 20,000 points over the area of the hillfort. This data can be used to reconstruct the visibility of the ramparts, and viewshed analyses can be carried out to investigate the intervisibility of barrows within the ramparts. This will create a valuable data set for any further research projects that take place in the future as it can be modelled at different scales. It can also be used to produce 3-D plots of the surviving remains for use in interpretation and presentation materials.

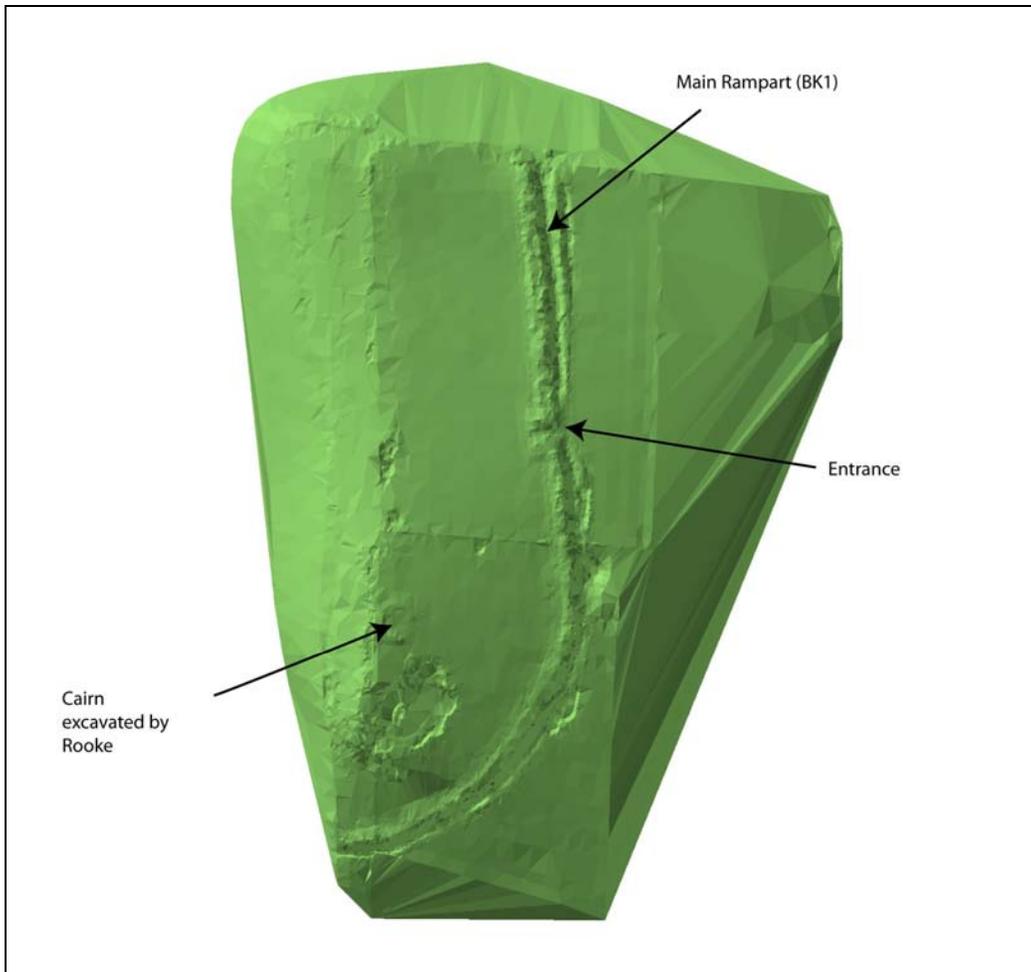


Figure 9. Digital Terrain model of the hillfort

- 7.2 This 3-D model is more detailed than LiDAR data (Fig. 7 shown below) and shows previously unrecorded detail on the rampart of the hillfort as well as microtopography and the large Barrow (B1). The LiDAR data is useful as it incorporates a larger area and allows for modelling of the environs of the hillfort.

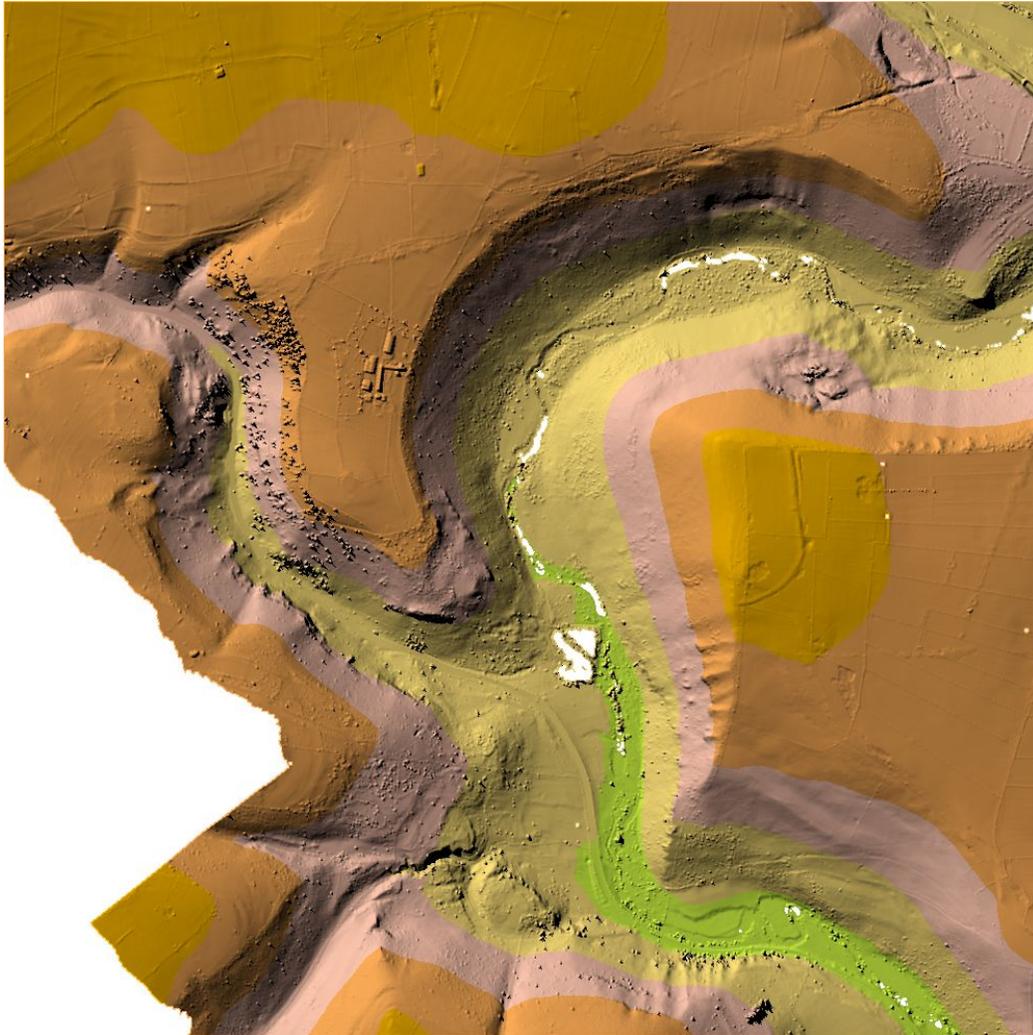
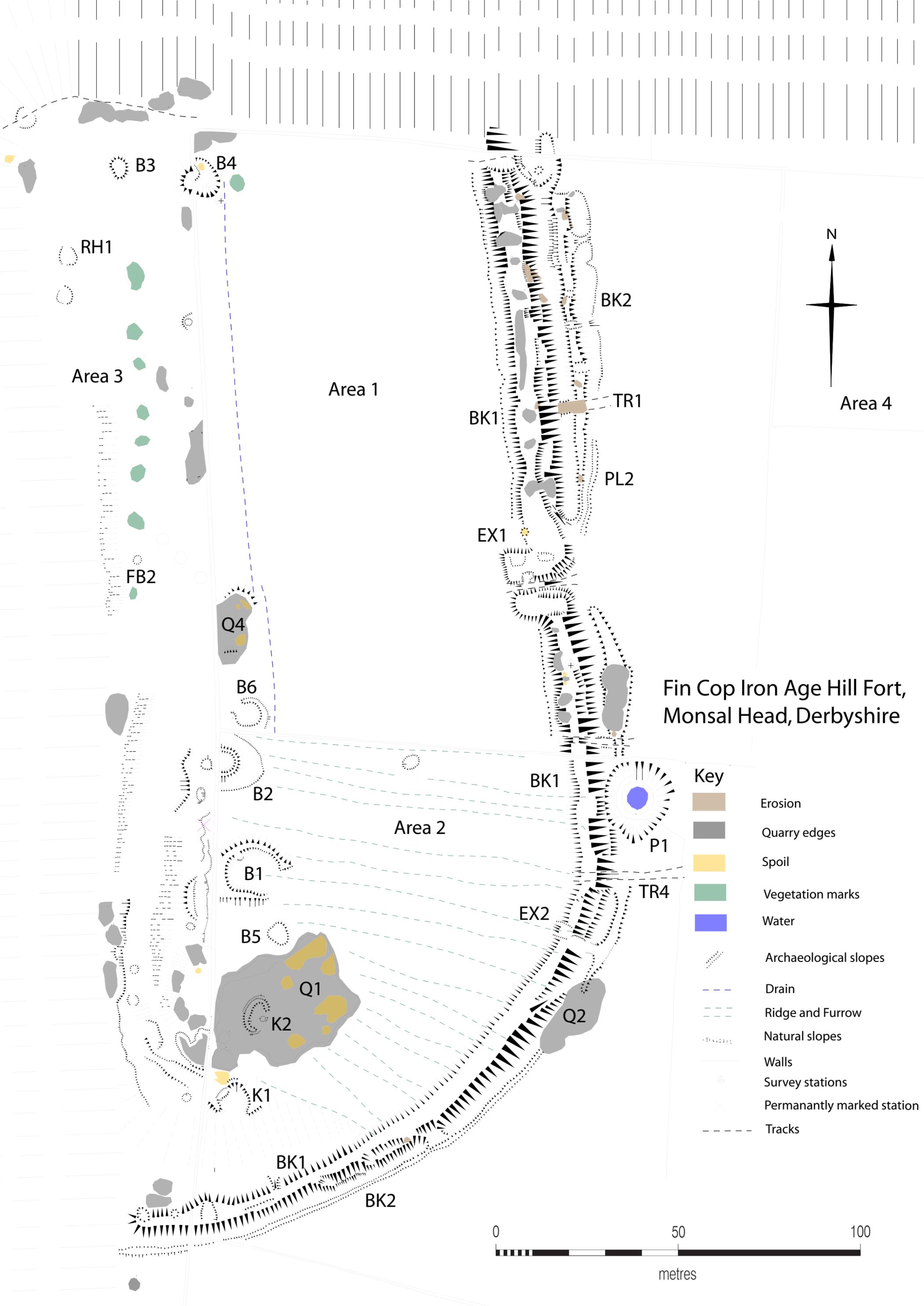


Fig. 10 Lidar Data showing the hillfort on Fin Cop and the surrounding landscape with elevation colour ramp (courtesy of the Environment Agency).

Fin Cop Iron Age Hill Fort, Monsal Head, Derbyshire

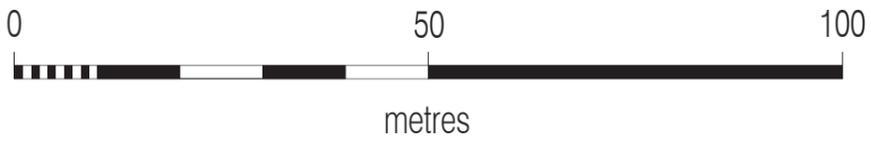




**Fin Cop Iron Age Hill Fort,
Monsal Head, Derbyshire**

Key

- Erosion
- Quarry edges
- Spoil
- Vegetation marks
- Water
- Archaeological slopes
- Drain
- Ridge and Furrow
- Natural slopes
- Walls
- Survey stations
- Permanently marked station
- Tracks



Area 3

Area 1

Area 2

Area 4

B3

B4

RH1

BK2

TR1

PL2

BK1

EX1

FB2

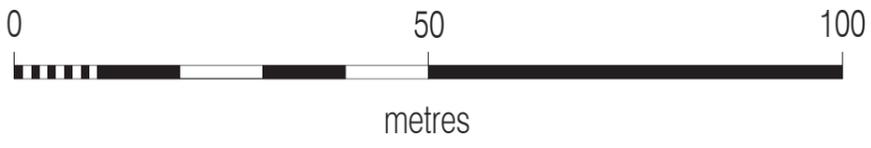
Q4

B6

Fin Cop Iron Age Hill Fort,
Monsal Head, Derbyshire

Key

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Area 3

Area 1

Area 2

Area 4

B3

B4

RH1

BK2

TR1

PL2

BK1

EX1

FB2

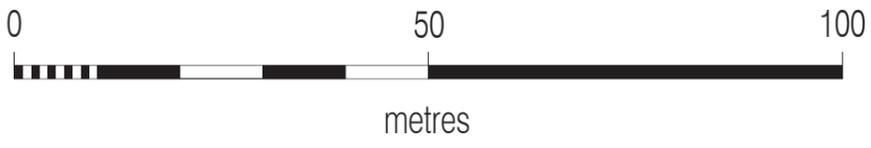
Q4

B6

Fin Cop Iron Age Hill Fort,
Monsal Head, Derbyshire

Key

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Q4

B6

B2

BK1

P1

B1

TR4

B5

EX2

Q1

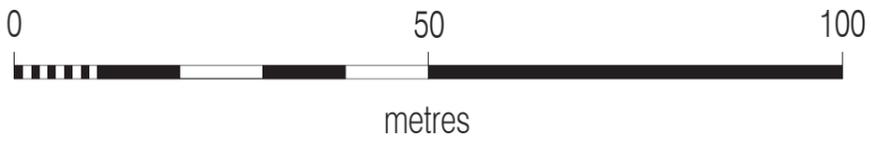
K2

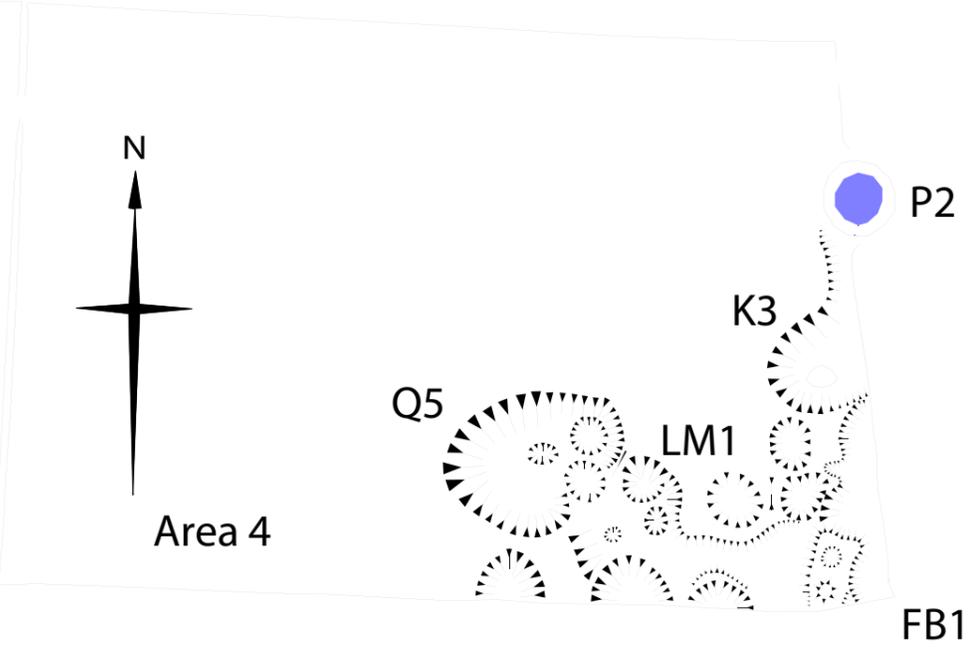
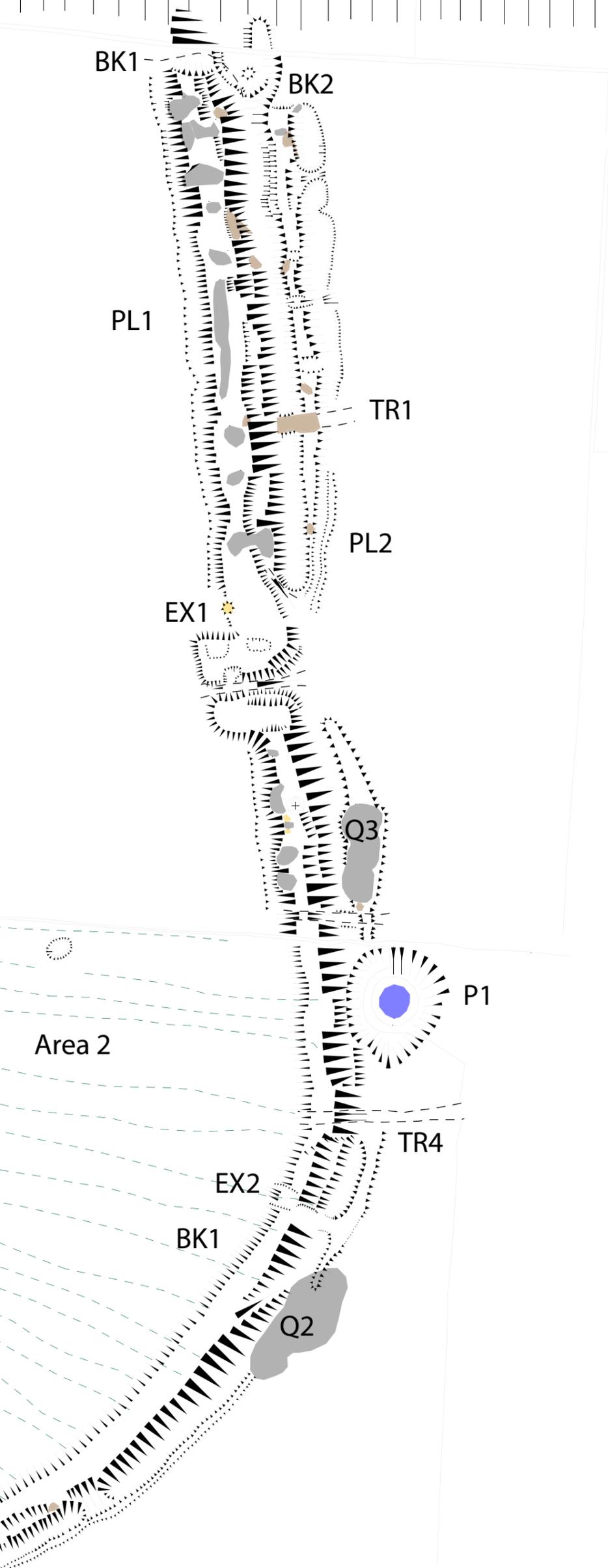
K1

BK1

BK2

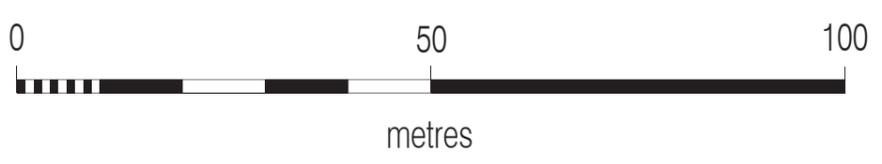
Q2





Fin Cop Iron Age Hill Fort, Monsal Head, Derbyshire

- Key**
- Erosion
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Appendix I:
Location of permanently marked GPS base station ST01

