

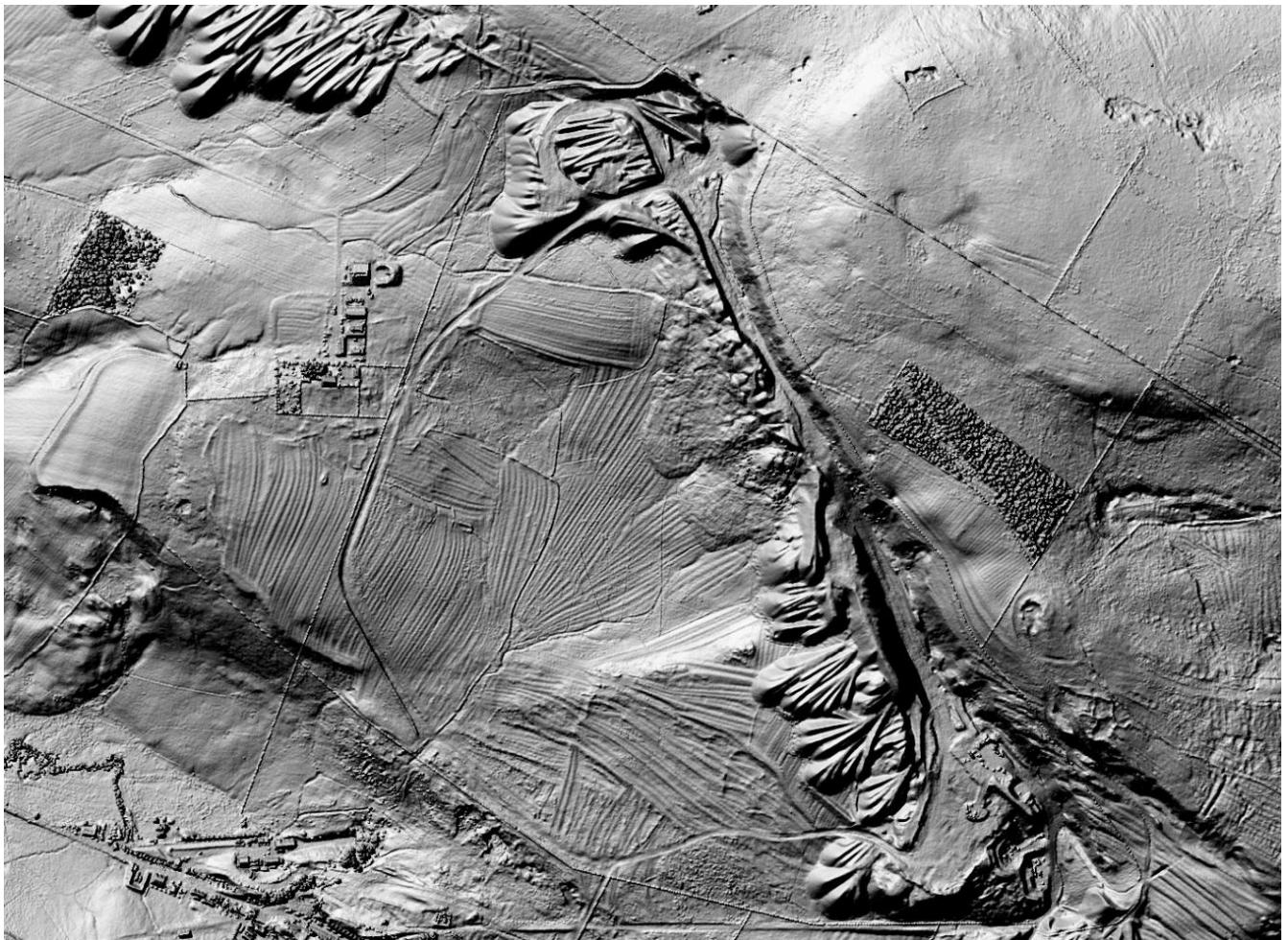


# Redesdale Landscapes through Time

## Landscape Area 6

Research and report by Paul Frodsham

January 2022



This report is one of a series of six, produced by project volunteers during the *Redesdale Landscapes through Time* project, part of the NLHF-funded *Revitalising Redesdale* Landscape Partnership scheme. The project was managed by Karen Collins (Revitalising Redesdale Heritage & Engagement Officer).

The project background, methodology and general results are summarised in a general Project Report by the Project Consultant, Paul Frodsham (ORACLE Heritage Services). The Project Report and all six Area Reports are available on the Revitalising Redesdale website: <https://www.revitalisingredesdale.org.uk/>

Any questions about the project prior to September 2022 should be addressed to Karen Collins: [karen.collins@nnpa.org.uk](mailto:karen.collins@nnpa.org.uk)

From September 2022 onwards, please address any questions to Paul Frodsham (ORACLE Heritage Services): [paulfrodsham@hotmail.com](mailto:paulfrodsham@hotmail.com)



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### ***Cover illustration***

*Lidar imagery of part of Area 6. This image, extracted from the actual imagery used by volunteers during the Landscapes through Time project, shows the medieval settlement of Broomhope and its extensive ridge-and-furrow field system, together with the remnants of large-scale ironstone quarrying. Volunteers used this imagery, along with other sources, to construct 'landscape biographies' for each of the project's six areas.*



## Redesdale *Landscapes through Time* Area 6 overview

### Introduction

This report is one of a series produced by the Redesdale *Landscapes through Time* project, part of the NLHF-funded *Revitalising Redesdale* programme. Full details of the *Landscapes through Time* project are included within the Project Manual and will not be repeated here. Further details are also available within the Project Report which covers all six landscape areas included within the project. The purpose of this report is to provide an overview of the archaeology of Area 6, using the results of the recently completed *Lidar Landscapes* project alongside information from *Keys to the Past* (the online version of the Northumberland HER) and other sources. Of the six areas within the project, Area 6 is the only one for which a report was not completed by project volunteers; consequently, this report has been produced by the Project Consultant (Paul Frodsham, ORACLE Heritage Services).

Area 6 (Figs. 1, 2, 3) consists of 10 km sqs extending westwards from Ridsdale village. It was originally just 8 km sqs, but was extended westwards to take in a further two km sqs for which good lidar coverage is available. It was included within the project because of a desire to study the landscape around Ridsdale ironworks, where other work is being undertaken as part of the Revitalising Redesdale project. Unfortunately, Ridsdale village lies at eastern limit of available lidar coverage, so it was not possible to centre Area 6 on the village; hence it extends to the west as shown in Fig 1. The area thus extends from land above the west bank of the Rede, north of Redesmouth, westwards to the A68. The elevation ranges from c110m OD at Rede Bridge, towards the SW corner of the area, to 310m OD on Chesterhope Common, adjacent to the A68. The landscape is generally one of gently sloping hillsides, divided into large post-medieval fields most of which are used for pasture. Much of the central area has been remodelled by ironstone mining into a vast industrial landscape of hollows and spoil heaps. The settlement pattern is of dispersed farmsteads, with Ridsdale in the NE corner the only village. Other than the A68 passing north-south at the east margin of the area, the area is crossed only by minor roads and tracks. The old Wansbeck Railway passes across the area to the east of the Rede; a branch line linked this to the industrial complex at Broomhope and Steel.

Prior to the Lidar Landscapes survey, Area 6 was not an area that would have been chosen by many as of particular archaeological interest. Only 27 sites were recorded within it on the HER. However, as will be demonstrated below, the lidar imagery demonstrates this to be a complex multi-period archaeological landscape with a great deal of potential for fascinating archaeological fieldwork.

## **Stone Age (Mesolithic and Neolithic) and Bronze Age (c10,000 - 800BC)**

Fig. 4.

The HER currently contains no evidence whatsoever for activity within Area 6 throughout the Mesolithic and Neolithic. No finds of lithics are recorded, which is perhaps a little surprising given the extent of the area, but might be accounted for by a lack of ploughing or forestry in recent times, which elsewhere have enabled such discoveries to be made following ground disturbance. It would be wrong to conclude that this lack of evidence necessarily implies a lack of activity during the Mesolithic and Neolithic, but we are unlikely to be able to say much more without targeted research or chance discoveries.

The earliest known sites within Area 6 are Bronze Age burial mounds, of which the HER records three. One of these, in the south-east corner of the area at Fourlawshill on Chesterhope Common, was excavated in 1814 and found to contain two cremations along with pottery urns, a flint scraper, two bronze bracelets and a necklace of gold beads; the last of which is a very rare find and renders the site of considerable importance. According to the HER, the site is no longer visible and may have been quarried away; unfortunately it lies just outside the available lidar coverage so this could not be used to check the site. Further possible burial cairns (6.065), once thought to be Roman signal stations, are noted just west of the A68 close to the Fourlawshill site, but again these lie outside the lidar coverage; according to the HER, they are thought unlikely to be Bronze Age. A third site is located in the north-west corner of Area 6, immediately adjacent to the bastle at Hole Farm; this was recognised as a burial cairn in 1972 when a stone cist was discovered within it. No finds were discovered inside and the cist remains in its original position. Little more can be said about these sites, other than they demonstrate an early Bronze Age presence within the area.

Bronze Age field systems and settlements may have been destroyed by extensive medieval and later field systems in places throughout Area 6. There are some places, such as on Calfhouse Crag, where (by analogy with other areas studied in this project) evidence of Bronze Age cairnfields might reasonably be expected. Some mounds can be seen on Calfhouse Crag which might be worth checking on the ground, but nothing to enable us to say with any certainty that anything prehistoric survives here. The same is true of other areas that have been spared ploughing in medieval and later times. One field system associated with a later prehistoric settlement (6.075), discussed below, may also have Bronze Age origins.

## **Iron Age (pre-Roman and Roman) (c800BC - AD410)**

Fig. 5.

It is with the later Iron Age that actual settlements, in the form of ditched enclosures, become clearly visible on lidar imagery. None of these have been excavated within Area 6, but by analogy with sites that have been investigated elsewhere we can reasonably assume these to date from somewhere in Iron Age - Roman times (referred to increasingly by archaeologists as the 'pre-Roman Iron Age' and the 'Roman Iron Age', the latter sometimes termed 'Romano-British' - such terminology avoids confusion with actual 'Roman' sites which tend, in this part of the world, to be largely military, as discussed below).

Ten definite and probable Iron Age settlement sites have been recorded within Area 6, nine of which are visible on lidar imagery (others may be hiding within medieval/post-medieval field systems). The tenth, Camp Hill (6.012) was noted in the 19th century as a defended promontory on which stood part of a rampart which was steadily being eroded by ploughing. In the 1940s it was described as an irregular earthwork enclosed by a single rampart, probably of Romano-British date. However, the remains seem to have been completely ploughed away by the 1950s and there are now no upstanding remains to be seen. The NGR given in the HER places the site at the southern edge of a ploughed field, to the south of which there are slight suggestions of a curved earthwork bank but there is no way of knowing from the lidar imagery alone whether this relates in any way to this site. As a possible 'defended promontory', the site could be earlier than the other Iron Age settlement sites discussed here; close inspection of the location, possibly including geophysics, may prove worthwhile.

The other nine sites are in varying states of preservation, but all fall readily into the class of rectilinear Iron Age/Roman settlement enclosures as discussed at length by George Jobey and others.

It is immediately obvious from the lidar imagery and the map that all these sites are concentrated in the S half of the area, all but one being either on the W side of the Rede or the N side of the Broomhope Burn, enjoying a southerly or south-easterly aspect. The single exception to this is the Orchard House settlement (6.001), located on a spur of land roughly midway between the Rede and the Broomhope Burn which rises very gently to the S; given the gentle nature of the slope the site can't really be classed as north-facing, so it doesn't really conflict with the general observation that these sites are on south-facing slopes. Presumably in the case of the Orchard House settlement, the generally favourable location on a spur above the two watercourses outweighed the very slightly north-facing nature of the slope. The marked lack of the sites in the N half of Area 6 presumably relates to the nature of the land here which is generally higher and with more N-facing slopes, and without valleys comparable to that of the Broomhope Burn.

In terms of elevation, eight of the ten sites lie between 134 and 180m OD, while two (one definite and one possible) lie higher up above the Broomhope Burn at 255m OD (6.036, 6.043). It is possible that the higher two could have been linked to ironstone mining which took place on a much larger scale here in post-medieval times. The HER includes a record of Roman ironstone mining at the centre of Area 6, on Skelly Braes (6.027), where earthworks resulting from earlier mining are partly obscured by the massive post-medieval workings, but it is unclear on what basis the earthworks here are ascribed to the Roman period. Iron reserves this close to the line of Dere street would surely have been exploited by the Roman military, though the extent to which Roman workings may have survived the extensive post-medieval mining here is unknown. It might be worth studying the lidar imagery very closely to see whether any areas of demonstrably early mining survive; if so then these could be subjected to detailed examination in the field to try and establish their date.

The lidar imagery suggests that these settlements survive pretty much in isolation, with no sign of contemporary field systems. In some cases this is clearly because they are surrounded by later ridge-and-furrow which would have obliterated all sign of earlier field systems. The one exception to this general observation is scheduled monument no 1016200 (site 6.075), 'Romano-British farmstead and field system

320m north east of Rede Bridge' where an extensive scheduled monument towards the SW of the area includes a field system extending between the settlement and the Rede. The scheduled monument record describes this field system as consisting of 'a series of linear stone field walls which divide the landscape into small rectangular plots. Many of the walls survive as low stony banks standing to a maximum height of 0.4m and measuring 2m across. Other walls have been robbed of much of their stone and consist of slight hollows 2m wide.' These walls are hardly visible on the lidar imagery; much more obvious are numerous mounds which have the appearance of a Bronze Age field system. (Note: the scheduled monument record and the HER refer to an excavation here in 1957, but no mention of any such excavation can be found within the specified reference; presumably this is an error, confusing the site with another that was partly excavated by George Jobey in 1957). This patch of landscape may have greater time-depth than hitherto realised, and may well repay more detailed investigation. A further well-preserved settlement (HER N8067), in association with a cord-rigg field system lies just to the SW of Area 6. It is quite possible that some of the other Iron Age settlements within and around Area 6 could have had similar field systems prior to ploughing in medieval and/or later times; compare, for example, the lidar imagery of site 6.075 with 6.001 which survives within an ocean of ridge-and-furrow c2km to the east.

### **Roman (c70 - 410AD)**

Fig. 5.

Unsurprisingly, specifically 'Roman' sites (as opposed to Roman Iron Age or Romano-British settlements, discussed above) are restricted to a zone in the east of the area linked with Dere Street. The line of the Roman road (6.046, 6.060) is clearly visible on lidar imagery (best seen with lighting from the NE), and still functions in some places as a field boundary, though nowhere within this area does the route survive as a road or track. In all places where it demonstrates a clear relationship with other earthworks, it is the oldest; it is, for example, overlain by ridge-and-furrow and by mining dumps in some places. In several places the road seems to survive as a central camber with ditches to either side, these earthworks are probably Roman though could be partly a result of later maintenance/improvement. A 2.4m-high Roman milestone (6.056) was discovered near High House, on the line of Dere Street near the N edge of Area 6, in 1702; its current whereabouts are unknown - it may have been destroyed, or could have been built into an agricultural building. Many other milestones must once have stood along the line of Dere Street; some could lie buried in situ, but most have probably been 'recycled' into later buildings or field walls. One was found during road works at Waterfalls, on the E side of Dere Street c2km S of Area 6, and has been re-erected here. Another, thought to have stood originally where Dere Street crossed the Rede at Habitancum, c1km N of Area 6, now stands adjacent to the modern A68 north of Woodhouse.

One potentially important Roman site was discovered during the Lidar Landscapes project. This is an apparently very large temporary camp adjacent to Dere Street at Whitfield, Chesterhope Common (6.059). Earthworks visible on lidar imagery, although much mutilated by later agricultural activity, appear to represent a previously unrecognised Roman temporary camp, or possibly two such camps, one within the other. The site is immediately west of Dere Street, in the angle formed by the change in direction of the road at this point. Back in 1940, the eminent Romanist, Ian Richmond, in discussing the remarkable series of camps in Redesdale, noted

that medieval and later ploughing had damaged some sites and probably destroyed others; with this in mind, a very careful search of the lidar imagery adjacent to the line of Dere Street, especially areas now covered with ridge-and-furrow, was included within the Lidar Landscapes project. Right at the very edge of available lidar coverage, this site was noted. While its interpretation as a Roman camp is not beyond question, it certainly looks like one; inspection on the ground should be a priority. The site lies c4km S of the West Woodburn camp, and 1km N of Swine Hill (Fourlaws) camp, but as these may not be contemporary there is little point in discussing their possible interrelationships. The great fort of Habitancum (Risingham) lies c2.5km to the NW.

Area 6 would presumably have been policed by troops based at Habitancum. As noted above, it is likely that ironstone mining took place here in Roman times, though we currently have no proof of this. The farmsteads discussed above may well have provided agricultural produce for troops and others at Habitancum, but until their chronology is resolved there is little point discussing this in any detail.

A couple of fine Roman altars (6.055, 6.057) have been recorded within Area 6, though their exact original locations are not known. One of these (6.057) is the famous 'dream altar' (its mysterious inscription refers to a dream and water nymphs), found in a hedge adjacent to Dere Street. The other (6.055), discovered in the 18th century being re-used as a garden seat at Chesterhope, has a more conventional inscription. Both may originally have stood at small shrines, possibly located adjacent to springs or streams. They remind us that Roman life in this area was about much more than just military matters; people had their own hopes and fears leading on occasion to the erection of altars out in the countryside, at some distance from the nearest fort. Several other altars are known from around Habitancum and it is probable that others remain to be discovered within and around Area 6. It is also quite possible that one or more shrines could be recognised here, as they have been in the vicinity of forts elsewhere in northern England. The remains of the carving known as 'Robin of Risingham', c500m N of Ridsdale, could be one such site.

### **Early medieval (c410-1066)**

As is the case throughout pretty much all of Redesdale, no sites within Area 6 can be ascribed with any degree of confidence to the early medieval period (ie between the end of Roman rule in c410 and the Norman Conquest of 1066). It seems most unlikely that the area was abandoned during this period, given the number of earlier and later sites, and our inability to recognise the period in the archaeological record probably says more about our incompetence than about what was really going on throughout these 'missing centuries'. The early medieval period should be a priority area for future research, within Area 6 and throughout Redesdale.

### **Medieval**

Fig. 6.

Roughly at the centre of Area 6 is the shrunken medieval village of Broomhope (6.013), at which a concentration of earthworks representing buildings and paddocks can be seen on lidar imagery. The HER notes that this settlement appears in documents dating from 1440 and 1666, when seven houses are recorded, but by

1769 only two houses remained; today there is only one farm and a cottage. Despite its small size, the village is surrounded by an ocean of ridge-and-furrow (6.018) extending to the north, east and south; it probably also extended further west but fields here have been heavily ploughed in recent times, flattening any earthworks that may once have been present. The extensive complex of terraces SE of the village (6.022, 6.040) forms part of this field system; it is possible that these terraces could have pre-medieval origins, being brought back into use in medieval times. Perhaps this splendid field system dates, at least in part, from the twelfth and thirteenth centuries, when the settlement of Broomhope may have been larger than was recorded in the mid-fifteenth century. It is tempting to suggest that the villagers may have been involved in iron mining, though there is no evidence to support this.

The only other possibly medieval settlement within Area 6 recorded in the HER is at The Hole, where the surviving bastle (probably late 16th or early 17th century) may have been built on the site of an earlier settlement (6.084, 6.085); the lidar imagery, however, offers no evidence in support of a pre-bastle settlement here.

Ridge-and-furrow is also visible on lidar imagery elsewhere within and around Area 6, much of it very well preserved though in some places it has clearly been ploughed flat. Some of this looks to be medieval in character, though much is clearly post-medieval. It presumably relates in part to settlements located outside Area 6, such as the medieval village of Buteland to the S, the earthworks of which are clearly visible on lidar imagery near the S edge of Figs. 2 and 3 (the two fields immediately N of this settlement illustrate the effect of modern ploughing on medieval field systems; in one, unploughed in recent times, ridge-and-furrow is very well preserved, while the other has been ploughed flat).

## **Post-medieval**

Fig. 6.

As is invariably the case with Lidar Landscapes projects, the majority of recorded sites are post-medieval in date. Together with information already recorded in the HER, the sites visible on lidar imagery tell a very interesting story of the development of the Area 6 landscape over recent centuries.

The best-known archaeological site within Area 6 is the old engine house of the Ridsdale Ironworks, standing adjacent to the A68. The HER notes that these ironworks (6.069) were 'established in 1836 using local sources of ironstone. The works consisted of three furnaces, an engine house, coke ovens, calcining kilns and reservoirs. A series of tramways linked the site with nearby sources of ironstone, limestone and coal. By 1848 the ironworks had virtually closed and in 1864 two of the furnaces were dismantled and taken to W.G. Armstrong's works in Elswick, Newcastle. This was a short-lived venture and part of a largely unsuccessful 19th century iron industry in Northumberland.' The site is shown as 'Ironworks (disused)' on the OS 1st edn map, along with various features including blast furnaces, coke ovens and roasting kilns, the remnants of some of which are visible on lidar imagery. Some unclassified earthworks immediately N of Ridsdale (6.058) may be related to the ironworks.

Further roasting kilns (6.032) are shown on the OS 1st edition map SE of Hindhaugh, sandwiched between the old railway line and extensive ironstone mining earthworks

(discussed below). These are recorded on the HER as 'Ridsdale western calcining kilns'. Earthworks are visible in this area on lidar imagery, but it not clear exactly what they represent.

By far the most visually impressive earthworks on lidar imagery within Area 6 are those relating to ironstone mining (6.026, 6.042). These extend over much of the central zone of the area, with an outlying complex closer to Ridsdale village to the NE (6.048, 6.066). They are labelled as 'quarry' and 'ironstone workings' on the 1st edition OS map, but both are shown as 'old ironstone workings' on the 2nd edition map. The largest concentration of earthworks, around Broomhope, expanded massively between the times of the 1st and 2nd edition maps, demonstrating that main period of ironstone mining was during the final third of the 19th century, after the Ridsdale ironworks had closed. The quarrying avoids much of the medieval field system around Broomhope, but does clearly overlie ridge-and-furrow in places.

The spoil heaps within Area 6 are not all the result of ironstone mining; a triangular group of finger-dumps looking like a hand can be clearly seen in lidar imagery on Chesterhope Common, SW of Ridsdale village, radiating north-eastwards from a shaft (6.061). On the 1st edition OS map of c1860, a coal shaft with adjacent mound is shown here, but on 2nd edition map of c1890 the site is labelled 'old coal shaft'. The mound is neatly contained within the corner of a single large field, demonstrating that the field boundary predates the mining.

Remains of numerous other small-scale industrial features, including quarries and coal workings, are also visible on lidar imagery in the landscape SE of Ridsdale (eg 6.50, 6.52, 6.70, 6.71). Most of these are shown on the 1st and 2nd edition OS maps. All are assumed to be of post-medieval date, but it is possible that a few could have earlier origins.

Much of area A is devoid of settlement; other than Ridsdale and Broomhope, only seven widely dispersed farmsteads or cottages are shown on the modern OS map. This dispersed settlement pattern extends around the area in all directions. With the exceptions of Broomhope and (possibly) The Hole, all current settlements within the area seem to have post-medieval origins. Ridsdale at the very E margin of the area, is the only settlement that can be classed as a village; it is shown as very similar in form on every OS map from the 1st edition onwards. It clearly grew up in association with the adjacent ironworks; there is no suggestion that it existed in earlier times.

Broomhope Mill (6.023), now a farm, is located c800m W of the village. It is shown as 'Broomhope Mill (Corn)' on the 1st edn OS map, so was presumably operating in the mid-19th century. Some of the buildings standing here today appear to correspond to the mill buildings shown on the 1st edn OS map. It is not known when a mill was originally founded here, but there is a documentary record of one here in the 17th century. The site might well be worthy of detailed study. The millrace and millpond (6.007) show up clearly on lidar imagery.

The OS 1st edn map shows 'The Cairn, in Ruins' (6.044) at the S end of Cairn plantation, which still survives. It is not known what the purpose of this building was; it may be an abandoned farmstead, or may have been linked with local industrial activity. The lidar imagery shows earthworks that appear to represent a linear building and enclosures; these correspond to features shown on the OS map. The site is not shown at all on the 2nd edn or later OS maps. Another ruined building

(6.009) survives within the IA settlement of Orchard House; this is shown as a roofed building labelled 'The Orchard' on the 1st edn OS map, and on subsequent editions through to the 1980s, when it is shown as a ruin named 'Orchard House'. It is not known how old this building is, and it is not clear from the cartographic evidence when it was abandoned.

The lidar imagery shows evidence of pre- and post-enclosure post-medieval field systems. The latter consist of large, regular fields and are essentially unaltered from the 1st edition OS map to the present day. In several places, the boundaries of these fields can be seen to overlie what appears to be a mixture of medieval and post-medieval ridge-and-furrow, dating probably from the 11th century (and possibly earlier) through the early 19th. The dating of these different phases of ridge-and-furrow throughout Redesdale remains problematic and demands detailed study; the lidar imagery offers the opportunity to classify different types and relate them to settlements and other features.

At the south of the area, on the line of the old railway between Broomhope and Steel, a complex landscape consisting of several buildings and earthworks can be seen on lidar imagery (6.020). All that is shown here on the OS 1st edition map are 'Roasting Kilns (Ironstone)', but by the time of the 2nd edition map numerous other buildings and features (all unlabelled) are present. The site has expanded further by the time of the 3rd edition map, but with all features, other than a 'Tank' and 'Aqueducts', still unlabelled. East of this complex, four rectangular buildings, each set within a substantial surrounding bank, look distinctly military in character on lidar imagery, but their exact function is not obvious (6.019). A fifth site, to the east, looks similar in character on the lidar imagery though its building has apparently been dismantled. Two of these are shown on the OS 2nd edition map, so were in place by the 1890s; the others are all present by the time of the 3rd edition map so must have been constructed in the very late 19th or early 20th century. They were all linked by a branch line from the railway to the NE. The easternmost example is shown on maps through until the mid 20th century, but not subsequently; it was presumably decommissioned and dismantled in about 1950. No clue as to their function is provided on the OS maps other than on the 2nd edition, where the first two are labelled 'magazines'. Some brief online research suggests that this whole complex lies within BAE's Ridsdale Range, including blast bunkers and other features used for the testing of explosive ordnance. In the time available it has not been possible to ascertain more about the history of this complex, but it would be interesting to know what individual features are, why they were built here, how they might relate to other features in the local landscape, and exactly how they have been used over the past 100 years. The Ridsdale Range was originally established by Lord Armstrong in the mid to late 19th century, to test his big guns, but whether any features visible on lidar imagery relate to this period is not known.

The line of the Wansbeck Railway can be clearly seen on the lidar imagery. This line opened in the 1860s to provide a link between the Border Counties Railway at Redesmouth and the Blyth & Tyne Railway at Morpeth; its main uses were agricultural, industrial and military, with just three passenger trains each way each day (there was no direct link to the main North Eastern Railway at Morpeth, but as the Blyth & Tyne and North Eastern stations were immediately adjacent to each other, passengers could easily walk between the two, so the Wansbeck line was effectively joined to the mainline). From the mid-twentieth century, the Wansbeck

Railway could not compete with road transport and closed in 1966, with passenger trains having ceased in 1952.

### **Sites of unknown date**

Fig. 7.

Nine features were recorded as 'unknown' in terms of date. These include five apparent earthwork enclosures of which some just might be IA/RB settlements, but the evidence in all cases was insufficient for them to be classed as such. Of the others, a group of 4 mounds at Upper March Plantation (6.025) could be natural, and a quarry near Ridsdale (6.068) should probably have been classed as post-medieval. The other two sites are Deadwood Well (6.016), probably a natural feature but with an interesting name, and a walled enclosure (6.010) just NE of the Orchard House IA settlement that is probably post-medieval but the fact that it is respected by the ridge-and-furrow here suggests that it could be earlier. All of these sites would justify inspection on the ground, if only to exclude them as sites of potential importance.

### **Some suggestions for further work**

These suggestions relate specifically to Area 6, but the same ideas are potentially also relevant to the other five areas (and indeed other parts of the Redesdale Lidar Landscapes survey area not included within this project). Any work planned to address these particular issues within Area 6 should not, therefore, be done in isolation, but ideally should be incorporated into larger-scale initiatives to study the wider Redesdale landscape. There are also many other questions that could be asked about Area 6 - these are just a few.

The Iron Age/Roman landscape of Area 6 offers much potential for detailed investigation in the field. Detailed survey of the settlement sites (perhaps including geophysics to check for the presence of internal features) would be useful, ideally linked to small-scale, carefully targeted excavation to address issues of chronology. Were all these sites in use concurrently? Were some occupied long after others had been abandoned? Were some reoccupied in later centuries? How do these sites relate to contemporary or later field systems? The possible IA/RB enclosures listed as 'date unknown' should be included in this.

How well is Dere Street preserved in this area, where it is not overlain by a modern road? How has Dere Street influenced developments in the Roman and post-Roman landscapes?

The possible Whitfield (Chesterhope Common) Roman camp should be investigated on the ground to establish its true nature.

Is it possible to suggest possible locations for Roman shrines? It might be worthwhile working out some possible locations and checking them in the field.

Given the presence of Roman and medieval settlements and field systems within the area, is it possible to predict (and test in the field) where evidence of settlement and agriculture during the early medieval 'missing centuries' might be hiding?

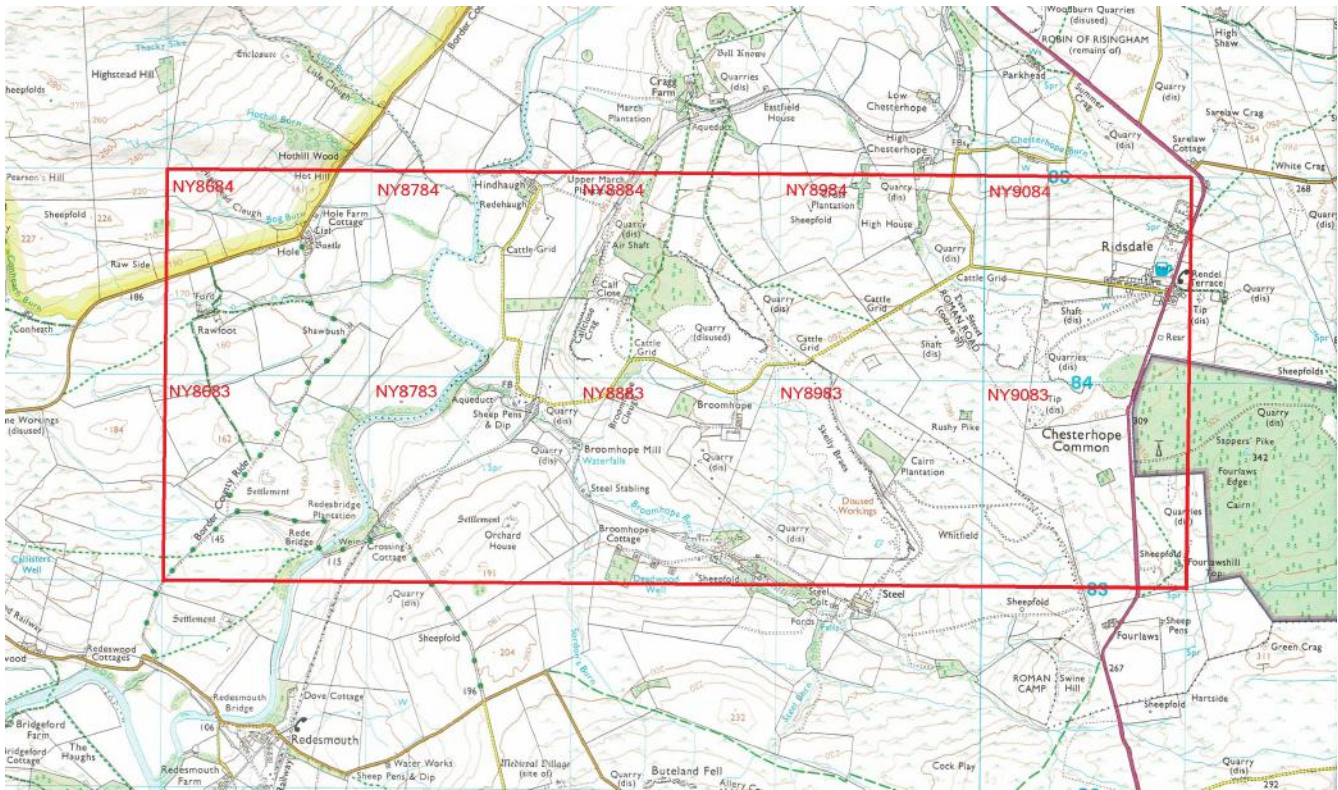
Can different forms of ridge-and-furrow be identified and characterised from lidar imagery? If so, can these different forms be dated? Limited test-pitting in different places might help to clarify when different field systems were actually in use; this could potentially be a good volunteer project, but would need some initial trials to assess the likelihood of potentially significant results.

What are the origins and chronology of Broomhope medieval village and Broomhope Mill? Both sites should be surveyed in detail (if this hasn't already been done). A Broomhope survey should also extend to the surrounding medieval field system.

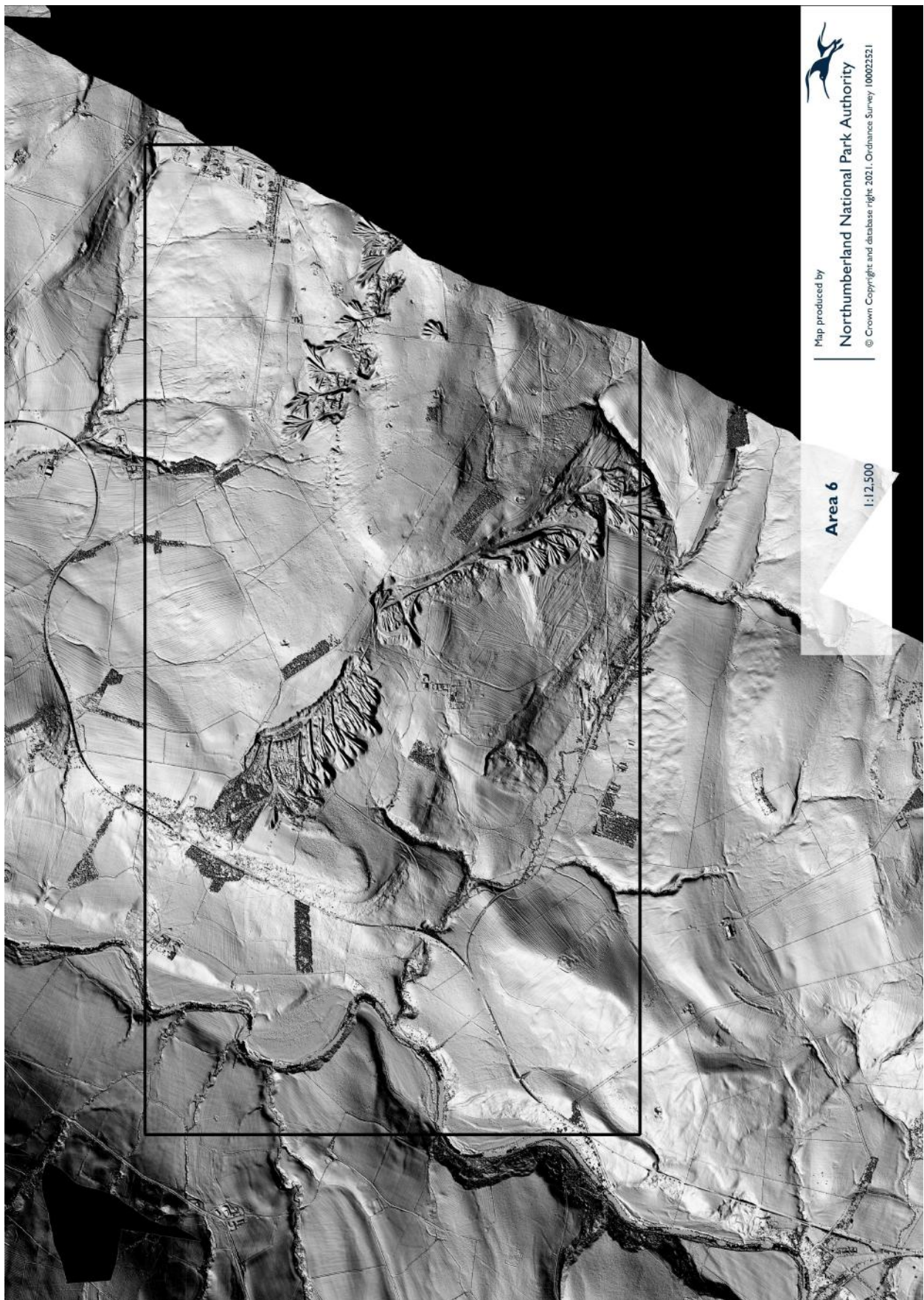
What is the chronology of ironstone mining within Area A? Is there any evidence for it before post-medieval times, for example in Roman times?

Can we find out more about the Ridsdale Range, in Lord Armstrong's time and subsequently, including the date and function of various features visible on historic mapping and lidar imagery?

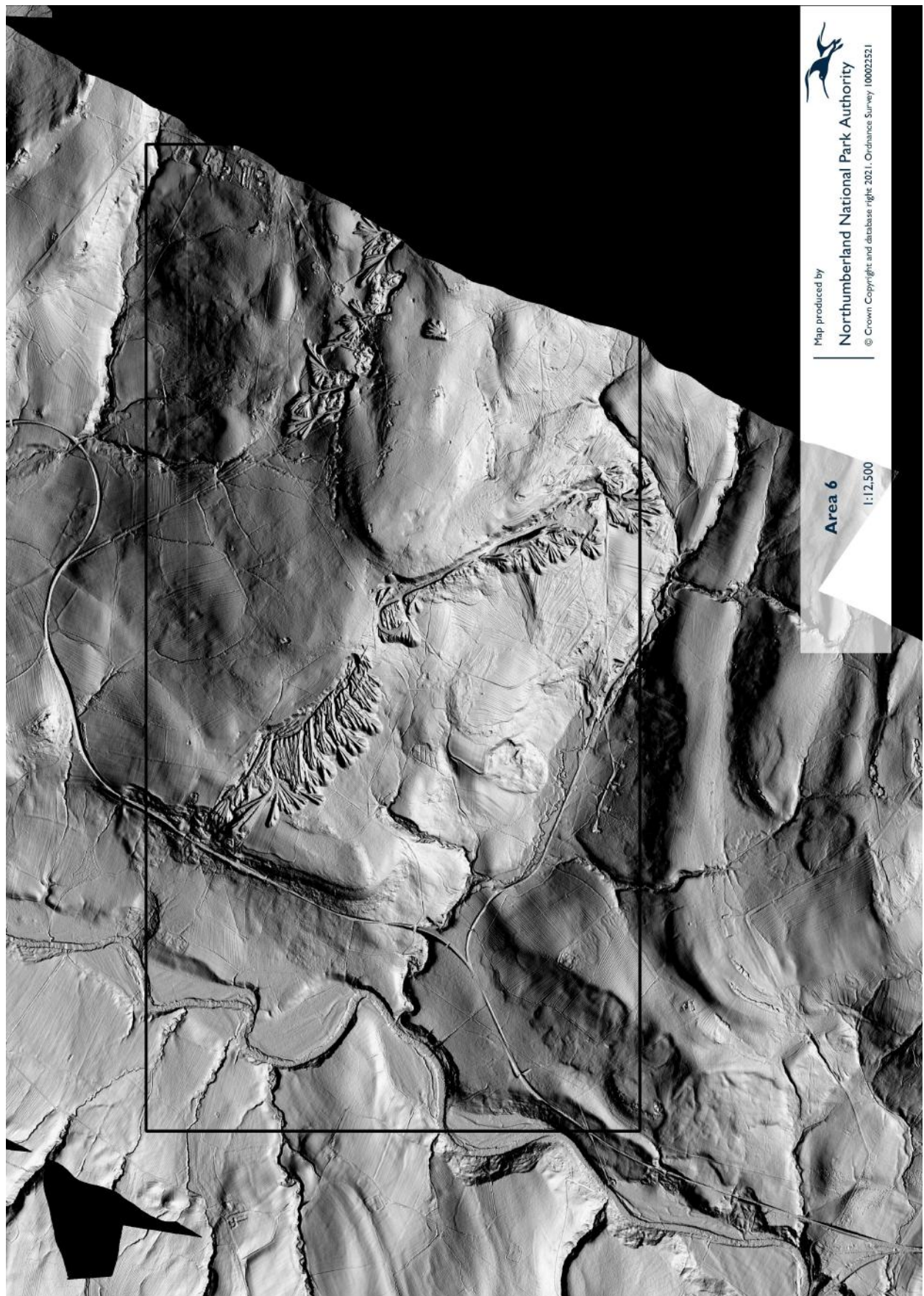
*Note. The individual site numbers used throughout this report (eg 6.001, 6.020) are those allocated during an early phase of this project and used within the project GIS. Although of little use within this report, they are included here as they will enable easy cross-reference to other project documentation for anyone interested in studying Area 6 in greater detail.*



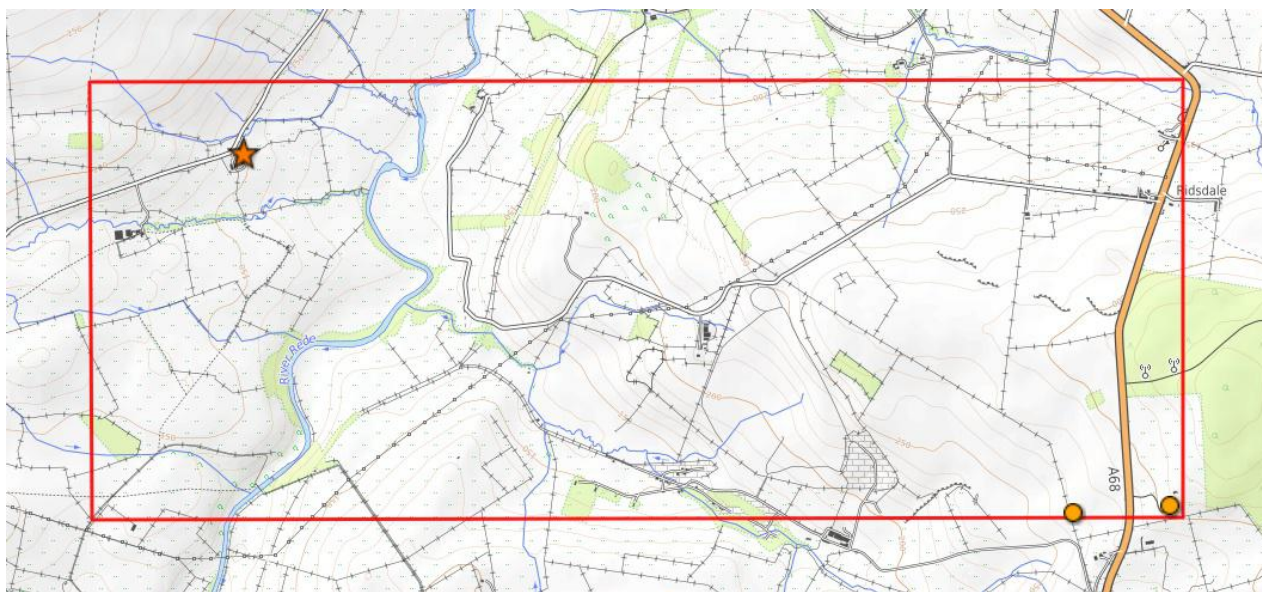
*Fig. 1. OS map showing the ten sq kms making up Area 6, with lidar imagery at the same scale (no lidar coverage is available for the black area to the E). Note that Area 6 was expanded to the W after the lidar imagery had been produced, hence the discrepancy between the two areas as shown here.*



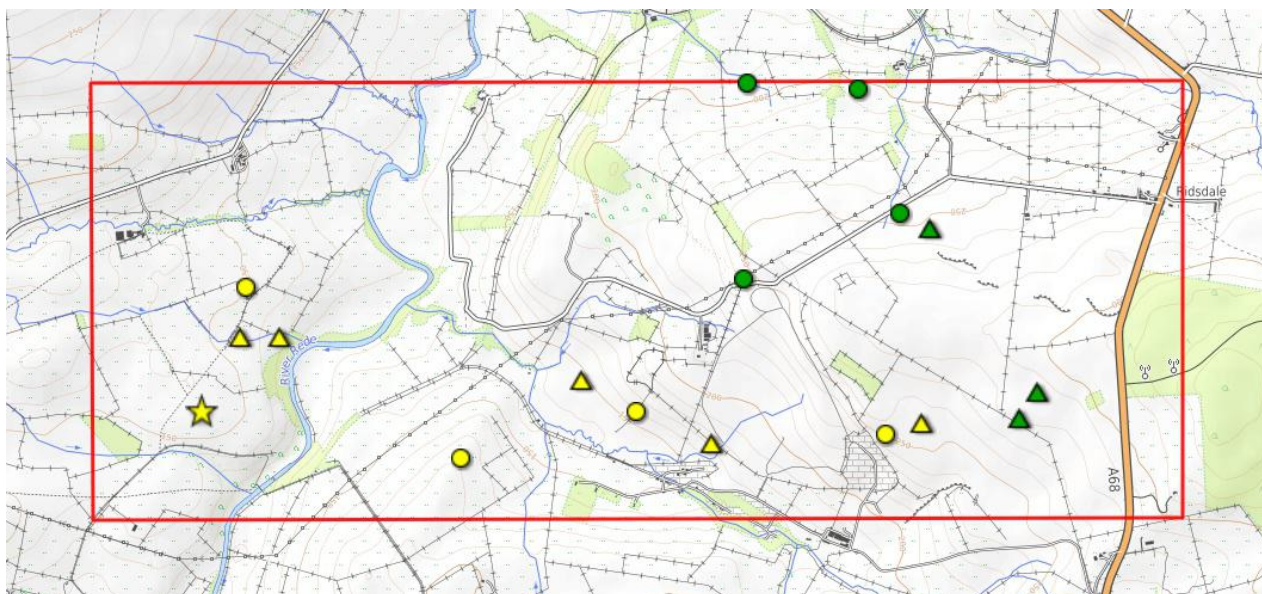
*Fig. 2. Area 6 lidar imagery: DSM with lighting from the NW.*



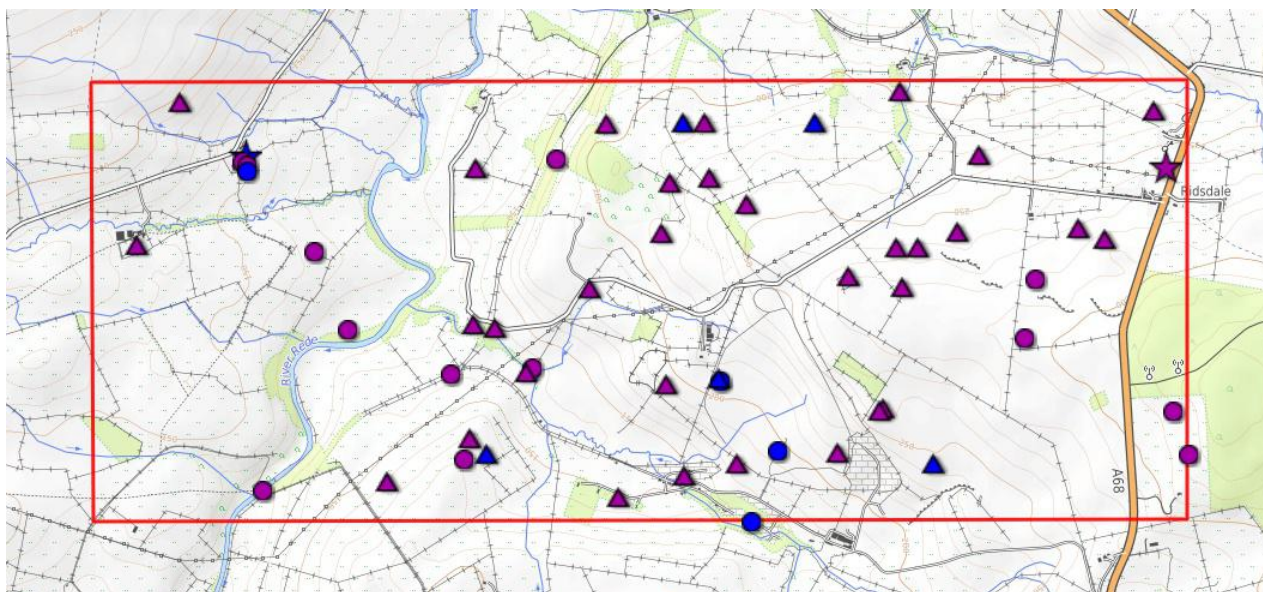
*Fig. 3. Area 6 lidar imagery: DTM with lighting from the S.*



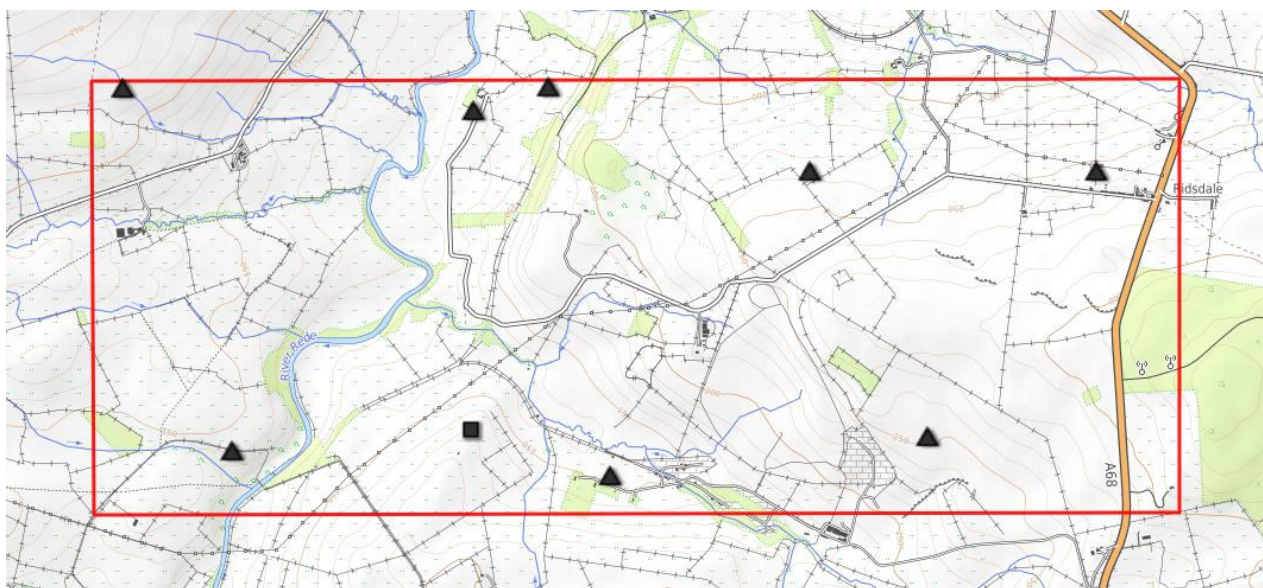
*Fig 4. Map produced by the project GIS showing Mesolithic (none), Neolithic (none) and Bronze Age sites (orange) within Area 6. Stars are scheduled monuments, circles are sites already on the HER prior to the Lidar Landscapes project, triangles are sites newly recorded by the Lidar Landscapes project.*



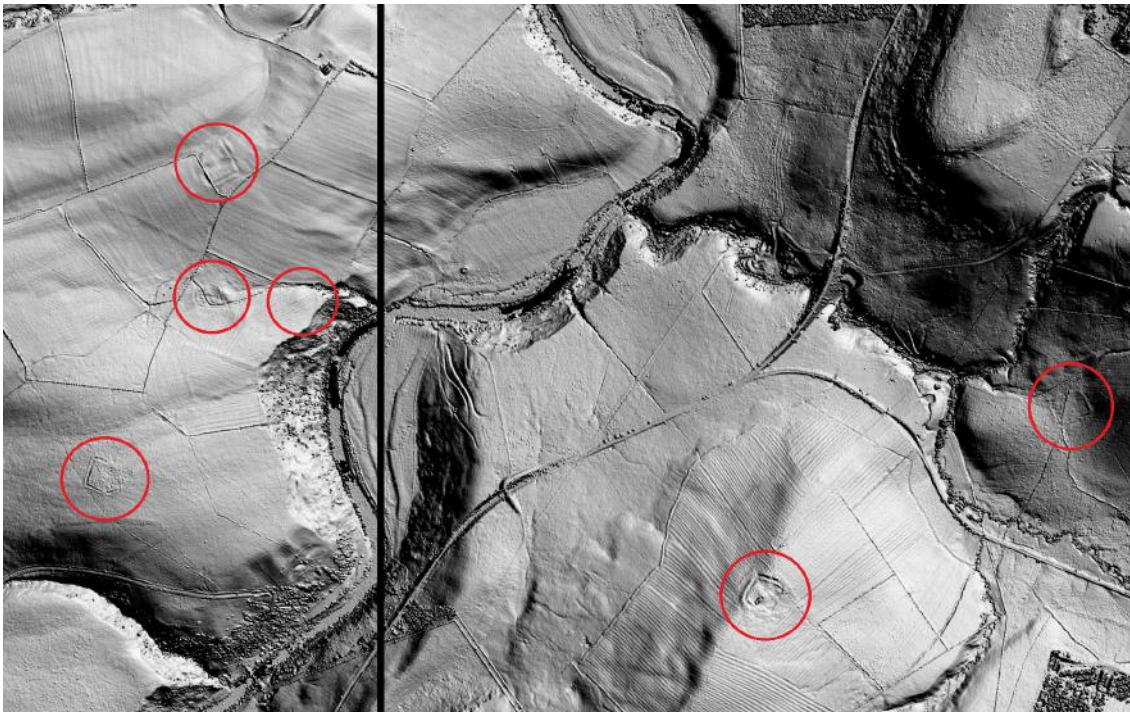
*Fig 5. Map produced by the project GIS showing Iron Age (yellow) and Roman (green) sites within Area 6. (See text for explanation of the basis on which sites were classed as 'Iron Age' or 'Roman' for the purposes of this project). Stars are scheduled monuments, circles are sites already on the HER prior to the Lidar Landscapes project, triangles are sites newly recorded by the Lidar Landscapes project.*



*Fig. 6. Map produced by the project GIS showing medieval (blue) and post-medieval (purple) sites within Area 6. Stars are scheduled monuments, circles are sites already on the HER prior to the Lidar Landscapes project, triangles are sites newly recorded by the Lidar Landscapes project.*



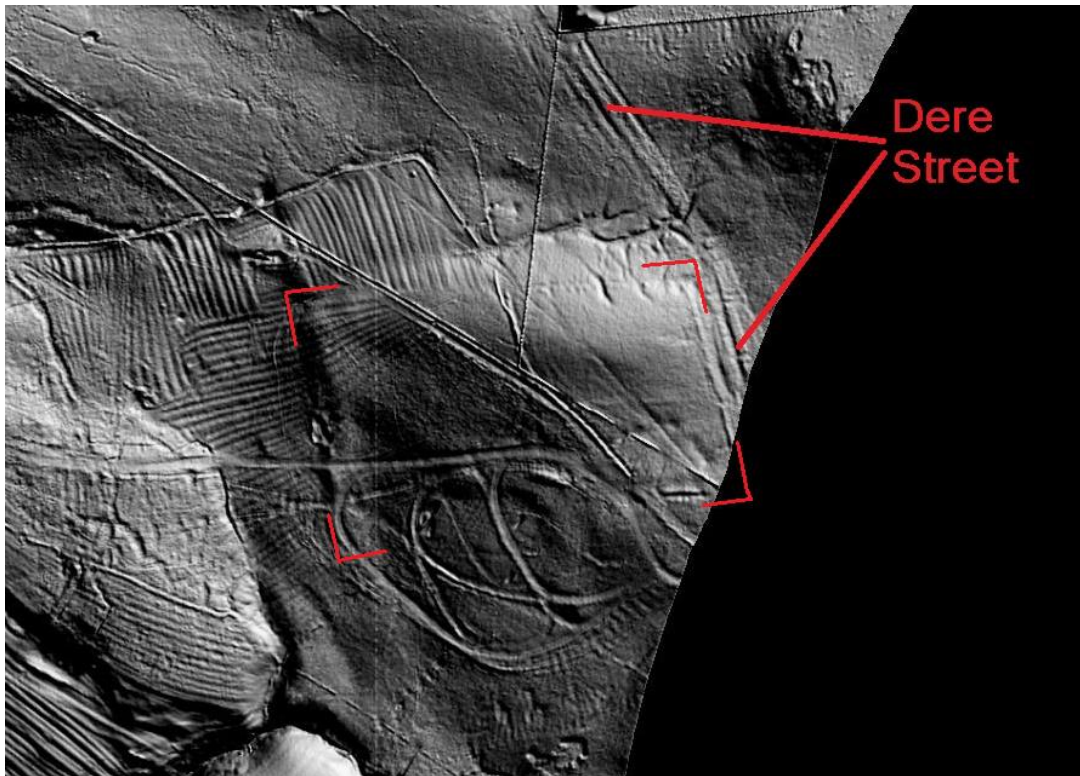
*Fig 7. Map produced by the project GIS showing sites of unknown age recorded by the Lidar Landscapes project.*



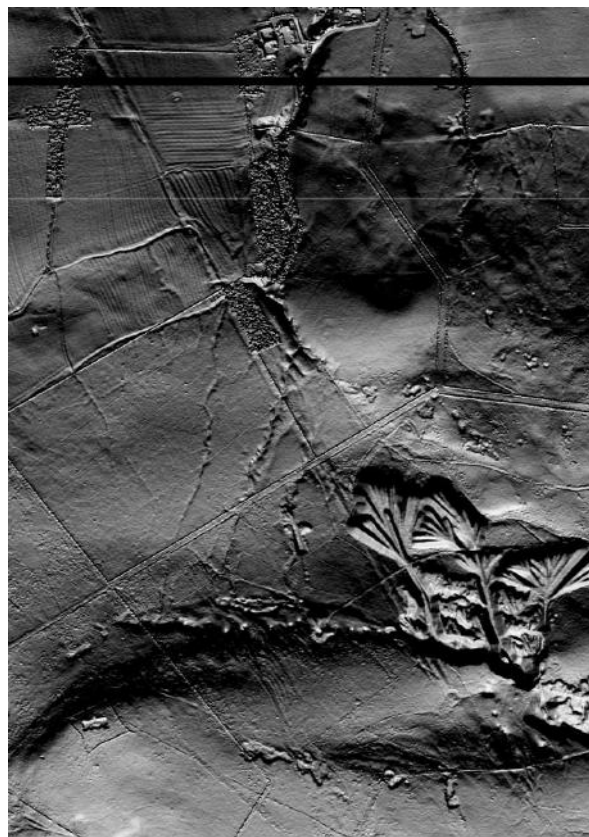
*Fig. 8. Part of the landscape towards the W edge of Area 6, showing half a dozen enclosures, all of which are probably settlements of Iron Age/Roman date. Old railway embankments can also be clearly seen crossing the area. Note the almost exclusively post-medieval nature of the field system here, in marked contrast to Fig 10. The river flowing N-S is the Rede, with the Broomhope Burn flowing into it from the E.*



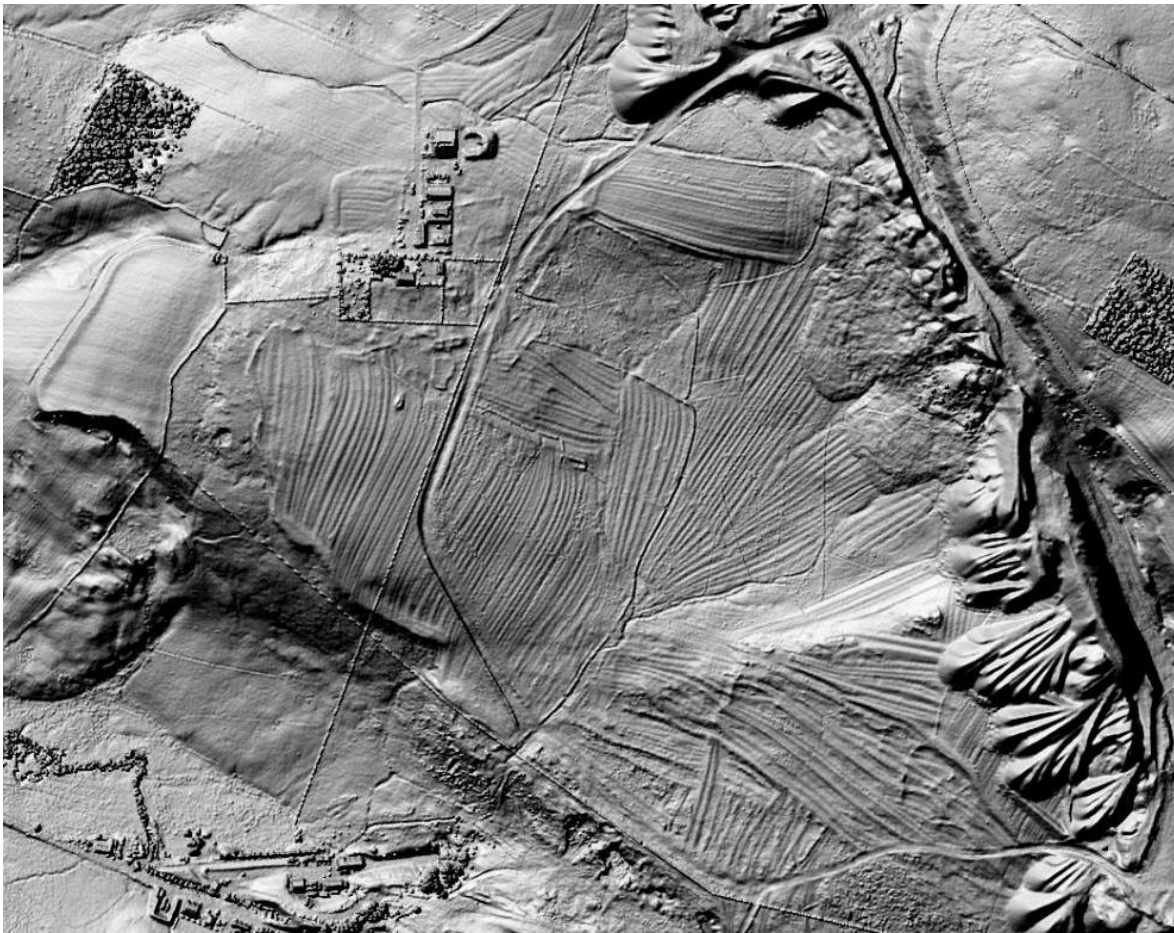
*Fig. 9. The remains of what appears to be an Iron Age/Roman settlement survive here within a vast post-medieval ironstone mining complex. It is intriguing to speculate that it may have originally been associated with ironstone mining in Iron Age or Roman times, perhaps being re-used for some purpose in post-medieval times, thus accounting for it not being buried beneath the spoil heaps.*



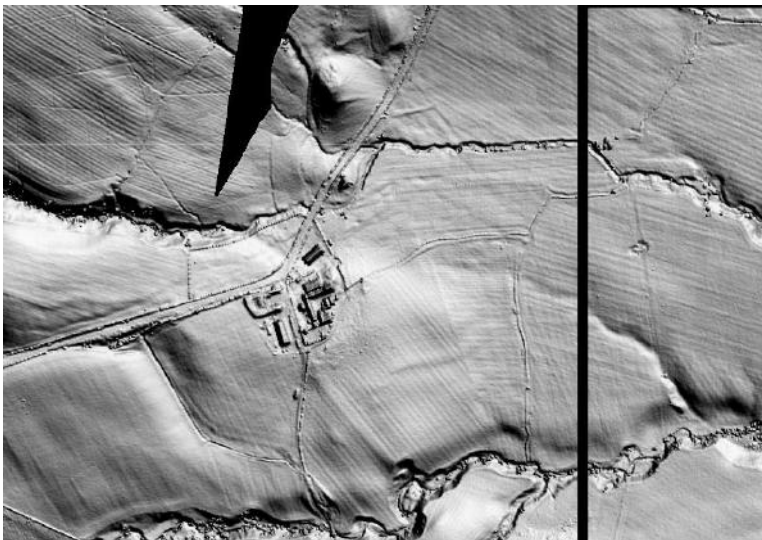
*Fig 10. Apparent Roman camp (possibly two camps, one within the NE corner of a much larger one, the possible angles of which are highlighted in red) lying immediately W of the change in direction of Dere Street (itself clearly visible as an earthwork) at Whitfield, Chesterhope Common. Although much disturbed by medieval/post-medieval ploughing (which would account for their not having been noted previously), there do appear to be Roman earthworks lurking here.*



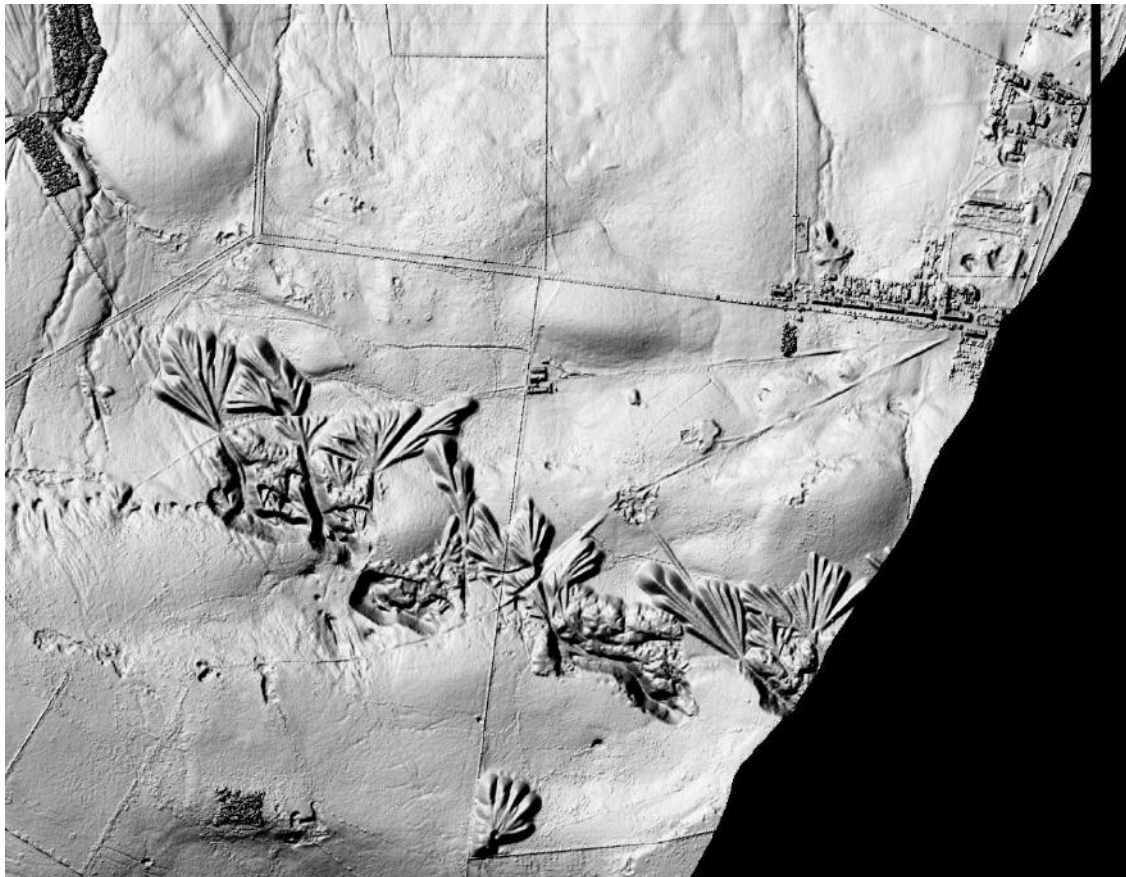
*Fig. 11. To the N of the area shown in Fig. 10, the line of Dere Street can be clearly seen as an earthwork passing SE-NW through the present-day field system, within which it is still used in places as a field boundary. How long this portion of Dere Street remained in use as a road is not known.*



*Fig 12. The extraordinarily well-preserved medieval ridge-and-furrow field system E and S of Broomhope is clearly visible on lidar imagery, overlain in places by remnants of post-medieval ironstone mining. Earthworks of buildings and paddocks can also be clearly seen adjacent to the present-day farm.*



*Fig. 13. The HER suggests that a medieval settlement might underlie the bastle at The Hole farm, but in marked contrast to the area around Broomhope shown in Fig. 12, no indication of a medieval field system can be seen here. It is therefore likely that the bastle, probably dating from around 1600, was the earliest settlement here.*



*Fig. 14. The village of Ridsdale (top-right) grew up in the 19th century to serve the ironworks here. There is no suggestion on lidar imagery of settlement at an earlier date. Earthworks associated with the ironworks can be seen adjacent to the village, while extensive earthworks resulting from ironstone quarrying and coal mining can be seen to the SW.*



*Fig. 15. These five rectangular features look out-of-place in this landscape, being of a military character. They are blast bunkers within the Ridsdale Range.*