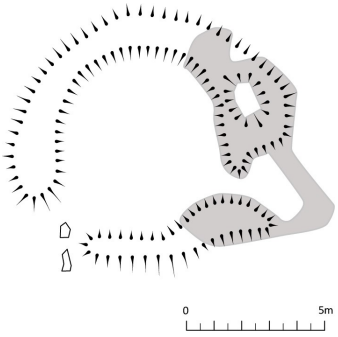
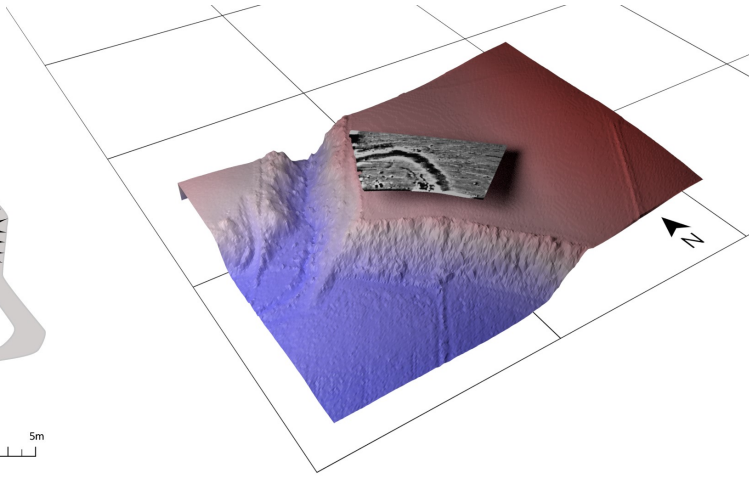
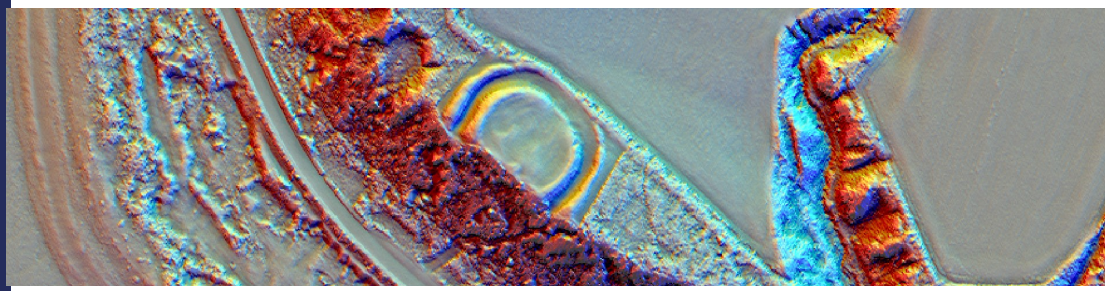

# machars waterborne

## the archaeology of the machars' coast and waters



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AOC Archaeology Group

# Machars Waterborne

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AOC 60114

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**Machars Waterborne**

Since the release of the Scottish Government's repository of aerial laser scanning data, or LiDAR via the Remote Sensing Portal and under an Open Government license, Scottish archaeology has been provided with an invaluable resource for the detection and management of archaeological remains. The Phase III dataset, which is provided at 0.5m resolution, covers much of the southern half of the country, including near-complete coverage of the Machars of Wigtownshire. When processed appropriately for archaeological use, this data provides a remarkable tool for the identification of archaeological remains, visualisation of known monuments and baseline records for those potentially threatened by erosion and land management changes.

Machars Waterborne was conceived as a citizen science initiative, designed to provide public access to this invaluable dataset in a way that could allow non-specialist users to inspect and manipulate the data, thereby providing the tools for landscape investigations led by the volunteers involved in the project. Online workshop sessions were held over several months in late 2020 an early 2021, introducing volunteers to the characteristics of field archaeology and the interpretation of features relating to settlement, agriculture and industrial activities of the prehistoric and historic centuries. Used in conjunction with integrated historic maps provided by the National Library of Scotland's web map services, the interactive LiDAR map provided a valuable resource with which the participant group could contribute to the documentation of the archaeology of the Machars.

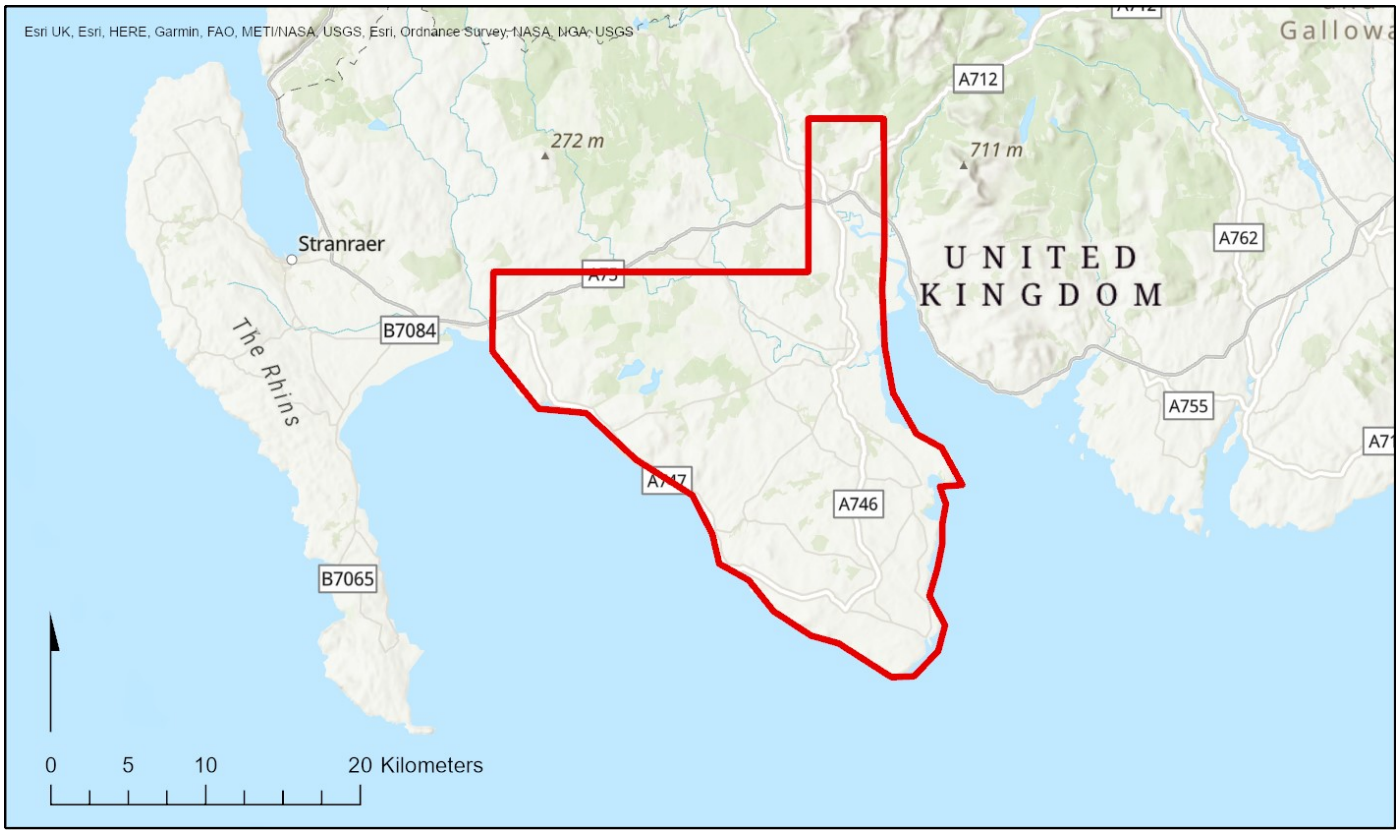
The web map was provided in two parts. For public visitors to the Whithorn Trust's website, on open version of the map provided functionality to browse the processed LiDAR alongside satellite imagery and an overlay of the Ordnance Survey's 1st edition map provided by the National Library of Scotland. For participants on the project signed up to take part in the online workshops and monthly meetings, a second web map provided the option to 'pin' possible identifications and submit these to a shared database hosted via ArcGIS online. These submissions were reviewed by AOC's survey team and compiled into a database of possible and probable archaeological sites. In the latter stages of the project, a selection of sites were visited by AOC's survey team with project volunteers, providing an opportunity to verify or discount shortlisted sites and provide an opportunity for volunteer training in techniques of archaeological survey.

In total, following review by AOC's survey team, 350 probable new archaeological features were submitted to the database. Against an existing total of 2205 entries in the NRHE for the equivalent area prior to the commencement of the project, this constitutes a 15% increase on the known archaeological remains as a result of the citizen science project.

The following report summarises these results, and sets out the findings of the field survey work.

*Study Area*

The area covered by the project encompassed most of the area south of the modern A75, from Glenluce in the NW, Newton Stewart in the NE to Burrow Head in the south. The Machars has particularly good coverage with Phase III LiDAR, meaning that c. 507 $Km^2$ was assessed by the citizen



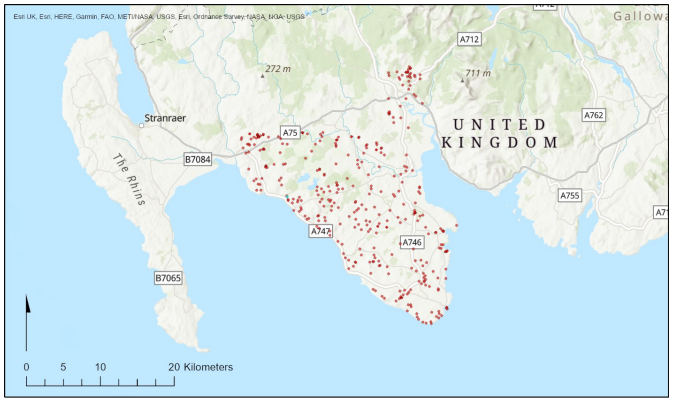




*Figure 1 (above): extent of the LiDAR dataset analysed as part of the project. Figure 2 (below): distribution of newly-identified sites.*

science project. The extent of the survey area is shown in Figure 1, and the sites newly identified in Figure 2.

**Prehistory**

Detection of prehistoric archaeology in LiDAR tends to produce a bias towards certain site types, since mounds, stone settings and amorphous earthworks of the type that typify earlier prehistoric monuments such as chambered cairns, standing stones and stone circles are easily masked or removed from LiDAR data during the process of stripping vegetation to produce a 'bare earth' DTM, or else they lack any distinguishing features that allow their true identification to be confirmed. This is illustrated by the 19 'mounds' contributed to the database, few of which can be confirmed or ruled out as archaeological sites on the basis of the LiDAR data. It is, furthermore, probable that some candidates may not be confirmed or ruled out by field survey, since many survive only as grassy mounds with no diagnostic features. Some are likely to be cairns (e.g., no. 290) while others may be burnt mounds (e.g., no.176). Their prominence in local topography nonetheless warrants their inclusion as 'possible' sites.

LiDAR data tends to produce results that can be more confidently interpreted for settlements and earthworks relating to the Bronze and Iron Ages, when hut circles, ring -ditched houses and enclosing defensive earthworks proliferated. Such sites tend to appear as interruptions to the grain of the underlying geology, where curvilinear banks, levelled terraces and enclosure ditches indicate the presence of buildings or defences. Prior to the MW project, 21 hut-circle settlements were documented in the NRHE (Figure 3). These were mainly restricted to areas of upland, unimproved grazing and around the fringes of improved agricultural land: this equates to a distribution biased to the NW Machars, where upland heath around Garheugh Fell, Gargrie Moor and Craignarget Hill preserves extensive cairnfields, field systems and associated hut circles. No such sites have been recorded in other areas of the Machars in a distribution which directly correlates with the distribution of areas of improved agriculture. The MW

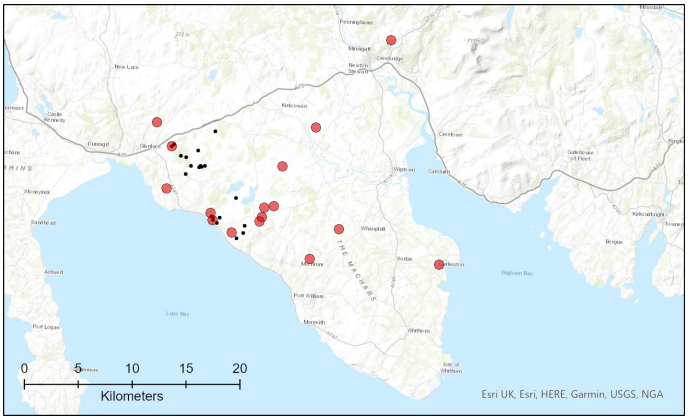



*Figure 3: Distribution of recorded hut circles (black) and newly-recorded sites (red)*

project, however, has added a further 16 possible or probable hut circle sites to the distribution (Figure 4); the majority of these still cluster in the north-west, again in areas of unimproved land or adjacent to forestry, but isolated possible sites were identified on the fringes of improved fields at Kildarroch (no. 5) and Criagendous (no. 18). For the most part the identified sites are visible as earthwork rings in the region of 7- 10m in diameter, including examples with associated irregular enclosure banks that typify Bronze Age settlements (e.g., no. 9). Others are more substantial: the annular bank underlying later cultivation near the Water of Malzie (no. 55) is nearer 17m in diameter and close to the maximum of the normal hut circle range. A similarly substantial roundhouse with a probable entrance on the south, at Alticry (no. 1122) has apparently evaded destruction by later rig and furrow cultivation due to its location within a group of rocky knolls.

More substantial prehistoric archaeology was also identified in the form of several small enclosures with substantial stone or stone/earth defences (Figure 5). The best preserved of these, at The Alt, Cairndoon (no. 347) and at Tonderghie (no. 218) are sub-circular enclosures around 35- 40m in diameter, with substantial, albeit denuded enclosure banks spread up to 7m in width. At both sites, a local relief model accentuating localised changes in topography suggests that circular structures around 10m in diameter are contained within, very similar in size to at least one circular structure, newly-identifiable in LiDAR data, within North Barsalloch fort. Near Low Moor, Chippermore (no. 17), the substantial circular enclosure overlain by later clearance, structures related to the nearby post-medieval farmstead and a modern field dyke may be a newly-identified settlement belonging to the group of stone-walled 'homesteads' characteristic of the north-west Machars. With the rather less well-preserved (and perhaps more doubtful) example at Mill Stone Howe, Fell of Carleton (no. 215), this group is extended southwards to cover much of the west Machars coast: a distinctive and as yet undated group of later prehistoric settlements.

Perhaps the most substantial site of probable prehistoric date to be identified by the MW project is a fort (no. 169), probably of Iron Age date, located near the edges of the study area, on the rocky ridge that overlooks Blackcraig (Figure 6). A substantial stone and earth bank forms a D-shaped enclosure with an entrance on the east, indicated by a worn track that ascends the steep rocky slope from the north-east. The fort makes use of a rocky outcrop with cliffs to the west, enclosing an area of 0.44 Ha and measuring 113m NW/SE by 60m NE/SW. The single enclosing bank follows the contour of the steep slope to the east, interrupted in only one place, where an entrance c. 6m wide is located. Inspection of the site in the field confirmed the presence of the rampart, which stands to over 1m in height in places; the entrance is flanked by substantial boulders up to 1m across, likely displaced from the rampart. The interior of the site is heavily overgrown, but bedrock is exposed is several places and there are no obvious signs of internal structures. The site commands panoramic views over the Cree estuary and Wigtown Sands.

A second fort, previously recorded only as the 'Site of Fort' on the 1st edn Ordnance Survey map was also identified by the project. Although previous surveyors had reported that no remains were visible, the ploughed-down remains of an earthwork are discernible in the LiDAR hillshaded model and more clearly in local relief modelling. The rampart forms a curving enclosure, cutting off a promontory of the raised beach overlooking Killantrae Bridge. A geophysical survey was carried out as part of the project, clarifying the position of a 7m broad enclosure ditch, with several internal features also present (see *Geophysical Survey*, below).

*Farmsteads and buildings of historic date*

A large number of rectilinear buildings was identified by the MW project, adding considerably to the dataset of historic rural settlement and agricultural activity. Such sites are difficult to assign to any particular chronological horizon after the medieval period, particularly in advance of a field visit, but tentative suggestions can be made. Some of the smaller isolated examples, such as the rectangular turf walled structures at Pulnaskey Burn (no. 10) and Crailloch (no. 336) may be shielings and others sheep rees (RCAHMS 2002, 36), while other, stone-walled

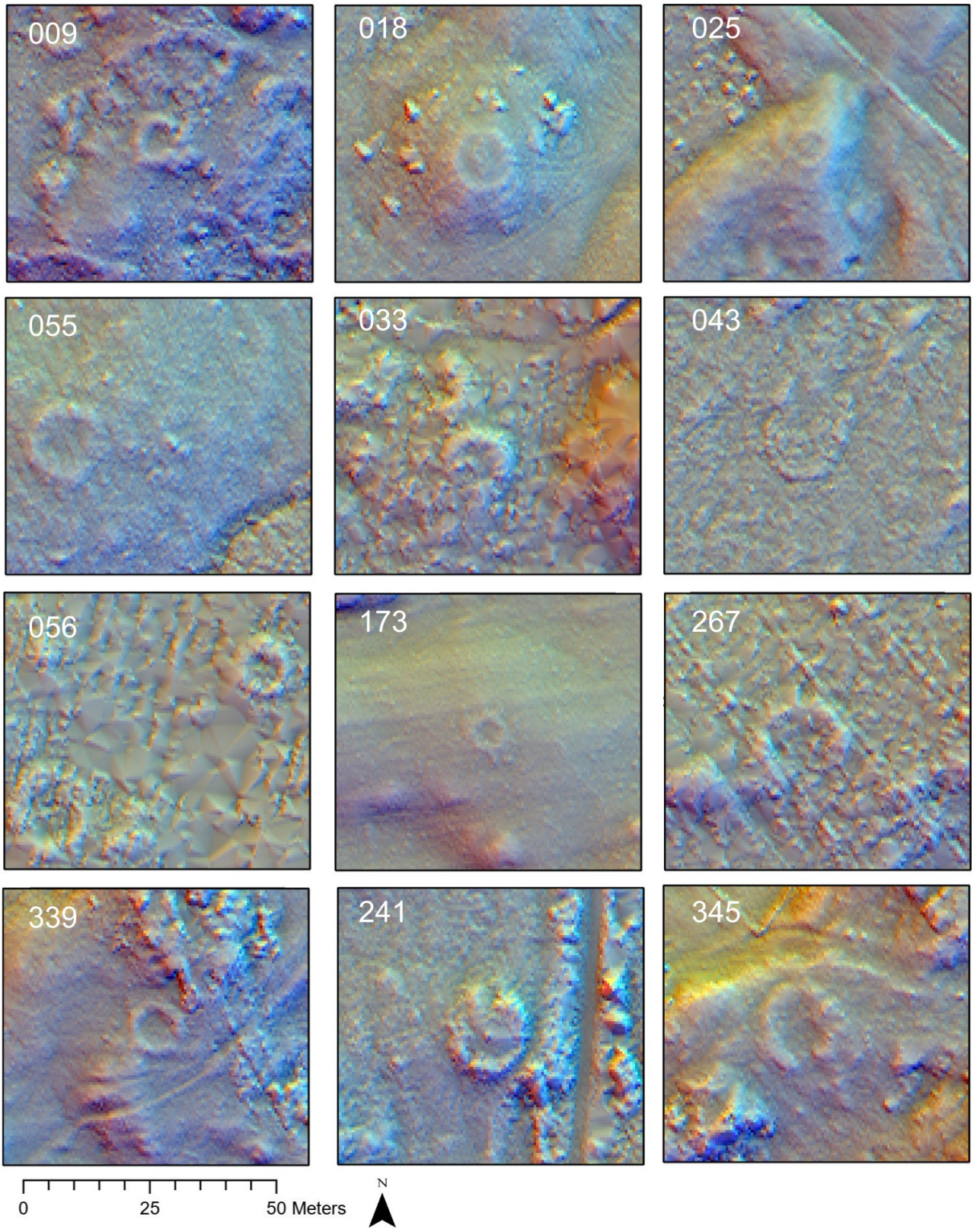



*Figure 4: Examples of possible hut-circles identified in the dataset*.

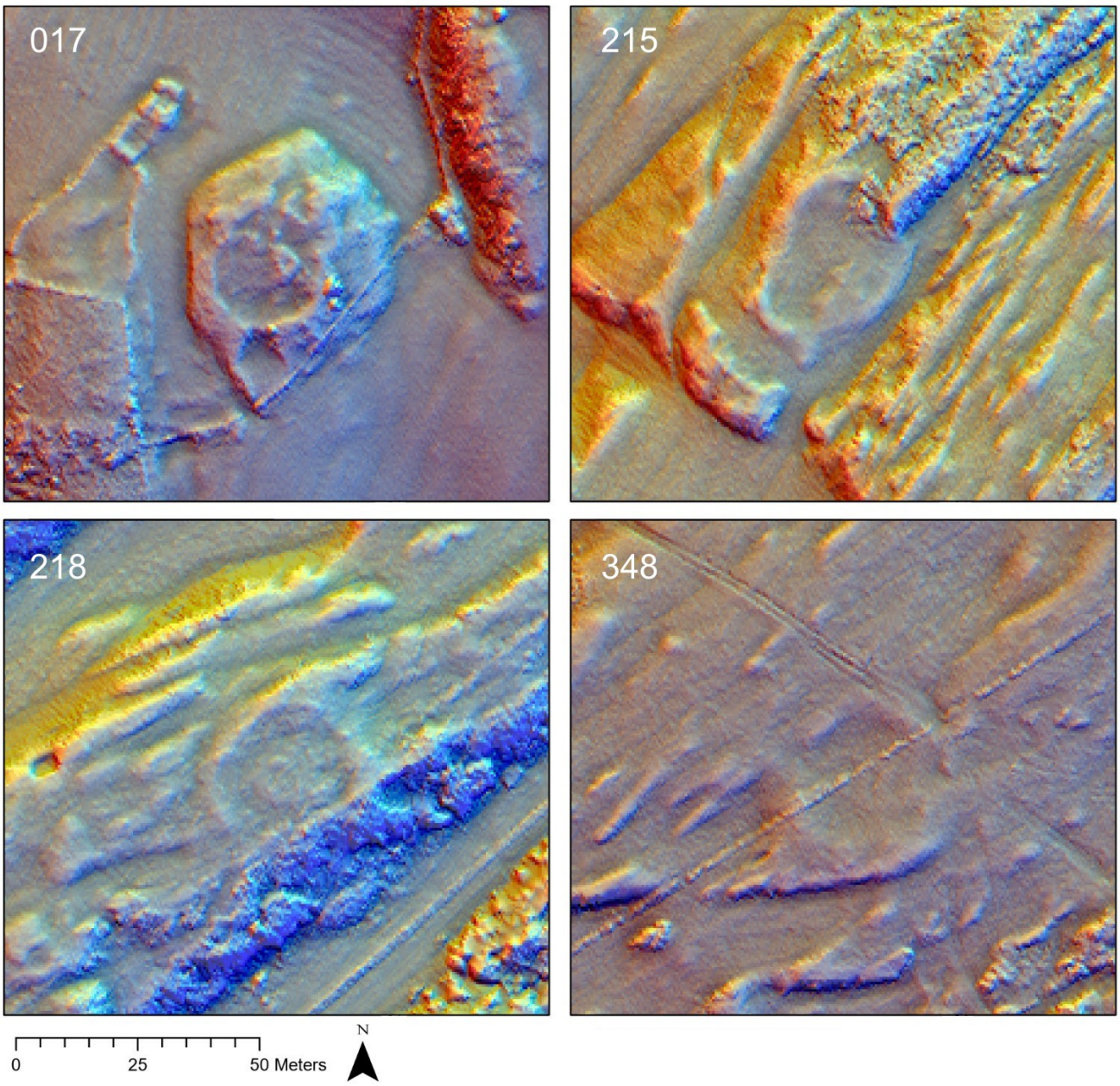



*Figure 5: Examples of possible stone-walled 'homesteads' identified by the project.*

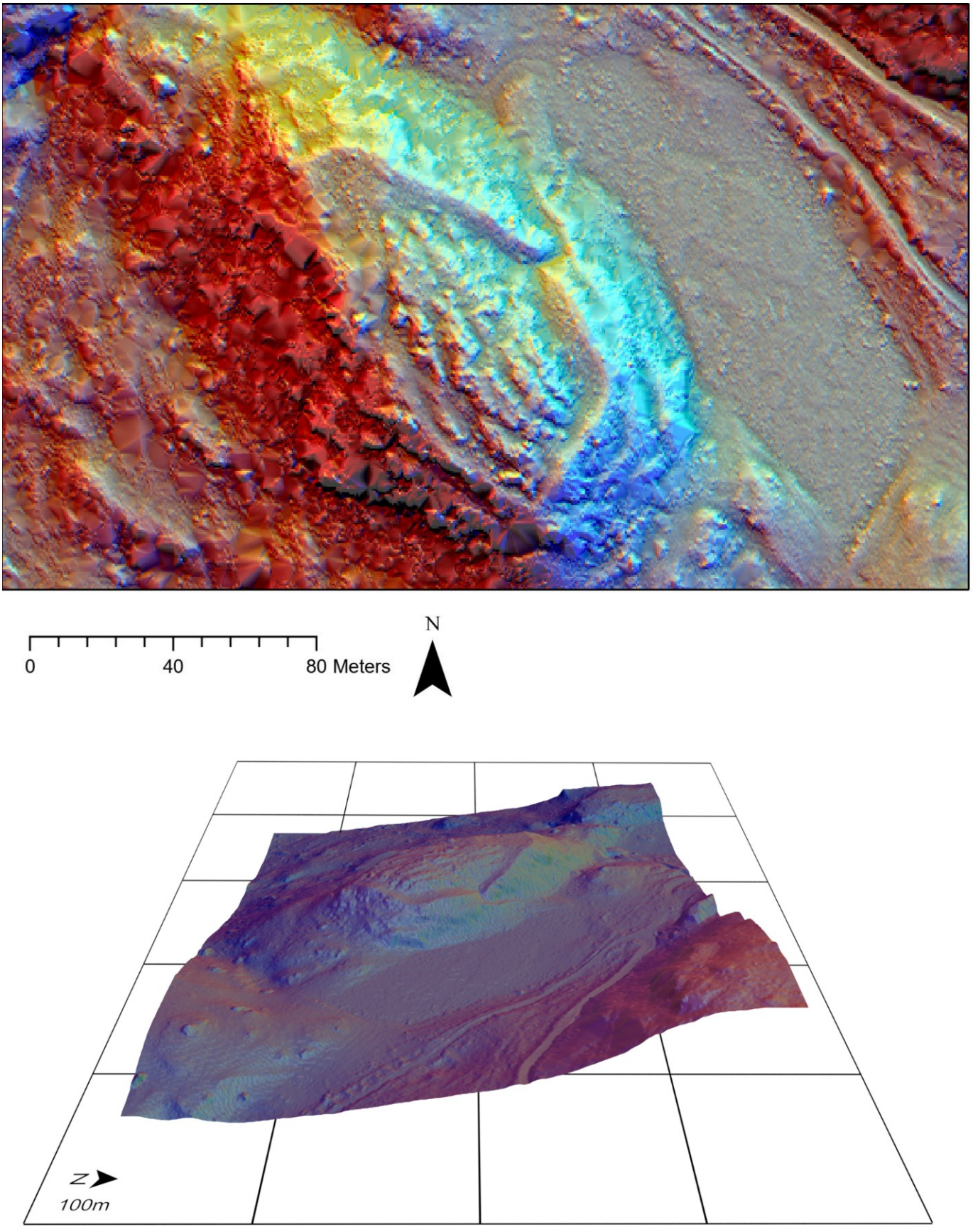



*Figure 6: a newly-identified enclosure, probably a prehistoric fort, at Blackcraig.*

buildings aligned or associated with field boundaries as at Backloch Drumblair, Burnpark Moss and Gracehill (no.s 95, 93, 204) are probably of relatively recent date. Long buildings are commonly found in isolation around the fringes of improved fields, sometimes depicted as unroofed on the 1st edn Ordnance Survey map (e.g. no. 224 Larroch and 206 Adderhall), though in other places relatively well-preserved structures are not marked at all (e.g. no. 234, Hawkhill plantation). Some approximate dating evidence for isolated bitartite, stone walled long buildings such as those at Hawkhill and Glonhoise Wood (no. 246, Figure 7) might be indicated by the presence of similar buildings within farmsteads that were ruinous by the time of the OS survey in the 1840s. The site at Glenhoise Wood is marked on the 1st edn map with an unusual symbol, albeit some 50m NW of the buildings visible on the ground, suggesting it may have been partially roofed at the time of survey. The structures themselves probably represent two phases of building, while a circular mound to the south may be the remains of an associated kiln.

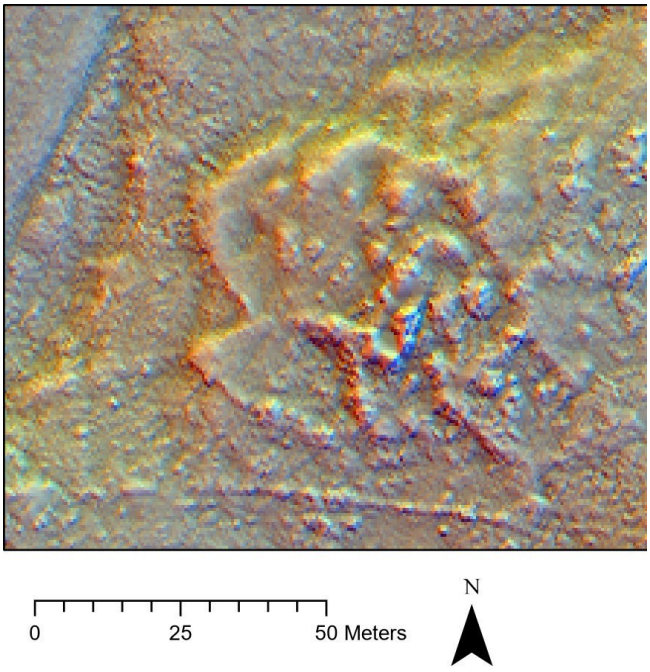



*Figure 7: possible farmstead remains at Glenhoise.*

The survey has added significantly to the record of historic farmsteads in the Machars, in many instances providing updated and more accurate locations for abandoned farms marked on historic maps or already entered in the NRHE database (Figure 8). In some cases, such as the paired longhouses at Drumdow (no.261) the LiDAR data adds to the chronological depth of the site; in this instance a second, probably earlier long building is visible immediately to the west of the better-preserved structure, probably abandoned before becoming incorporated into the adjoining enclosure depicted on the 1st edition map. At Fell of Barhullion (no. 138), Backmoor, Killantrae (no. 258) and Torhousemuir (nos. 186 and 189), circular structures associated with farmsteads are probably kilns; at the former site this feature is visible on aerial photographs as a grassy mound adjacent to the main farmhouse, suggesting it went out of use before the farmstead as a whole. Other buildings are more complex than the simple unroofed structure depicted on the OS map and the example at Carnscreugh (no. 200) may overlie structures of prehistoric date. Similarly, the tripartite long buildings at Grennan (no. 145), not marked on the OS map, may overlie a circular enclosure of prehistoric date. At that site, at least three buildings are visible within an area of rig and furrow cultivation extending over some 13 Ha, protected from later cultivation by their position within rocky knolls and bedrock outcrops.

Among the previously unrecorded farmsteads are several candidates that may be of comparatively early date. Those displaying simple, single compartment structures as at Barhullion (no. 265) and Meg's Craig (no. 210) are candidates that seem likely to pre-date the improvement-period field arrangements, while a complex of terraces and structures at Glenhoise Wood (no. 245) may represent numerous phases of occupation and evidently pre-dates the establishment of the improved fields to the east. Similar pre-improvement steadings are at Barwhirran (no. 208) and Cascreugh (no. 68), in the latter case it is possible that these structures were in use with Carscreugh castle, a tower house which was in ruins by the late 17th century.

Other sites may prove to be earlier still. East of Mochrum Fell (no. 58, Figure 9), a number of small earth and turf buildings are enclosed within a sub-circular bank c. 75m in diameter. The site has almost certainly been used since prehistory- an extensive cairn field underlies surrounding rig and furrow- but the rectangular central building, measuring 18 m by 10 m is likely of historic date. The site is bisected by modern a field boundary and partially overlain by a sheep ree, and a pre-improvement date for its use is highly likely. Too little investigation of medieval rural settlement has been carried out in Wigtownshire to allow any confident interpretation of this site, but use in the medieval period is probable, and tentative parallels might be drawn with the minor chapels and early ecclesiastical sites of Argyll and the Inner Isles, which often feature circular vallum-type enclosures.

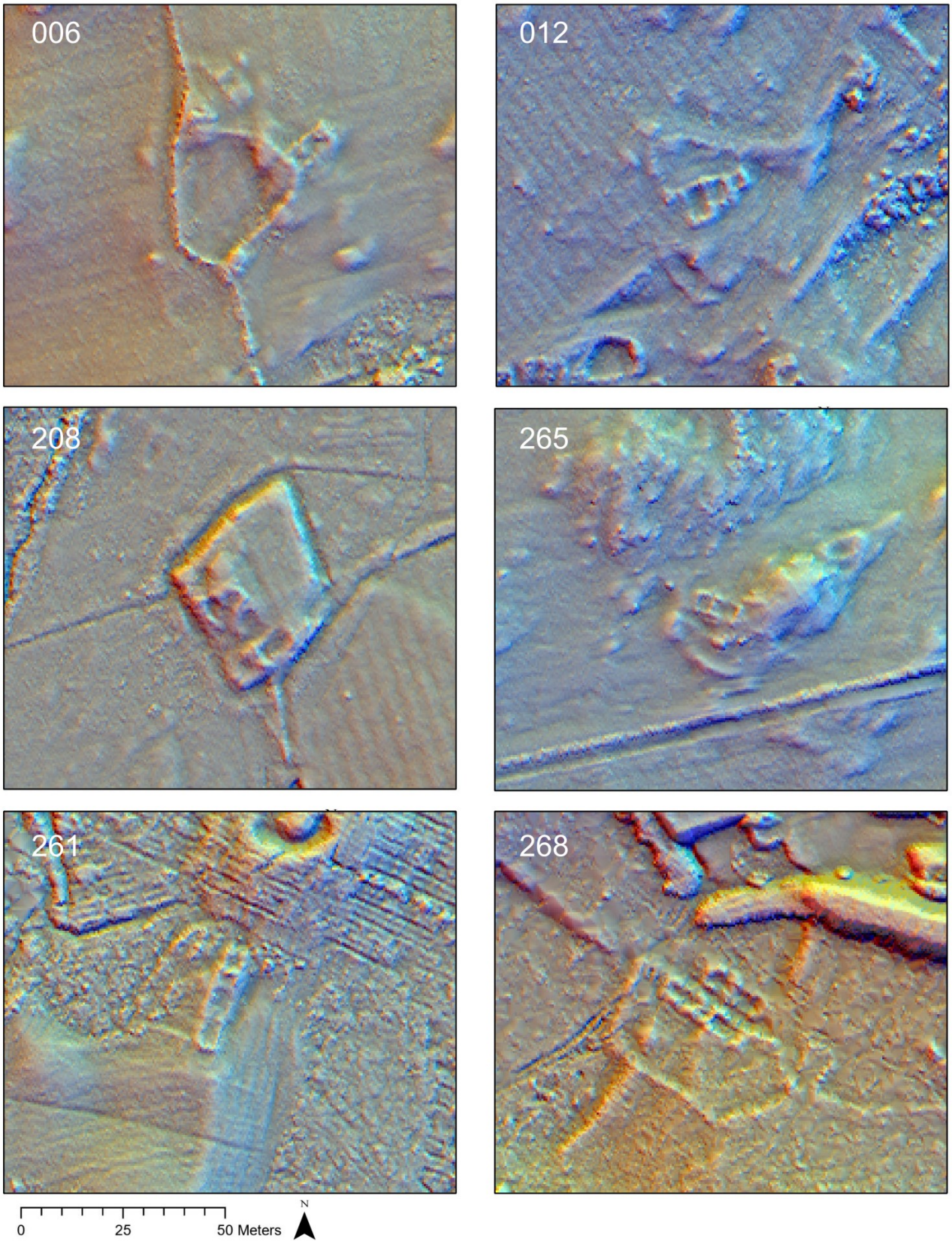



*Figure 8: Farmstead buildings identified in the LiDAR dataset.*

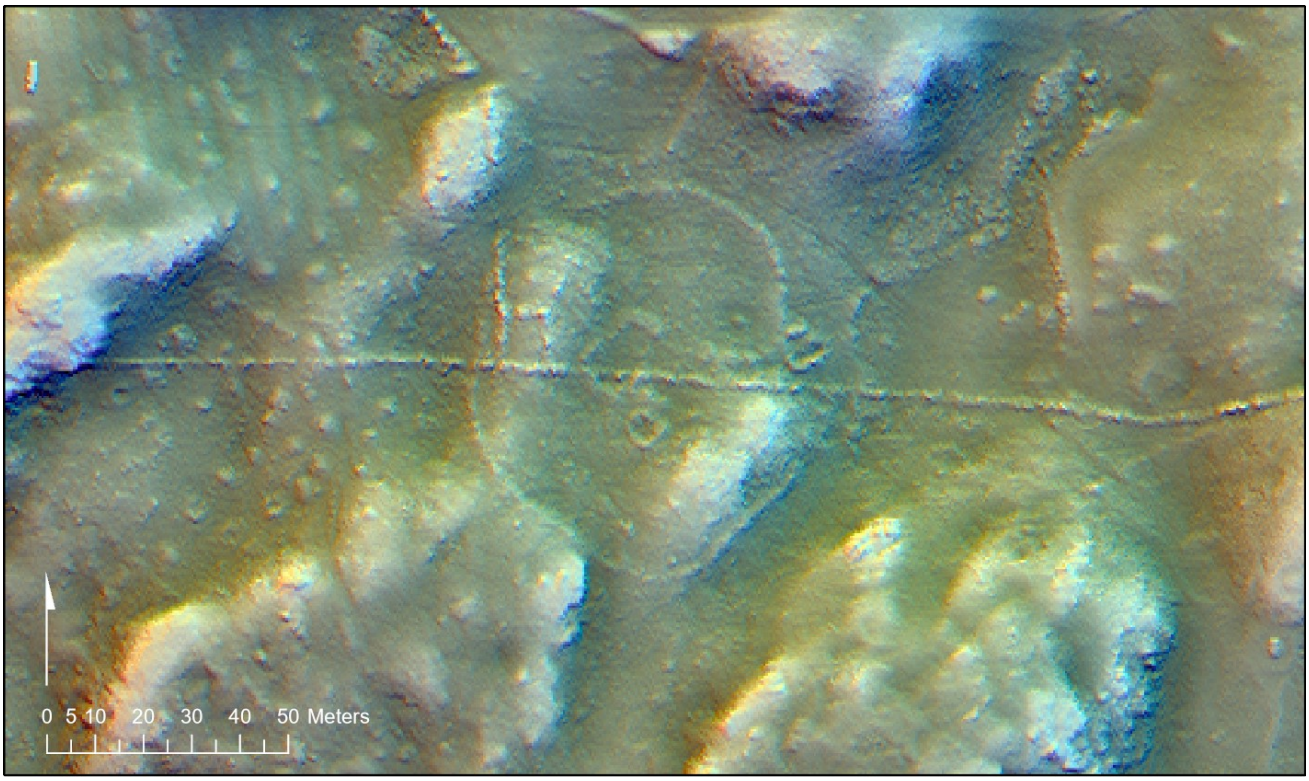



*Figure 9: Remains of a rectilinear building and possible smaller cellular structures within a curvilinear enclosure, overlain by a modern field dyke which bisects the site. The remains of a probable prehistoric cairn field are visible beneath later rig and furrow to the west.*

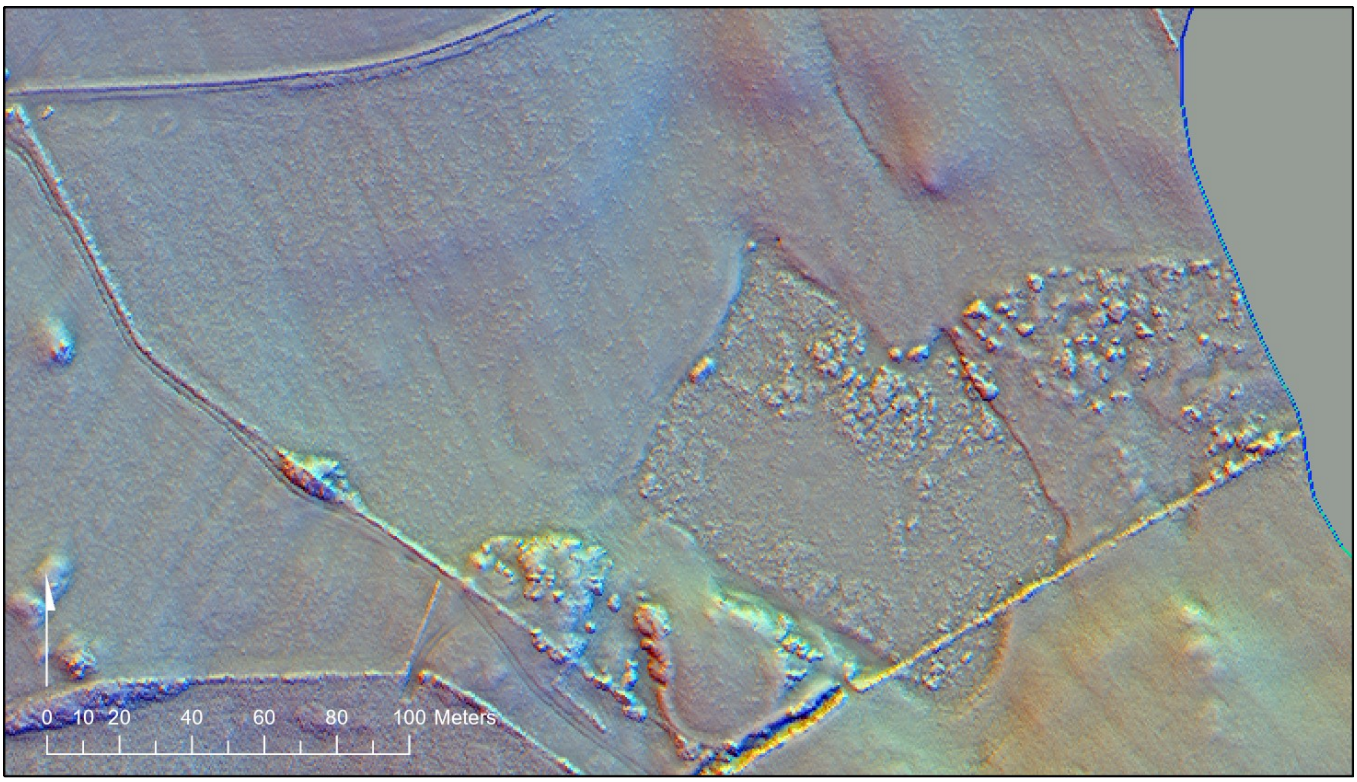
Another oblong building of unknown date (349) was also identified at the Isle of Whithorn, near St Ninian's chapel. The structure is aligned E-W, c.15m by 9m with denuded walls that appear to underly the surrounding rig and furrow. Little can be said of the purpose of the structure, and it may be a simple agricultural hut or store, but the proximity to St Ninian's Chapel is tantalising. Radford's excavations at that site showed that the current building (much rebuilt by William Galloway for the Marquess of Bute (Ritchie 2012)) dates to the 1300s, with evidence for a precursor perhaps of twelfth or thirteenth century date (Ralegh Radford et al. 1997; Oram et al. 2010). The relationship between the structure identified in the LiDAR data and the outer enclosure surrounding St Ninian's chapel, which Thomas suggested could be decidedly earlier than the 14th century chapel and which the structure abuts (Thomas 1961, 73), remains uncertain and could only be demonstrated through excavation. The building was visited during the field survey (below).

*Wetlands and fresh water*

LiDAR does not typically respond well to bodies of water, since the laser pulse from the surveying instrument is scattered and refracted, while the moving surface of the water results in noisy data even in the best conditions. However, in some areas, useful data for sites that are otherwise very difficult to survey have been obtained. Long Island, Mochrum Loch (Canmore ID: 62899) is a good example: listed among a survey of crannogs in the 19th century (Wilson 1873), the island is otherwise unsurveyed. The LiDAR shows three sub-rectangular buildings (Figure 10); two are aligned NW/SE while the third, close to the western extent of the island, is aligned NE/SW. All three are small (the largest c. 12.5 by 9m). There is no evidence that the island is either artificial or artificially enhanced, but the Rev George Wilson, an antiquarian familiar with crannogs and related wetland archaeology reported the presence of oak timbers and stakes at the location (RCAHMS 1912; cf. Wilson 1873, 80).

At other locations, the presence of conspicuous mounds in areas of bog or probable drained wetland may indicate the presence of wetland settlement. Examples include a prominent circular platform near Low Glenling on the Water of Malzie (no. 23) and a circular islet in a small lochan at Crailloch (no. 26). Other small circular features in water bodies, such as that in Fell Loch (no. 152), may be attributable to algal bloom or weed growth, but certainly constitute targets for assessment by future wetland surveys.

A significant identification is at the Loch of Sinniness (Figure 11), where a penannular ditch located close to the south shore of the former extent of the loch may be the



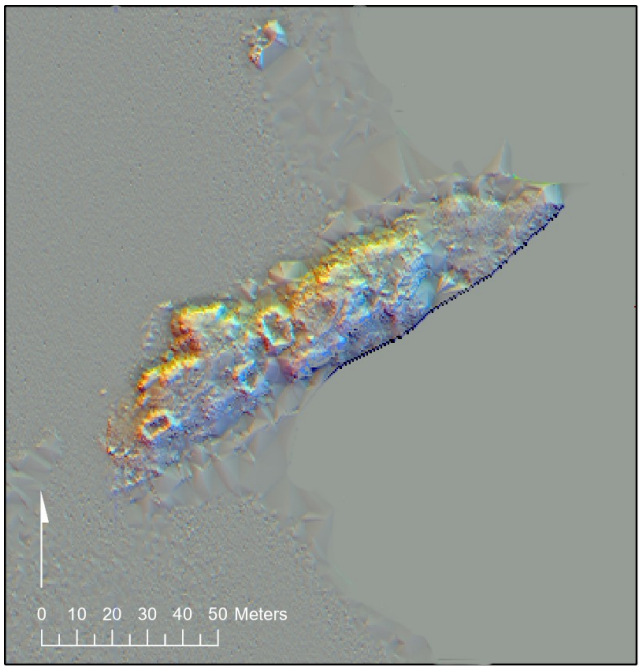




*Figure 10 (left): Rectangular buildings on Long Island, Mochrum Loch.*

*Figure 11 (above): A possible wetland settlement is visible as a dark ring at the west end of the former Loch of Sinniness.*

crannog-like structure first identified by Wilson (Wilson 1874, 738). Although recorded as a possible site by Wilson in the later 19th century, the location had been listed as unconfirmed by all subsequent surveyors and has never been confidently located. The circular feature visible in the drained area of the loch may indicate the position of the artificial islet suggested by Wilson's notes, but trial excavations or coring would be required to determine this reliably.

**Field Surveys**

Following the citizen science element of the project, some limited field surveys were carried out in order to verify- or rule out- some of the identifications contributed by project volunteers. The surveys were carried out in July 2021. Where sites were considered to be correct identifications, their extents were surveyed using dGPS and a photographic record compiled.

***Site 235 – Quarry;*** *Reclassified*

What was thought to be a possible enclosure was identified on the LiDAR imagery c. 600m to the ENE of Morrach Farmhouse (NX43NE94). Site visit revealed this to be a quarry and related dumping.

***Site 1124 – Possible enclosure;*** *Discounted*

A possible sub circular enclosure 37m externally in diameter defined by bank 2-3m wide, bisected by a later NE-SW field boundary was identified on the LiDAR data.

Site visit revealed this to be a natural feature, formed of

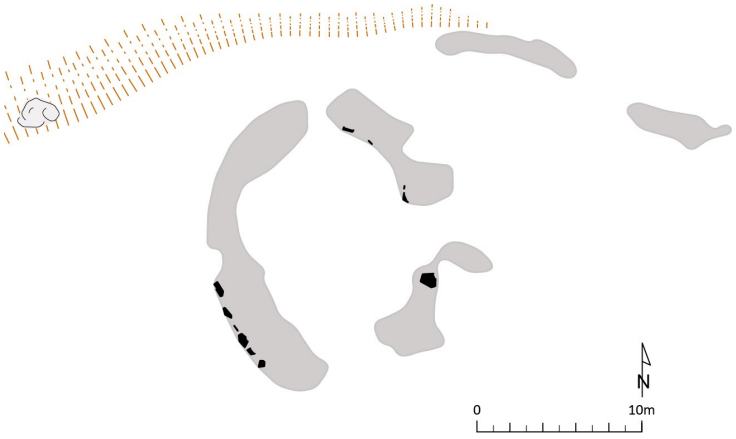



*Figure 12: Remains of a possible hut circle, Alticry (Site 1122)*

bedrock ridges. Nothing suggestive of past occupation could be seen.

***Site 215 – Farmstead and enclosure,*** *Confirmed*

Farmstead marked as ruinous on the OS 1st edition (Wigtownshire sheet 24 – 1850) (see Figure 5). This farmstead comprises a rectangular building 18.6m NE-SW by 7.3m externally with walls 1.5m wide, split into two rooms. The southern room has an entrance in the centre of the SE wall. The northern room has two directly opposing entrances in the SE and NW walls, suggesting that this room had at least a partial/occasional use as a threshing barn.

Attached to the SW side of the building is a pear-shaped enclosure 29.7m by 26.8m, the southern edge of which is truncated by a later dry-stone field boundary wall. Surrounding this pear-shaped enclosure but not within it there are traces of rig and furrow cultivation.

On a sight rocky outcrop 30m to the E of the building is an enclosure. This enclosure is 32.9m by 26.2m externally with walls up to 5mm thick. There is a possible entrance on the NW side of the enclosure defined by a series of earth fast stones. A second possible entrance lies in the north of the enclosure. Overlying the centre of this enclosure is a small (6.8m by 6.5m) sub-triangular pen, Overlying the walls of the enclosure to the SW are two square enclosures, that use the current dry-stone field walls as their SE sides.

The enclosure on the rocky knoll may be associated with the farmstead to the immediate west. However, there is the possibility that this overlies an enclosed later prehistoric settlement on the rocky outcrop.

***Site 878 Possible structures;*** *Discounted*

A series of possible circular structures were identified in the LiDAR imagery c. 400m to the south-west of Airyolland Farm (NMRS: NX34NW 9). Site visit revealed no evidence of these being built structures, these are a result of recent stone clearance and dumping.

***Site 1123 – Possible Crannog;*** *Possible*

Sub oval mound 30.5m ESE-WNW by 24.5m located in area of forestry plantation marked on OS 1850 and 1896 (Wigtownshire, sheet 29) mapping as boggy ground thought to be a possible crannog. Inspection on the ground provided no evidence that could confirm the mound is artificial; it is likely that trial excavation would be needed to confirm or rule this out.

***Site 1122 – Hut Circle;*** *Confirmed*

Hut circle located on an undulating terrace 400m to the southeast of Alticry Farm. (Figure 12) The site is formed of a penannular earth and stone bank 16m in external diameter, with an entrance in the SSE. The earth and stone bank is between 2.4m and 3.0m wide and survives up to 0.3m high. Facing stones of the bank can be traced around the south-west exterior quadrant and the eastern extent of the interior. A fragmentary bank extends for c.20m WNW-ESE to the north-east of the hut circle.

***Site 718 – Whaup hill***

A possible curving bank extending around the north-east side of Whaup Hill was identified on the LiDAR imagery. Site visit showed that this area had seen large amounts of

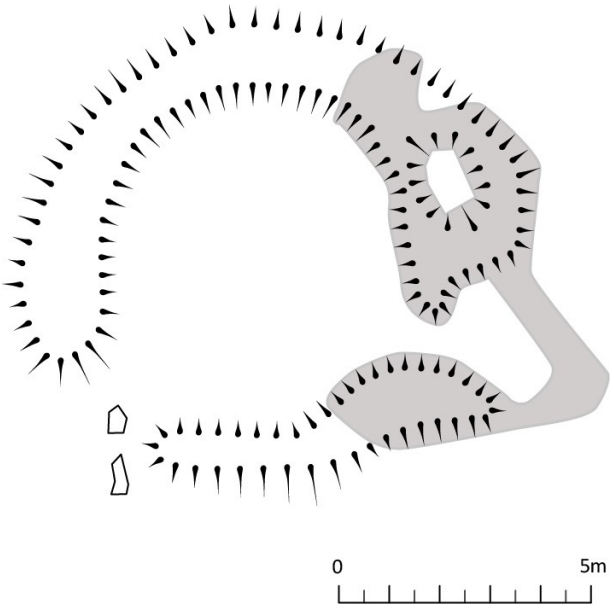



*Figure 13: Hut circle, site 198.*

modern disturbance and it is likely that the bank like features seen on the LiDAR are wheel ruts formed during this disturbance.

***Site 198 – Hut circle in area of later remains***

Possible hut circle located on a slight terrace of the southwest facing slope of Garheugh Fell (Figure 13). The possible hut circle comprises a sub circular stony bank 2.7m wide, surviving up to 0.3m high and 10.7m in external diameter. There are gaps in the bank to the southeast and southwest, one of which may have been the entrance. The possible hut circle is surrounded by later dry-stone field boundary walls and enclosures.

**Geophysical Surveys**

As a means of providing further detail on some of the sites identified by the citizen science project, geophysical surveys were carried out two sites. The first comprises the ploughed out remains of a defended enclosure at Killantrae Bridge (Figure 14), marked on the first edition Ordnance Survey map and visible only as faint traces in the LiDAR dataset, while the second is at the site of a newly-identified building at St Ninian's chapel (Figure 17).

*Methodology*

All geophysical survey work was carried out in accordance with recommended good practice specified in the EAC guideline documents published by Historic England (Schmidt et al. 2016) and the Chartered Institute for Archaeologists Standard and Guidance for archaeological geophysical survey (2014). Parameters and survey methods were selected that were suitable for the prospective aims of the survey and in accordance with recommended professional good practice (Schmidt et al. 2016). The survey was carried out using a Sensys MAGNETO® MXPDA push-cart magnetometer system. The cart utilises four FGM650/3 fluxgate gradiometer sensors mounted upon a frame along with data logging equipment and batteries.

Data was collected using zig-zag traverses alongside a constant stream of GPS data collected through a Trimble R10 GPS, enabling the collected data to be spatially georeferenced without the need for a pre-determined grid system. The data and measured tracks were collected through the data acquisition unit MXPDA and visualised through a tablet PC mounted to the cart.

Care was taken to attempt to avoid metal obstacles present within the survey area, such as metal fencing around hedge boundaries as gradiometer survey is affected by 'above-ground noise' and avoiding these improves the overall data quality and results obtained.

The data was downloaded via USB and converted using DLMGPS and Geoserver before being processed (compensated) using MAGNETO® 3.0 software and Terrasurveyor. The details of these processed can be found in Appendices 3 and 4. Interpretations of the data were created as layers in ArcGIS Pro.

*Results and Interpretation*

The gradiometer survey results have been visualised as greyscale plots and XY Traces in Figures XX & YY. The minimally processed data is plotted as an XY trace at 15nT/cm while the processed data is displayed as a greyscale image plotted at -2nT to 3nT.

For the most part, only trends of a possible archaeological or historical origin have been assigned an anomaly number on the interpretation figures. Trends that are integral to the discussion have also been assigned anomaly numbers (Figure 15, c).


*Figure 14: Location of the geophysical survey at Low Clone farm, Killantrae Bridge.*

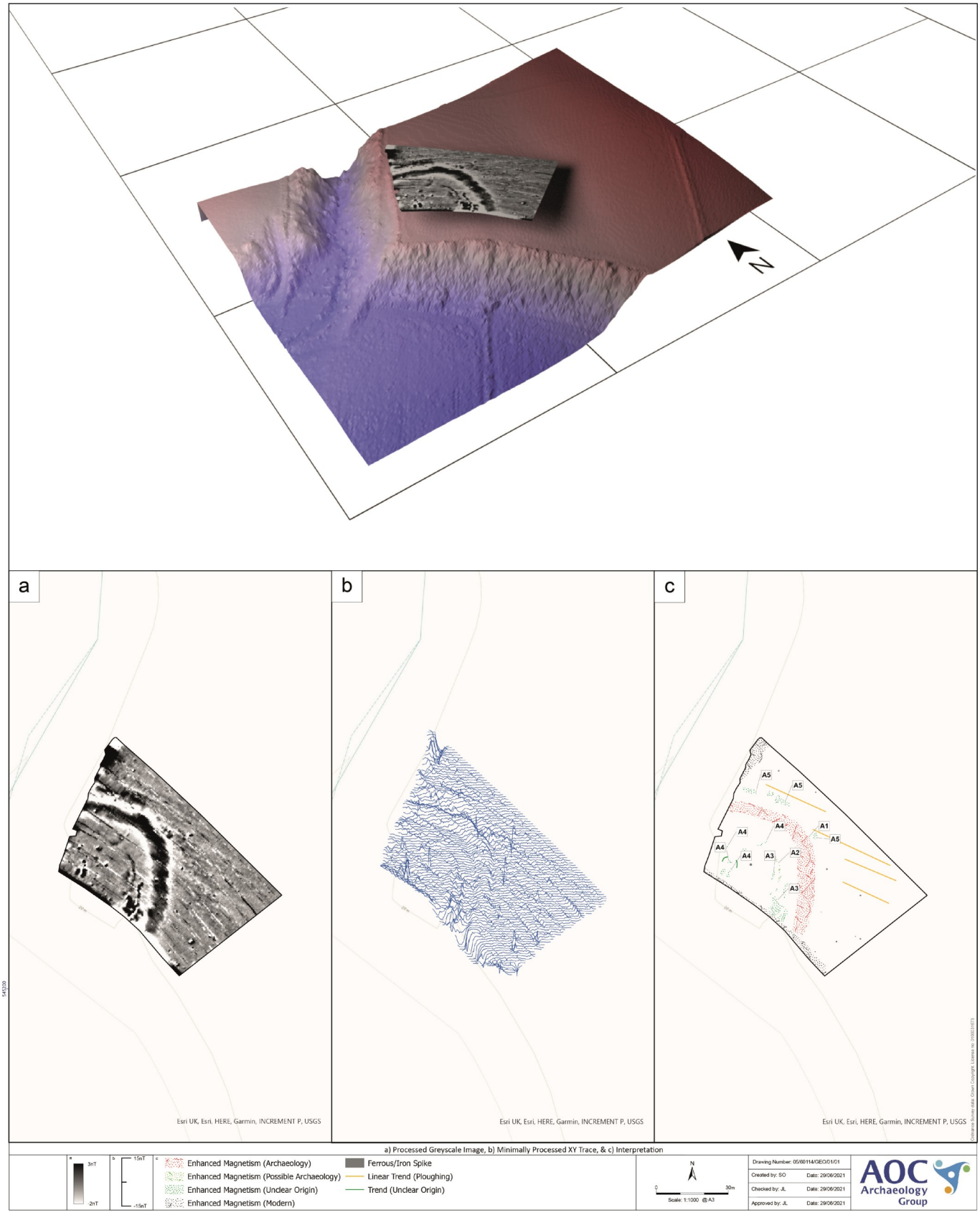



*Figure 15: Gradiometry results overlain on LiDAR terrain model (top). Plots of processed data (a), trace plot (b) and interpretation (c ).*

***Site 1126 - Killantrae Bridge – Settlement NX34NW 7***

An arc of rough ground is depicted on the OS 1st edition mapping and marked as 'site of fort' on the subsequent 1896. Mr Wallace, occupier of Low Clone farm in 1977, thought that there was a mound but that this was removed and used in construction of the nearby fam road c. 1830. All that remains on the site now is a very slight curving depression that can be partially traced cutting off


*Figure 16: Killantrae Bridge: the earthwork depicted on Gillone's estate map of 1777.*

the eastern corner of the field. The earthwork is shown on Gillone's estate map of 1777 (Figure 16), and indicated as the site of a former antiquity on the first edition Ordnance Survey map.

*Magnetometry results (Figure 15)*

A broad well-defined curving ditch type anomaly has been detected in the western half of the survey area (A1). The ditch is approximately 7m wide but is not very magnetically enhanced. However, whether this is due to the nature of the feature fill, and associated activity, or due to subsequent truncation and / or dune inflation is not clear. A feature is visible in aerial photographs of the area which shows good correlation with the anomaly.

*Possible Archaeology*

A relatively well-defined curving anomaly of a possible archaeological origin has been noted within the large postulated ditched enclosure discussed above (A2). The orientation of the anomaly appears to respect (A1) and is likely to be associated with it.

*Unclear Origin*

Several amorphous zones of magnetic enhancement (A3) of an unclear origin have been noted within (A1) and adjacent to the south of (A2). While it is possible that these anomalies indicate archaeologically significant deposits associated with settlement, a precise interpretation is difficult. It has been noted that a previously existing mound in the area was cleared in the 1800's and as a result any archaeological interpretation is tentative.

Comparable discrete areas of magnetic enhancement have been noted in the west of the area (A4), still with (A1) and adjacent to curvilinear trends. As with responses (A3) an archaeological interpretation is cautious, but cannot be dismissed, although a modern and / or natural origin is equally plausible.

Interpretation of the areas of enhanced magnetism (A5) beyond the ditched enclosure is uncertain. While these may indicate fragmentary remains of an outer ditch, such an interpretation is extremely cautious with a natural or agricultural origin being equally likely.

*Agricultural*

Very weak trends have been noted which are thought to have an agricultural origin. Although the field has been predominantly under pasture there is some evidence for recent arable farming.

*Non - Archaeology*

Magnetic disturbance is visible around the periphery of the Site and relates to modern metallic boundary fencing, adjacent infrastructure, and modern debris at the field edges.

A moderate level of isolated dipolar anomalies (ferrous / iron spikes) are visible throughout the dataset which are likely modern in origin.

Examination of a scarp on the south-west side of a farm track leading up the side of the Bar Burn revealed a section of exposed soil. Cleaning of this showed a shallow sided broad based ditch 2.3m wide and 0.5m deep, filled with a compact mid-orange brown silty sand. This would seem to correlate in location with feature A2 identified in the geophysical survey.

***Site 1125 – St Ninian's Chapel***

Sitting 15m to the NW of St Ninian's Chapel (NMRS: NX43NE 6) are the possible remains of a sub-rectangular turf and stone building oriented E-W, measuring 16.1m by 9.9m externally (Figure 18). The walls are reduced to low earth and stone banks, between 1.2m and 2.1m wide and surviving up to 0.3m high. There is no clear entrance to the structure but this may have been in the western wall.

The location and east-west orientation of this structure open up the possibility that this is an early chapel, the precursor to the stone-built structure to the south-west.

The geophysical survey (Figure 19) revealed an area of enhanced magnetism of a possible archaeological origin (B1) that coincides with earthworks indicative of a structure, however the gradiometer response is not coherent. Magnetometer survey is not ideally suited to mapping structural remains. However, the enhanced magnetism is suggestive of anthropogenic activity / settlement.

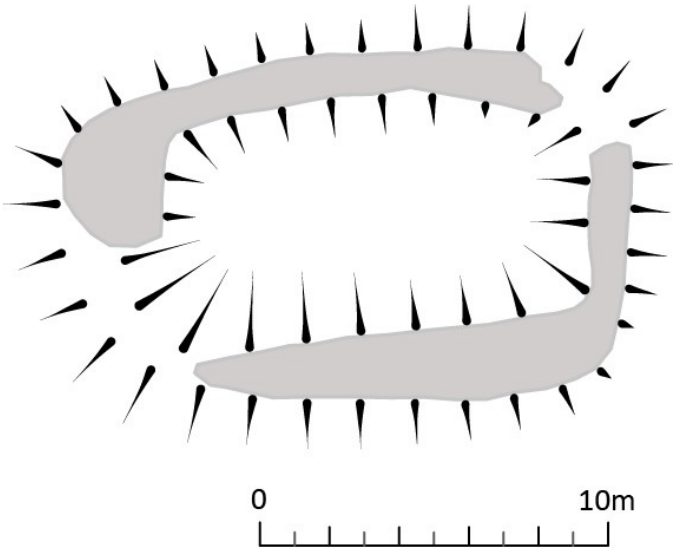
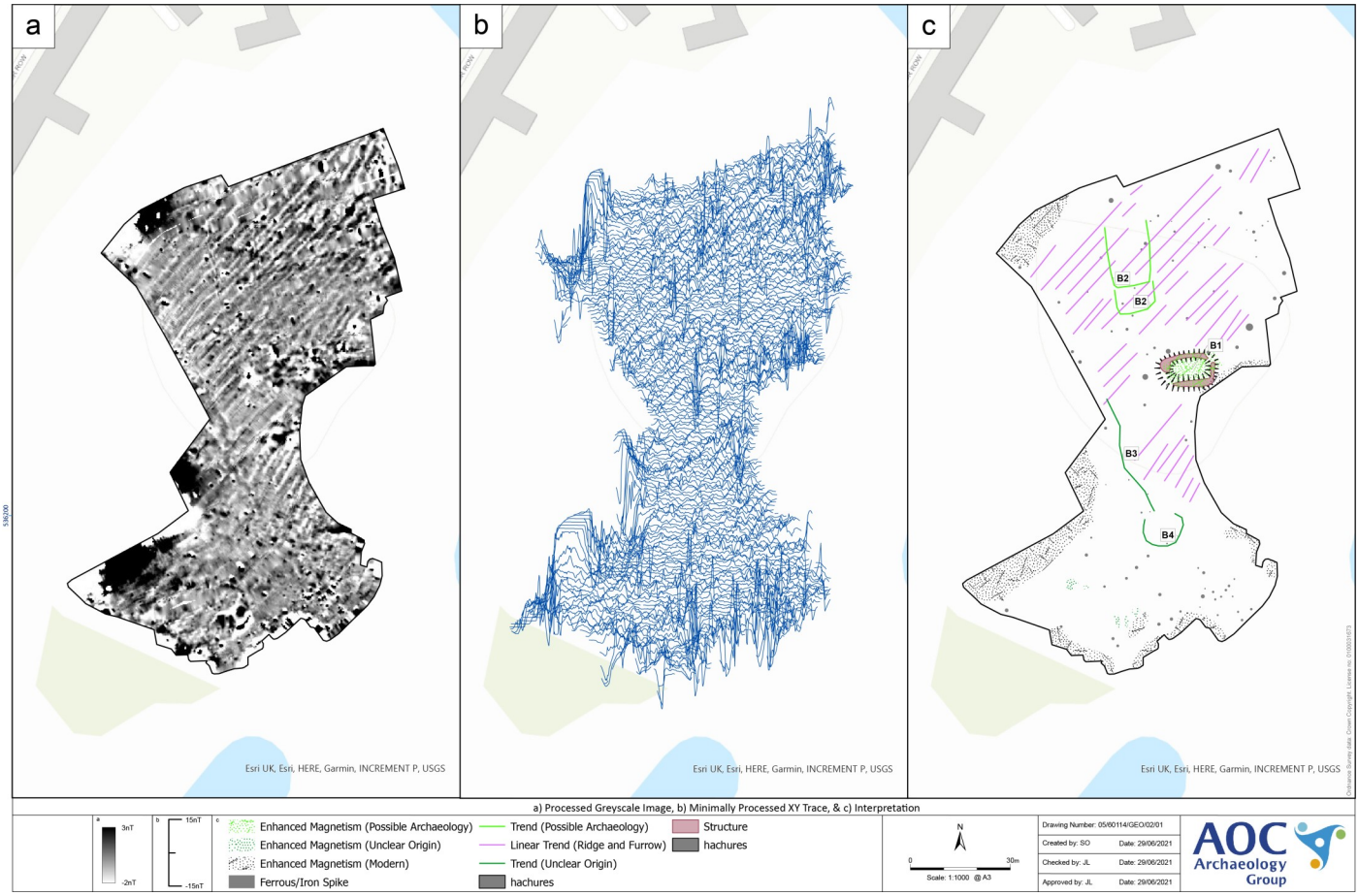




*Figure 17 (left): Location of gradiometry survey at Isle of Whithorn.*

*Figure 18 (above): plan of the newly-identified building.*

*Figure 19 (below): results of the gradiometry survey (a), trace plot (b) and interpretation (c ).*



Weak rectilinear trends (B2) suggesting possible enclosures have been detected to the north of (B1). While these responses are weak and the data is confused by an elevated level of background response generated by modern contamination and past agricultural activity, the trends are coherent and on a comparable alignment to the earthwork discussed above suggesting (B1) and (B2) may be contemporary.

Weak trends of an unclear origin have been noted (B3) in the centre of the survey area. While an archaeological origin for these cannot be dismissed, it is likely that they are associated with modern footpaths and / or natural variations.

A curving trend of an unclear origin (B4) has been noted to the south of (B3). While it is suggestive of an enclosure, such an interpretation is extremely cautious given its ephemeral nature.

Several discrete zones of magnetic enhancement have been noted in the south of the area. However, several appear to be associated with ferrous response while others are suggestive of natural variations As a result an archaeological interpretation is cautious.

*Agricultural*

The data are dominated by trends on a northeast to southwest alignment. These correspond with earthworks visible on the surface and are typical of past ridge and furrow cultivation.

*Non - Archaeology*

Magnetic disturbance is visible around the periphery of the Site and relates to modern metallic boundary fencing, adjacent infrastructure, and modern debris at the field edges.

A moderate level of isolated dipolar anomalies (ferrous / iron spikes) are visible throughout the dataset which are likely modern in origin.

*Geophysical Surveys: Conclusion*

The survey at Low Clone has detected a well-defined curving ditch type anomaly with some evidence for internal anomalies which may be significant. However, interpretation of potential internal structures is tentative as it has been recorded that a mound that existed on the site was removed in the 1800s.

The results from the survey on the Isle of Whithorn are dominated by agricultural responses, modern disturbance, and responses from modern ferrous debris. A relatively well-defined area of magnetic enhancement has been noted over a small structure visible as an earthwork. Additional rectilinear trends have been

## Additional Site Research

The following entries were contributed to the project by volunteers using the LiDAR dataset and historic maps. Entries were contributed by Lynn Wheatley, Joe Rock and Isla Scott.

| | |
|---|---|
| **Site ID Number** | 984 and 947 |
| **Type** | Church (possible) |
| **Measurements** | 93.4 x 38 meters |
| **Associated Canmore reference (s)** | N/A |
| **Presence on 1st Edition OS Map** | Unmarked |
| **Other Map References** | Roy marks the hill name, Blaeu shows it on the coast, Acc to McKerlie Pont has it on his survey of 1608 -1610 |
| **Notes** | Lost early church in use 600ish to 1200, circular area and what looks like a cleared area for a building. O.S Name book says Kilfillan Hill could be Cill Filliain. McKerllie states St Fillian was favourite saint of Robert the Bruce, chapel dedicated to him near Garlieston, site known but no trace now. Several books report Sorbie or Sourbie was originally two parishes, greater and little, both having a church, one at Culnoag and one just outside Garlieston dedicated to St Fillian. The church of Greater Sourby was granted to Dryburgh Abby by Ivo De Veterpont of Sorbie Tower, the grant was confirmed by Roland of Galloway c. 1189. |

| | |
|---|---|
| **Site ID Number** | 459 |
| **Type** | Buildings |
| **Measurements** | 31 x 20 meters |
| **Associated Canmore reference (s)** | |
| **Presence on 1st Edition OS Map** | Unoccupied, unroofed or ruinous |
| **Other Map References** | Blaeu - Kilstyre. Roy - Kilsture, Thomson Killstour, Ainslie - Killstoure. |
| **Notes** | Kilsture or Creuch, tower of Alexander Gordon of Kilsture or Creuch/ Creech, signatory of the Sanquhar Declaration in 1680, and one of the prisoners who escaped at the ambush at Enterken 1684. Forest called Kilsture, settlement called Kilsture, it is next to Creech mill. The forest covers an area that has been well maintained at some time; drainage ditches stone are lined. There are visible remains of buildings and probable rig and furrow. |

| | |
|---|---|
| **Site ID Number** | 296 |
| **Type** | Mill (possible) |
| **Measurements** | / |
| **Associated Canmore reference (s)** | n/a |
| **Presence on 1st Edition OS Map** | Marked as antiquity (Antiquity font) |
| **Other Map References** | Roy shows river, on OS map of 1850 |
| **Notes** | Figure 20. Remarks in OS name book.<br>About 2 miles SW (South West) of Isle of Whithorn village. The site of an old corn mill which stood here many years ago, it is on the estate of J.F. Hawthorn Esq of Castlewigg Mr McKie of Morrach says that Bysbie was the ancient name of a small estate here, including the farms of Drumorral, Cutroach, Morrach & Cutcloy.<br><br>Bysbie was ancient baronie, signed Ragman Roll, the main site was Cutroach, Houston's of Cutroach son Houston of Drummoral built a castle at the Isle of Whithorn in 1684, and probably moved the mill to the Isle at that point. The river at the old mill is now dry. |

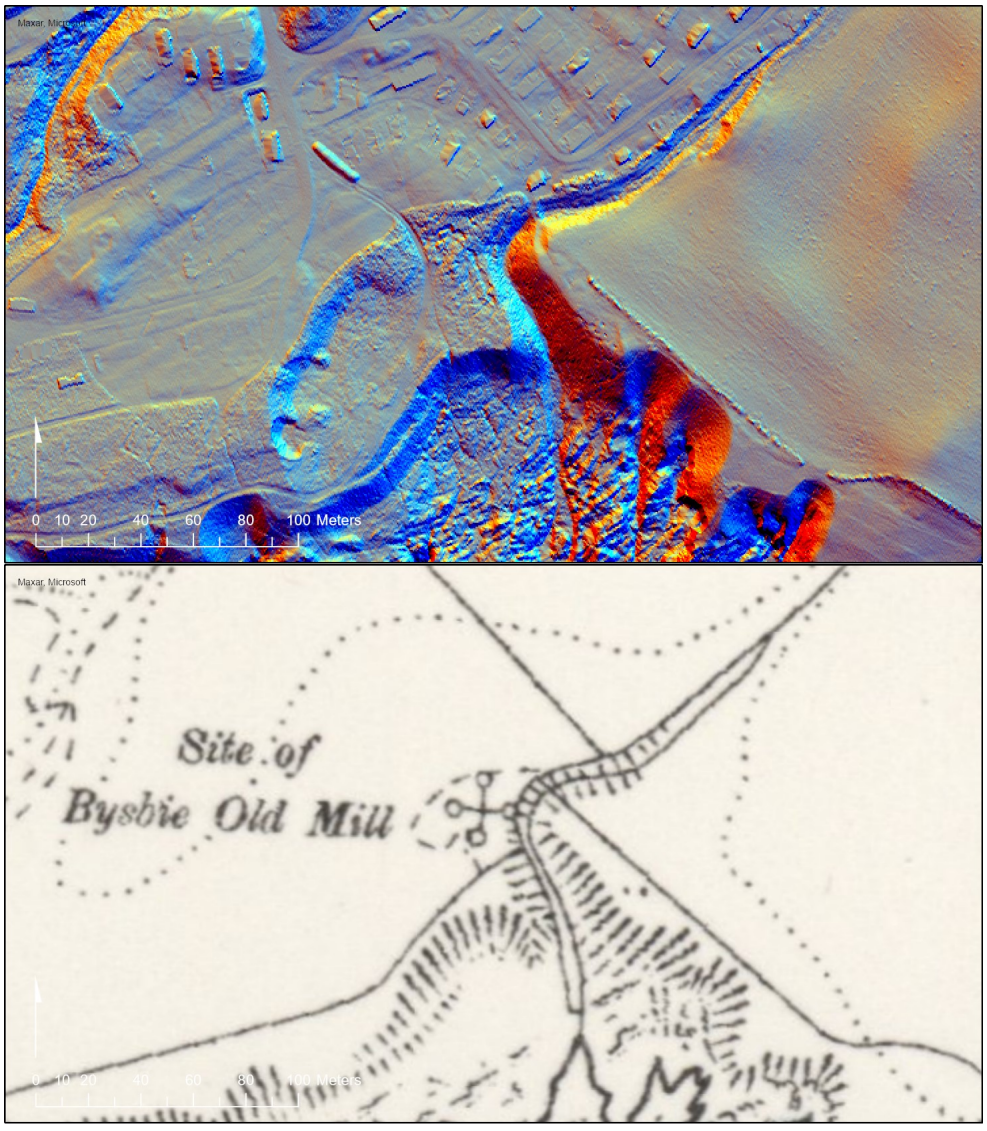



*Figure 20: Location of the site of the former mill at Bysbie as shown in the LiDAR dataset (above) and as depicted on the first edition of the Ordnance Survey map (below).*

| | |
|---|---|
| **Site ID Number** | / |
| **Type** | Chapel (possible) |
| **Measurements** | Approx 116 x 91 m |
| **Associated Canmore reference (s)** | 606 RC Chapel |
| **Presence on 1st Edition OS Map** | Marked as antiquity (in Antiquity font) |
| **Other Map References** | |
| **Notes** | According to Pocock, Balnespic is ½ mile south east of Whithorn Priory. No remains are visible but the site is still known by locals. A long thin rectangular garden facing the sea, the site answers all parts of Pocock's description. |

| | |
|---|---|
| **Site ID Number** | 1172 |
| **Type** | Village |
| **Measurements** | / |
| **Associated Canmore reference (s)** | n/a |
| **Presence on 1st Edition OS Map** | Unmarked |
| **Other Map References** | / |
| **Notes** | Village of Powton or Englishtown, removed to the current site and called Garliestown when Galloway House was built in 1740/50. |

| | |
|---|---|
| **Site ID Number** | 585 |
| **Type** | Fey house (possible) |
| **Measurements** | Approx 31 x 34 m (second structure is visible to the north west) |
| **Associated Canmore reference (s)** | Canmore ID 175906 this ID is for structure to NW |
| **Presence on 1st Edition OS Map** | Unoccupied, unroofed or ruinous |
| **Other Map References** | Small group of houses on Monreith map annotated as Fey houses [the Monreith map is on a west/east orientation according to the position of the two small hills. |
| **Notes** | Three occupied houses in 1778, one where the orange dot is shown is occupied; the one where the red dot is located is shown as unoccupied on the 6" 1850 OS map. Fey houses are usually attached to a church. |

| | |
|---|---|
| **Site ID Number** | 1188 |
| **Type** | Mill, possible |
| **Measurements** | no data |
| **Associated Canmore reference (s)** | no reference |
| **Presence on 1st Edition OS Map** | Unmarked |
| **Other Map References** | On Gilone map Appleby mill and Appleby Loch, on Aisley's map on Thompson's map and on Roy's map no trace on OS maps. |
| **Notes** | Mill and large loch at this location until 1829, it was completely gone by 1854. Mill may be under Appleby farm buildings. Gilone devotes three maps to Appleby. Norse placename suggests activity from early medieval centuries. |

| | |
|---|---|
| **Site ID Number** | 1197 |
| **Type** | Mill, possible |
| **Measurements** | n/a |
| **Associated Canmore reference (s)** | |
| **Presence on 1st Edition OS Map** | Unmarked |
| **Other Map References** | Roy, site between Balcroy and Arbrake<br>On Ainsley's map sited between Balcrey and Low Ersock,<br>Thomson's map sited between Balcray and Low Arrow. |
| **Notes** | Mill of Arbrack, on Drummulin Burn near the road. All three maps show it in a slightly different place but the mill was marked there for 100 years before being omitted from the 1st edn Ordnance Survey map. |

| | |
|---|---|
| **Site ID Number** | 1198 |
| **Type** | Farmhouse |
| **Measurements** | 15 x 10 m |
| **Associated Canmore reference (s)** | 175876 |
| **Presence on 1st Edition OS Map** | Unoccupied, unroofed or ruinous |
| **Other Map References** | all O.S. 6" maps |
| **Notes** | OS 1st edn map shows site as Kirrone in ruins. From OS name book: a ruin of a house which was formerly a farm house with a farm of land attached to it, but is now held along with the farm of Auchingailly. Occupied by James Mair. About 15 chains south is a Triangulation Station called by Triangulation Party 'Aushangaily'.<br>¾ mile SW of Chilcarroch Loch. |

| | |
|---|---|
| **Site ID Number** | 904 |
| **Type** | Yett, gate house, possible |
| **Measurements** | |
| **Associated Canmore reference (s)** | |
| **Presence on 1st Edition OS Map** | n/a |
| **Other Map References** | n/a |
| **Notes** | Culderry and Yetton belonged to the Baronie of Kirkmadrine according to McKerlie. Yetton was also spelled '*Itoune* 'and '*Zetton'*. Maxwell gives the derivation as Yett Tuin, gate house. In the 1667 land tax records it is shown as in the Parish of Kirkinner with a value of £502, 6/8.<br><br>Yetton appears in Bleau's map and also on Roy, Ainsley and Thomson, but not even as a ruin in OS map of 1845. Only Culderry survived. On Roy's map it appears between Kirkmadrine and Innerwell, in the others it appears to be between Kirkmadrine and Culscadden. |

| | |
|---|---|
| **Site ID Number** | 1212 |
| **Type** | Boathouse |
| **Measurements** | |
| **Associated Canmore reference (s)** | n/a |
| **Presence on 1st Edition OS Map** | Unoccupied, unroofed or ruinous |
| **Other Map References** | 1843 6" OS, 1894 25"OS; current Google aerial map; too small for Roy Ainsley or Thomson , not on Monreith estate so not shown by Gilone |
| **Notes** | LiDAR shows a loch a deep cut running to the site and some disturbed ground. The 1895 25" OS shows a loch, a boat house, a cottage at Cawn Lane and a row of roofed cottages. 1843 6" OS map shows roofed cots at Cawn Lane, dog kennels and a row of roofed cottages called Beggar Row, no loch or boat house but the line of the road/path leading to boat house is present. The Google aerial map shows walls either side of the path, outlined by trees. A green smudge called Rouchan Pond, where boat house was located another clump of trees. |

| | |
|---|---|
| **Site ID Number** | 1214 |
| **Type** | Location of chapel |
| **Measurements** | 42 x 35 approx |
| **Associated Canmore reference (s)** | N/A |
| **Presence on 1st Edition OS Map** | Unmarked |
| **Other Map References** | unmarked |
| **Notes** | It is known that a Chapel existed in the vicinity of Chapel Outon Farm. It is marked on all OS maps, however on sign of a building appears in the LiDAR data. This site is very close to the site marked by the OS and has signs of a path or road running from it to the Whithorn/Garlieston road. |

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