



Solway Coastwise and SCAPE

Coastal recording at Redkirk Point, Gretna, Auchencairn, Dalbeattie, & Cairnhead Bay, Wigtownshire April 2019



Exploring the Cairnhead Bay Mulberry Beetle

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Summary

As part of the Solway Firth Partnership's (SFP) Coastwise project, the SCAPE Trust was invited to collaboratively deliver a series of activities on the Solway coast to connect local communities with their coastal heritage.

Over a long weekend from 12th to 15th April 2019, three stretches of coastline were visited at Redkirk Point, Gretna; Auchencairn, Dalbeattie and Cairnhead Bay, Whithorn with groups of local people, volunteers and the Solway Coastwise team (figure 1). Archaeological sites at each were visited, explored and discussed. Local knowledge, placename evidence, history, specialist information, archaeological perspectives and the wider historical context of the sites were shared by the participants. Archaeological sites were recorded to various levels of detail and training in survey techniques was delivered as appropriate.

A total of 33 archaeological site records (referenced in the text as **bold numbers** and included with illustrations and comprehensive descriptions in the gazetteer) have been created or enhanced, and the results of the survey work have been entered into the Scotland's Coastal Heritage at Risk Project (SCHARP) interactive web-based Sites at Risk Map (<u>http://www.scharp.co.uk/sites-at-risk/</u>) and made available to the public. Four of these were identified as highest-priority sites due to their archaeological significance and vulnerability to loss through coastal processes (three of which were added to the record through this work, one previously-recorded site retained a high-priority ranking). Three were identified as medium-priority sites (one which was added to the record by this project, and two previously-recorded sites which retained their medium-priority ranking).

The records have been shared with the Dumfries and Galloway Historic Environment Record and Scotland's National Monuments Record (Canmore) both available online through the Pastmap portal (<u>https://www.pastmap.org.uk/</u>) and the results of the project have been disseminated through SFP's and SCAPE's networks and social media.

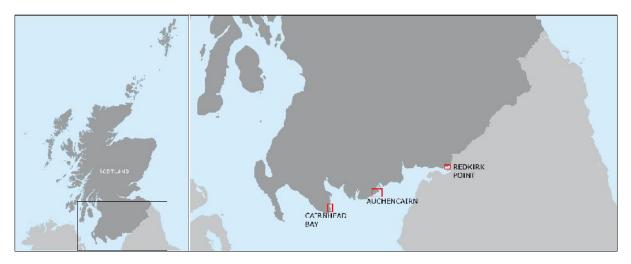


Figure 1. Location map of the three areas visited on the Solway coast. Base map © Maproom at www.maproom.net

1. Background

Following initial research and a planning visit in March 2019, three areas were chosen for activities:

- Redkirk Point, Gretna,
- Rascarrel to Auchencairn, near Dalbeattie,
- Cairnhead Bay, Portyerrock, near the Isle of Whithorn.

The shared aims across all the activities were to:

- 1. offer opportunities for local people to visit the coast, engage with and enjoy and learn about coastal heritage;
- 2. share their knowledge of the area and its history;
- 3. learn survey and archaeological skills;
- 4. enhance the archaeological record of coastal heritage.

Different formats of event were offered at each area, with different approaches and specific objectives as appropriate to the archaeological remains of each.

The Solway Coastwise team managed the organisation, advertising and bookings for each event, which all attracted a diverse range of participants from across the Solway Firth area.

2. Redkirk Point

2.1 Organisation, objectives and methodology

A half-day guided walk with members of the local community to Redkirk Point, Gretna covered the environmental history of the landscape, discussed coastal change, rising sea levels and erosion (figure 2). The landowner joined the event and was able to provide an up to date perspective on the most recent episodes of coastal change and loss of land to the sea.



Figure 2. Guided walk at Redkirk Point with the landowner describing erosion, discussing the recently-revealed wooden post structure and the area's history of coastal change.

Specific objectives were:

- To share the results of research into the past landscape and coastal change in this part of the Solway Firth from the prehistoric to post-medieval periods with a local audience,
- To gather local knowledge of recent coastal change here,
- To gather local information about a recently-exposed structure of wooden posts,
- To create a rapid survey record of this wooden post structure.

The walk covered a short stretch of coastline just under 1km in length (from NY 29656 65445 to NY 30251 65085, figure 3) but encompassed 8000 years of history, from a prehistoric submerged forest to recent attempts to save the coastline from erosion. General photographs were taken of the sites on the route of the walk, and aerial photographs were taken from a drone.

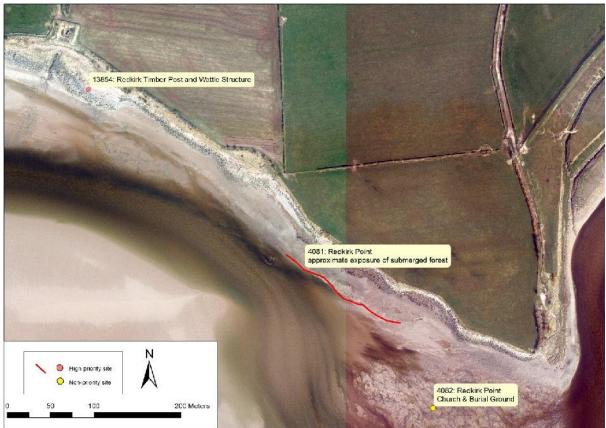


Figure 3. Archaeological sites at Redkirk Point. High Resolution (25cm) Vertical Aerial Imagery [JPG geospatial data], Scale 1:500, Tiles: ny2964, ny2965, ny3064, ny3065. Updated: 5 November 2017, Getmapping, Using: EDINA Aerial Digimap Service, <https://digimap.edina.ac.uk>, Downloaded: 2019-03-08 14:55:01.41

2.2 Landscape and historic environment

2.2.1 Submerged forest

The landscape at Redkirk Point tells a story of rising seas. A peat shelf which is now in the intertidal zone on the banks of the river Esk is a marker of a time when sea levels were much lower at the end of the last Ice Age. Stumps, trunks and root systems of a prehistoric forest, identified as oak, jut out from this submerged former land surface (**4081**, figure 4), which was drowned around 8000 years ago as water levels rose (Cressey et. al. 1997). Other fragments of this lost Mesolithic landscape have been recorded elsewhere around the upper Solway Firth, including across the channel on the south side of the border, and it was probably once a continuous area. This evidence of the prehistoric environment is being lost to the sea for a second time, however, as the peat shelf and underlying clays crumble and erode into the river channel.



Figure 4. A tree stump in the peat at Redkirk Point.

2.2.2 Redkirk

The next episode in the story of dynamic coastal change here relates to the eponymous medieval Red Kirk, which was probably built in the late 12th century and was granted to the monks of Guisborough in c.1170 by Robert de Brus, lord of Annandale. The church itself, of which the only surviving evidence is the name Redkirk Point, probably derived its name from the red sandstone bedrock which is visible in the coast edge and from which it was presumably built. The parish was united with Gretna in 1609, but its church fell victim to erosion in 1675. As the Minister of the Parish of Graitney records in the 1845 New Statistical Account:

"Of that church or church-yard not a vestige now remains. The tide and river whirling violently round that headland have swept them entirely away; but some old people yet remember the unwelcome sight of bones and coffins protruding from the banks, or collected from the beach into a trough, which had been used as a font in the days of popery." (Gordon ed. 1845, 266).

A collection of pottery which has been found on the foreshore at Redkirk Point and dated to the 13th to 15th centuries, along with a piece of vitrified kiln waste, has been interpreted the remains of a pottery kiln located here, though now destroyed by shifting channels.

2.2.3 Wooden structure

At the western end of the walk, at the mouth of a small ditch which drains the agricultural hinterland, a linear grid of wooden posts (**13854**) has been exposed (figure 5). This enigmatic feature runs along the line of the channel for nearly 50m and is built of parallel rows of wooden posts driven into the slope of the riverbank with brushwood woven around them to create wattled sides. Its

purpose is unknown, but various possible functions were debated and speculated upon during the walk, including a boatbuilding dock, quayside, land reclamation or coastal defence.



Figure 5. The wooden structure visible on the bank running parallel with the channel.

Its date is also uncertain but it was probably originally built as some sort of coast edge feature, possibly to give access to the main channel. Historic maps going back to the 1850s show the channel on a completely different alignment, hundreds of metres to the south of its modern course, so it is likely the structure dates to before the 1850s, possibly to the 18th - early 19th centuries when shipping was common in this stretch of the estuary (figure 6). It could have had a dual purpose of consolidating the bank here preventing loss of what is obviously a soft and eroding coast edge, as well as providing a hard for loading and unloading cargo such as coal (Geoff Greenwood, pers. comm.).

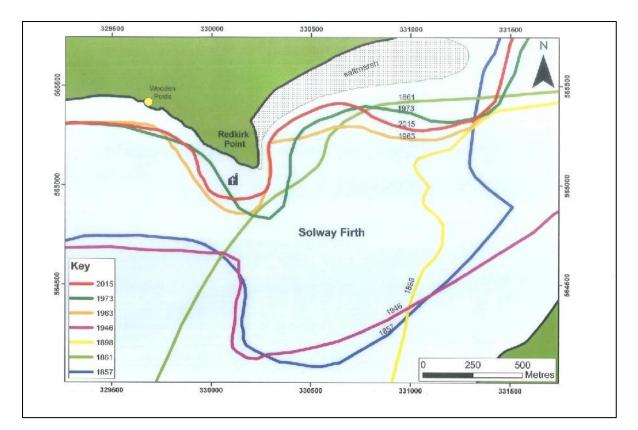


Figure 6. The shifting channel of the River Esk as shown on maps from 1857 to 2015.

2.2.4 Coastal defences

The latest evidence of this is several phases of modern coastal defence constructed of banks of large boulders. However, this has recently been breached (the farmer recalls it happening within the past 10 years) and dramatic erosion of the coast edge can be traced on Google and Bing satellite images, which show around 50m of loss.

2.3 Results

The archaeological record of the submerged land surface and forest (**4081**) was updated with photographs showing the eroding bank and fragments of trees visible in the former land surface, contributing to ongoing monitoring of the vulnerable site. This site was originally assigned a high priority by SCAPE on the basis of the 1996 Coastal Zone Assessment Survey (CFA 1996; Dawson 2010), and remains a high priority site.

The timber post and wattle structure (**13854**) was recorded by ground and aerial photography and a written description added to its record. The drone photography is particularly valuable in creating a record of the erosion in April 2019. As a result of this project, this newly-recorded site has been highlighted as a SCAPE high priority site due to its vulnerability to coastal erosion, and in reflection of the function not yet being fully understood.

3. Auchencairn

3.1 Organisation, objectives and methodology

A two-day event at Auchencairn near Dalbeattie focused on the industrial history of the area and the extractive landscape along this stretch of coastline. During a guided walk on day one, several of participants shared in-depth local knowledge and specific information about the mining history of the region and the Auchencairn area (figure 7). This was followed by a second day undertaking detailed recording of specific features, after volunteers had received a brief introduction to archaeological survey techniques. Particular thanks are due to everyone who joined the walk and generously contributed their knowledge, and enthusiastically took part in the fieldwork. John Pickin, archaeologist and former curator of Stranraer Musuem, co-lead the event, offering insight into the sites and the wider regional context of extractive industries across Solway, and leading a survey team.



Figure 7. Discussing the evidence for salt making at Rascarrel during the guided walk.

Existing archaeological records for this area were sparse, industrial sites in particular were underrecorded and lacking detail. Specific objectives were therefore:

- To enhance the archaeological information and historic environment record for the area,
- To gather local information and knowledge about the industrial and mining history,
- To ground-truth evidence of the mining features identified through research and map regression,
- To carry out rapid photographic surveys of features identified through map regression,
- To create rapid survey records of three specific features identified as of particular interest and not fully understood or characterised,

The walk and fieldwork covered a stretch of coastline *c*.2.5km long between NX 80373 48254 and NX8231348810, from just east of the Rascarrel Burn to Door of the Heugh at Little Airds Hill (figure 8). Sites were recorded through a combination of rapid survey using SCAPE's ShoreUPDATE app, drone aerial photography, on-the-ground photography, written records and descriptions on proforma recording forms, and measured survey plan and elevation drawings. For two sites, digital 3-dimensional models were generated from the aerial photography.

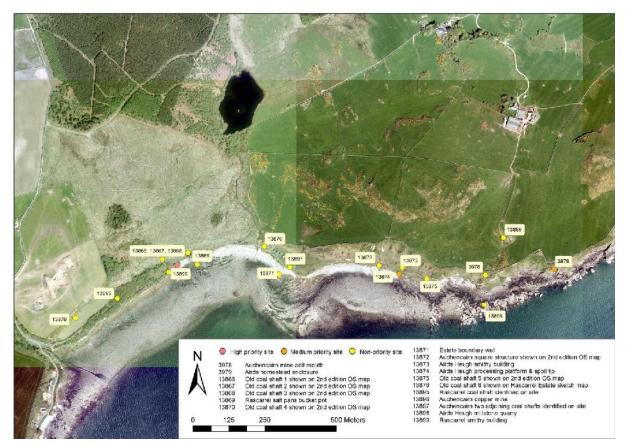


Figure 8. Archaeological sites at Auchencairn identified through research and field survey. (NB, existing records start with 39XX, new records documented in this survey start with 138XX. Stake net (**3984**) not shown.) High Resolution (25cm) Vertical Aerial Imagery [JPG geospatial data], Scale 1:500, Tiles: nx8047, nx8048, nx8049, nx8148, nx8149, nx8248, nx8249, Updated: 5 November 2017, Getmapping, Using: EDINA Aerial Digimap Service, https://digimap.edina.ac.uk, Downloaded: 2019-03-06 14:32:01.448.

3.2 Landscape and historic background

Past human interaction with this stretch of coastline has been driven by its carboniferous geology. The landscape has been shaped by the ways in which people have exploited these natural resources for a range of purposes. Since at least the 18th century several attempts have been made to extract and exploit the various mineral deposits with varying, though generally limited success.

3.2.1 Saltmaking

Saltpans are recorded as having been in operation along this coastline up to the 18th century, with records of them active in 1716-17 (Cranstone 2006). At this time, turf or peat would have been used for fuel to evaporate off the seawater (Gray & Paton 1976). However, a notation on a Sketch of the Estate of Rascarrel dating to 1870 (<u>https://maps.nls.uk/view/129393700</u>, figure 9) also shows a salt works here, although this date seems anomalously late for salt production in Scotland. The Scottish salt industry had suffered when the end of the Napoleonic Wars in 1815 opened up international trade and the supply of higher-quality Mediterranean salt. The repeal of duties on Scottish salt which

followed in 1823 was the death knell for the industry (Whatley 1987) so the apparent existence of salt pans here 50 years after this is mysterious. No archaeological evidence has been found of the saltpan building, but in the approximate location of the 1870 'Salt Pan' annotation, a natural pool in the bedrock on the foreshore which has been enhanced with the addition of an enclosing cobble wall on its west side may be a 'bucket pot' (**13869**), an intertidal reservoir which collected sea water at high tide and where it could be held as the tides dropped, before it was either pumped or carried in buckets (hence the name) to the salt pan building, where the water was evaporated off from a large metal pan over a fire, leaving the salt which was then collected and dried.

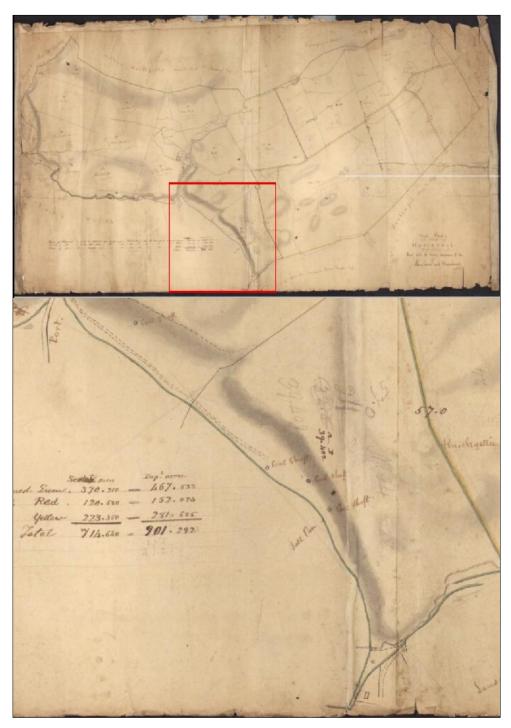


Figure 9. Rough Sketch of the Estate of Rascarrel, 1870. <u>Dumfries Archival Mapping Project</u>, available through the National Library of Scotland <u>Map images website</u>.

3.2.2 Coal mining

This late reference to salt production however, and the existence of saltworks at this date, may be linked to a late 18th-early 19th century attempt to mine coal here. Unlike the south side of the Solway Firth, coal mining was never widespread around Galloway, and the lack of fuel for industrial development is the only disadvantage listed in an otherwise ebullient description of the beauty and productivity of the Parish of Rerrick presented by the Rev. James Thomson in the Old Statistical Account (1794). However, this also describes the 'prospect of relief' offered by recent and ongoing attempts to exploit coastal outcrops of coal in the parish and emphasises their importance to the population:

"These lands lie upon the shore; and so promising are appearance that veins, 3 inches thick, of excellent coal, are found among the rocks at low water...the symptoms hitherto, are neither highly flattering, nor have they given the least reason to despair. Public anxiety for the event is not to be described..." (Sinclair 1794, 56-7).

Contemporary with this, John Ainslie's 1797 map (figure 10) shows several coal pits between Rascarrel Burn and Airds Burn. A thin vein of black shale is visible in the coast edge here, on the site of the salt pans, could have been taken to indicate that the carboniferous rocks here are coalbearing, particularly when such vested interests came into play and given the prosperity being enjoyed by their neighbours on the other side of the Solway Firth thanks to the successful exploitation of coal in Cumbia.

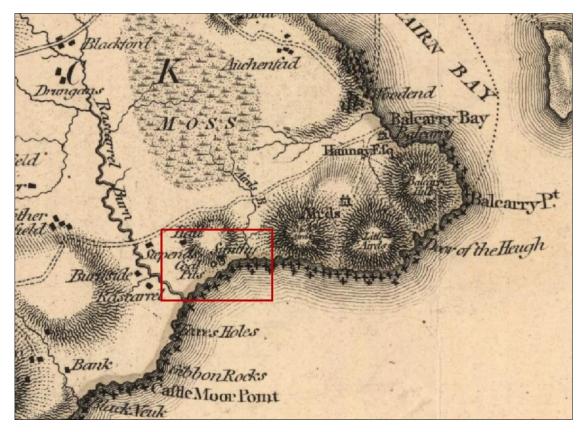


Figure 10. John Ainslie's 1797 map showing coal pits and a smithy at Rascarrel. Reproduced with the permission of the National Library of Scotland, available through the <u>Map images website</u>.

However, the optimism and faith in the 'promising appearance' of the visible coal appears to have been misplaced and the mining activity shortlived; the New Statistical Account (Gordon ed. 1845,

354-68) does not mention coal mining in the parish. The 6-inch 1st edition OS map (surveyed 1848-51, figure 11) depicts a single shaft (**13870**) near the boundary of Rascarrel estate and an enclosure with an apparently unroofed building labelled *Coal Mine*.

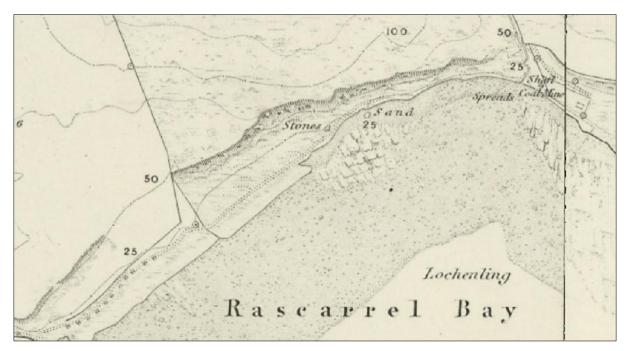


Figure 11. 1st edition 6-inch OS map showing a single shaft at the Coal Mine. Reproduced with the permission of the National Library of Scotland, available through the <u>Map images website</u>.

However, the 1870 Sketch Map of Rascarrel Estate which shows the salt works also indicates a cluster of coal shafts in their immediate hinterland (figure 9), suggesting they were being worked at this time. Finally, the 25-inch 2nd edition OS map (surveyed 1893-4, figure 12) shows the coal mine building roofed. However, the adjacent coal shaft (**13870**), three others to the west in the hinterland behind the bucket pot, (**13866, 13867, 13868**) and one to the east (**13875**, figure 19) are all labelled 'Old Coal Shaft' by this point. Most of these shafts, and several further hollows and surface depressions, which are probably the remains of further pits, were identified on the ground, but it seems coal mining in this area was never widespread or particularly successful, and may never have progressed further than prospecting. The historical and map evidence suggests that there were at least two phases of attempted exploitation here, first around the end of the 18th century, then revived in the second half of the 19th century, though finished by the survey of the 2nd edition map in 1893-4.

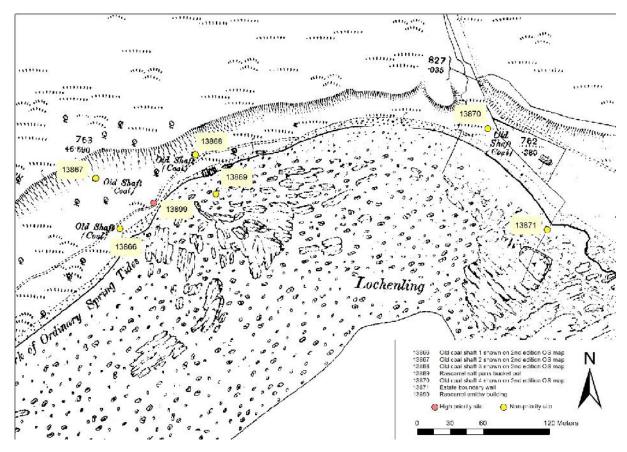


Figure 12. 2nd edition 25-inch OS map showing several coal shafts at Rascarrel, all disused by the 1890s. 1:2 500 County Series 1st Revision [TIFF geospatial data], Scale 1:2500, Tiles: kirk-nx8047-2, kirk-nx8048-2, kirk-nx8147-2. Updated: 30 November 2010, Historic, Using: EDINA Historic Digimap Service, <https://digimap.edina.ac.uk>, Downloaded: 2019-03-06 14:31:08.154.

A track which runs along the coast between the beach and the beach terrace behind stretches from the shafts to the mouth of the Rascarrel Burn (labelled on the estate map, perhaps aspirationally, a 'Port') and probably functioned as the access and wagonway for the mining.

3.2.3 Industrial buildings

Although no trace of a saltpan building was found, survey of the area behind the bucket pot revealed a very ruinous and overgrown stone building just behind the coast edge and beginning to erode, with iron slag in the associated deposits (**13899**, figures 13, 14). Combined with Ainslie's annotation of a Smithy in the area (figure 10), this has been tentatively identified as an 18th century ironworking building, possibly supporting the attempted coal mining operations. No further maps show a building here, though the 1st edition OS (figure 11) shows an L-shape labelled "stones" which may denote a very ruinous structure. On this map, the track respects the building, curving around it to the south. By the 2nd edition, there is no trace of the building other than this diversion in the track (figure 12). The modern line of the track also swerves around the site of the building, though to the north (possibly having been forced inland of its original route by erosion) suggesting that although the building was no longer in use, tumbled stone presented an obstacle to simply straightening its route. Other than the coal mining activity, this smithy sits in a relatively isolated location, away from other settlement or agricultural activity, suggesting that it was established specifically to equip and service the coal mines.

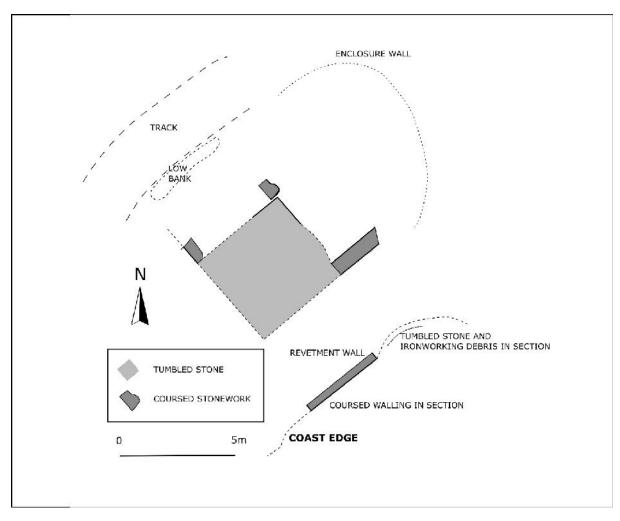


Figure 13. Measured sketch plan of the remains of the smithy building.



Figure 14. Some of the ironworking slag exposed in the eroding coast edge which confirmed the building's function.

Around 1km to the east of this, on a stretch of coastline known as Airds or Airds Heugh, stands the ruin of a long rectangular stone building (**13873**, figures 15, 16), known locally as the 'smithy' (Jim Rae, pers. comm.). A substantial stone smithing hearth at one end (figures 16, 17) includes a hole for bellows, supporting this identification; while Thomson's 1821 map of Kirkcudbrightshire marks a smithy in the area between Airds Burn and Airds Hill (figure 18).



Figure 15. Aerial view of the ruined later smithy building.

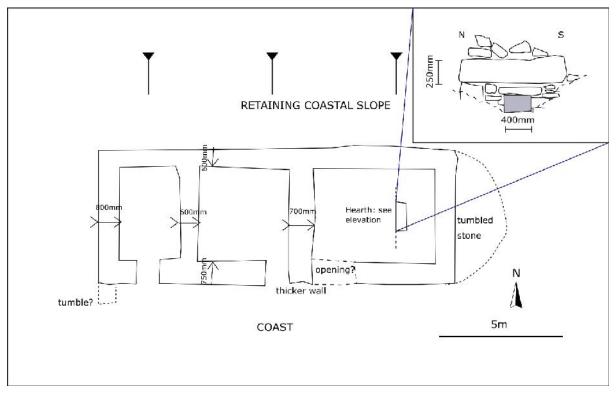


Figure 16. Measured sketch of the smithy building and the elevation of the smithing hearth in the east gable wall.



Figure 17. the smithing hearth beneath the rubble at the gable end of the later smithy building.

Although not shown on the 1st edition OS map, it is depicted on the 2nd edition (figure 19), where it is shown as a roofless ruin. The map evidence, and the relative condition of the two smithy structures suggests that this is the later of the two, and that the ironworking activity moved here from its earlier location to the west at Rascarrel, possibly following a shift in the focus of mining activity.



Figure 18. John Thomson's Atlas of Scotland, 1821, detail from Kirkcudbright-shire, with a smithy labelled at Airds Heugh. Reproduced with the permission of the National Library of Scotland, available through the <u>Map images website</u>.

On the coast edge in front of this building a small raised stone structure faced with coursed walling and with a spread of mine waste material and crushed stone across the top may be a processing platform (**13874**). A small square structure (**13872**), ruined on the 2nd edition map (figure 19) is now cut through by the line of the modern track which runs along the coast edge, but was probably also originally associated with the coal mining here.

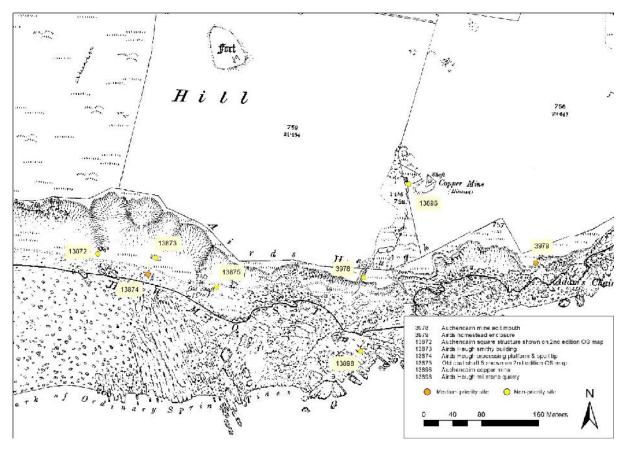


Figure 19. 2nd edition 25-inch OS map showing the roofless smithy building at Airds Heugh, the platform and spoil tip on the coast edge in front of it, the small square structure to the west, the copper mine complex, adit mouth and millstone quarry. 1:2 500 County Series 1st Revision [TIFF geospatial data], Scale 1:2500, Tiles: kirk-nx8148-2, kirk-nx8248-2. Updated: 30 November 2010, Historic, Using: EDINA Historic Digimap Service, https://digimap.edina.ac.uk, Downloaded: 2019-03-06 14:31:08.154.

NB Historic maps are particularly useful for helping with the interpretation of 19th century and industrial archaeological features, however, map regression in this area suggests that the 1st edition OS map may not be a comprehensive record of the features in the landscape in 1848-51. The map fails to show several structures that are included on earlier maps (the coal pits on Ainslie's 1797 map, the smithy annotation on Thomson's 1832 plan) that also appear on the later 2nd edition. So rather than a hiatus in operations in the mid-19th century, the absence of coal mining related features may reflect more on the incompleteness of the survey.

3.2.4 Copper and other minerals

Several minerals were successfully worked commercially in the wider district in the 18th and 19th centuries, with an iron ore mine at Auchinleck, copper working on the nearby Heston Island which was exported to Swansea, the industrial 'Copperopolis' (Hughes 2000), and a barytes mine at Barlocco along the coast to the southwest (Gray & Paton 1976).

This very dense white mineral was used as a bleaching agent, and in the manufacture of white paint, paper and plastics, and was also worked on a small scale through a level on the shoulder of Little Airds Hill at Auchencairn, probably in the mid-19th century (Wilson 1922, 104). The small adit mouth is still open and marked with a scatter of white barytes on the slope below.

Copper was also extracted at Auchencairn. The ruined remains of the complex with several buildings and the main shaft stand inside an enclosure in the field behind the cliffs (**13896**) while an adit / level entrance at the base of the coastal slope (**3978**) runs north to the shaft (figures 19-21).

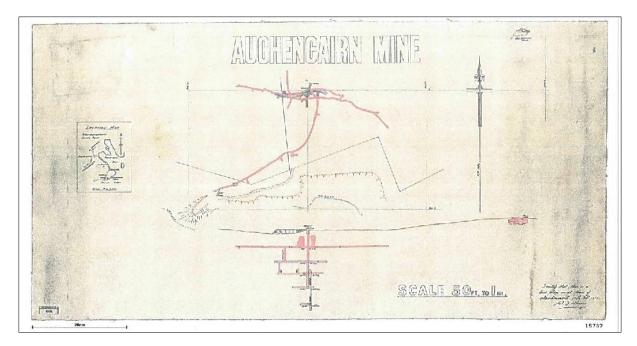


Figure 20. Plan of the workings at Auchencairn mine, drawn by W T Shaw in 1957. Showing the tunnel from the level mouth at the coast to the main shaft, and the location of the earlier barytes mine to the northeast of the later complex. BGS, shared by Ian Hebson.



Figure 21. The capped shaft of Auchencairn Copper Mine.

However, a large vertical shaft at the top of the cliffs behind it is not a deliberately dug mine shaft but later collapse into the tunnel. The mine's history is described in the Auchencairn History Society Newsletter (2019, no.36, reproduced from Shaw 1974) and summarised in their publication on the History of Auchencairn and District (Gray & Paton, 1976). There is no clear record of the earlier phase of mining, other than that it may have started as early as the 18th century and was forced to close in the 19th century when the pump failed and the workings flooded. It was reopened in 1951 by W T Shaw and J W Simpson who were working the Barlocco barytes mine nearby. Shaw's detailed account of the 1950s attempt to work it describes their initial interest in the mine for the barytes vein originally worked from the earlier adit on the hill to the northeast, and their subsequent attempts to exploit several other minerals, including quartz (for the pebble-dash market) and copper. Although copper was encountered, the quality wasn't good enough for the contemporary market and a flotation plant was established to increase the concentrations of copper before sending it on to the smelter for processing. However it was decided that the price of copper at the time was too low for this effort to be economically viable, and the workings were closed in September 1957. The mill was repurposed and continued in use into the 1960s dressing the barytes from the more successful Windmill mine along the coast to the west.

Shaw's account emphasises the difficulties caused by water flooding the underground workings, with "the flow of water ... about 100 gallons per minute" too much for their diesel pumps to manage (Auchencairn History Society 2019, 25-6). Local knowledge of the hinterland confirms that the landscape here is very dry inland, with all the water from a wide area draining to the coast here (Jim Rae pers. comm.). The adit entrance at the base of the cliffs may have been primarily intended to drain the underground workings, but the small crowsfoot spoil tip in front of it, and a 1950s photos of a miner, Frank Hughes with a small wagon at its mouth confirm (figure 22) that it was also used to remove material from the mine. Shaw also ruefully highlights the mixed and "greatly faulted" geology seen in the mine, "so that little real sense could be made of it" (Auchencairn History Society 2019, 25).



Figure 22. Miner Frank Hughes at the adit mouth, Auchencairn copper mine. Beamish Museum People's Collection. NEG14830.

Ultimately, as with the coal which is hinted at by the black shale seen on the rocky foreshore at Rascarrel, but failed to live up to expectations, several different minerals were found in the workings here. Although they were successfully exploited at other sites in the region, the lack of a continuous veins of high quality ore here prevented Auchencairn operating as an economically viable mine in the 1950s; summarised by Shaw as "a disappointing but interesting venture" (Auchencairn History Society 2019, 28).

3.2.5 Stone extraction

Finally, the carboniferous geology has been quarried on the rock foreshore in front of the mine for millstones (**13898**). Large pits in the bedrock platform show where stone has been extracted (figure 23) and small holes in both the vertical and horizontal faces of the rock form both straight lines and circles (figure 24). These probably mark abandoned attempts to prepare the stone for removal. The technique may have involved driving dry wooden wedges into the rock to be swollen by the incoming tide and split the stone. A partially worked stone over 1m in diameter has been abandoned just above the high water mark, possibly because of two small faults running across it (figure 25). No active quarry is shown here on the historic maps, suggesting that it may predate the mid-19th century.



Figure 23. Volunteers in the quarried out pits on the foreshore left by the extraction of millstones.



Figure 24. Circular lines of small holes show the outlines of abandoned attempts to remove rough-outs for millstones.



Figure 25. An abandoned partially-worked millstone on the grass just behind the intertidal quarry.

3.3. Results

A total of 19 individual sites were identified from a combination of historic maps and on the ground survey. Only 2 of these were formerly recorded so the survey has significantly enhanced the historic environment records for this stretch of coastline.

1 site was identified through map regression but not seen:

• Coal shaft **13876**.

15 sites were recorded to basic level. Of these 12 were associated with the extractive industries on this coast:

- Airds Heugh mine adit mouth **3978**,
- 7 coal shafts 13866, 13867, 13868, 13870, 13875, 13895, 13897,
- Rascarrel salt pans bucket pot 13869,
- Auchencairn square structure **13872**,
- Auchencairn copper mine 13896,
- Airds Heugh millstone quarry **13898**

A further 3 sites are unrelated but lie along this coastline and were recorded in passing:

- Airds homestead enclosure **3979**,
- Auchencairn Bay stake net **3984** (not shown on map figures 8, 12, 19; located on east-facing coast of Auchencairn Bay to northeast of main fieldwork area),
- Rascarrel estate boundary wall **13871.**

3 sites were recorded in detail:

- Airds Heugh processing platform & spoil tip 13872,
- Airds Heugh smithy building **13873**,
- Rascarrel smithy building **13899.**

3 sites were assigned a high priority score:

The newly-recorded Rascarrel smithy building (**13899**) has been highlighted as a SCAPE high priority site as a result of this project due to its vulnerability to coastal erosion, which is affecting structural elements and threatening the integrity of the site, as well as its potential importance and the lack of existing knowledge about it.

The newly-recorded processing platform (**13872**) has been highlighted as a result of this project as a medium-priority site for ongoing monitoring as its seaward side is being actively eroded.

The prehistoric homestead (**3979**) was originally recorded during the 1996 Coastal Zone Assessment Survey (CFA 1996) and was subsequently assigned a medium priority by SCAPE in a review of the national Coastal Survey data (Dawson 2010). Although the main threat to this site is from footpath and visitor erosion cutting the rampart rather than from coastal processes, it remains a medium priority site.

4. Cairnhead

4.1 Organisation, objectives and methodology

A survey of Cairnhead near the Isle of Whithorn, Wigtownshire, recorded the Second World War Mulberry Harbour prototype testing site. Prior to the fieldwork an indoor meeting in the morning at Garlieston Village Hall provided a rapid introduction to the project, its aims and on-site recording techniques. More importantly, it gave participants the opportunity to view the excellent exhibition on Mulberry Harbours. An authoritative talk by Roy Walter gave an invaluable introduction to the site's history and its importance in the D-Day preparations.

At Cairnhead Bay, after a quick introduction to the remains on site and introduction to survey methods, two teams created rapid records of all the coastal and intertidal features and a selective record of the remains in the hinterland (figure 26).

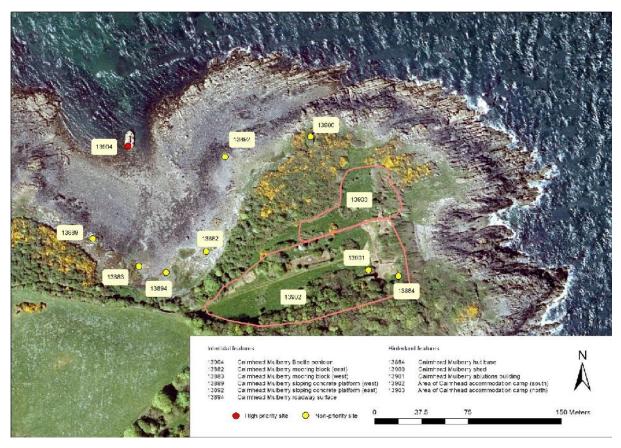


Figure 26. Exploring the site of the Mulberry Harbour at Cairnhead Bay.

Existing archaeological information for this area was sparse, consisting mostly of group records covering the entire complex, and lacking detail, though the Beetle pontoon was individually recorded in both regional and national databases. Specific objectives were therefore:

- To enhance the archaeological record of the remains of the Mulberry Harbour testing site by refining and adding detail,
- To update condition information for the most vulnerable intertidal remains,
- To carry out rapid photographic surveys of identifiable features,

The fieldwork covered the foreshore at Cairnhead Bay and its immediate hinterland, centred on NX 48360 38350 (figure 27). Sites were recorded through a combination of rapid survey using SCAPE's ShoreUPDATE app, drone aerial photography, on-the-ground photography, and written descriptions



and sketches on pro-forma recording forms. A digital 3-dimensional model of the Beetle pontoon has been created from the from the aerial photography.

Figure 27. Remains of the Mulberrry Harbour testing site recorded at Cairnhead Bay (**3862**). High Resolution (25cm) Vertical Aerial Imagery [JPG geospatial data], Scale 1:500, Tiles: nx4838. Updated: 5 November 2017, Getmapping, Using: EDINA Aerial Digimap Service, <https://digimap.edina.ac.uk>, Downloaded: 2019-03-08 14:40:59.968.

4.2 Historical background

Mulberry was the codename assigned to the temporary portable harbours that were an essential element of the D-Day invasion of Normandy in 1944, for landing troops, vehicles and supplies onto the beaches. The immense obstacles facing the deployment of structures that could be prefabricated and then towed into position in secret required new ideas and innovative engineering solutions, which necessitated stringent testing and sea trials before they could become operational.

The Solway coast was selected for testing prototype designs that were proposed for Mulberry Harbours. Three principal factors dictated the choice of location:

- A similar tidal range to Normandy,
- Rough seas that could test the robustness of the design,
- Remoteness from London to maintain the secrecy of the site.

Three main sites were chosen: Garlieston Harbour, Rigg Bay and Cairnhead Bay. The history of the Wigtownshire sites' role in the Mulberry Harbour project is presented and extensively illustrated with historic photographs and diagrams online at http://garlieston.net/wwii/ and http://garlieston.net/wwwii/ and http://garlieston.net/www.mulbergy and the comprehensive exhibition at Garlieston Village Hall
brings the story and the sites to life, while the region's Historical Society has published the story of http://garlieston.net/www.mulbergy project using the personal accounts and recollections of
individuals involved (Evans, Palmer and Walter, 2000).

Three different designs for the temporary harbour were built and trialled at the Wigtownshire sites. A design for a floating pierhead with a floating roadway supported on pontoons ('Beetles') was constructed and extensively tested at Cairnhead, including during stormy weather which destroyed the other designs being built and evaluated. These were the only sites where significant sea trials of the different designs took place, and the storm at Cairnhead was the key factor in the final decision to adopt the floating roadway design that was ultimately deployed in the Normandy beach landings (Evans, Palmer and Walter 2000, 37-8).

Contemporary photographs are invaluable for illustrating how this harbour functioned, and informing interpretation of the surviving remains, while images of the facility at Cairnhead itself show the scale of the supporting service areas and camps in the hinterland, with rows of Nissen huts, lines of sheds or workshops and ranks of pitched tents (figure 28).



Figure 28. Contemporary photograph of the Mulberry Harbour floating roadway design during sea trials at Cairnhead, with the accommodation camp and service buildings in the background. The pontoons supporting the roadway are visible, one survives on site (**13904**). From <u>http://www.mulberryharbour.info/</u>, picture credit IWM.

The most important, and most visually striking feature on the site is a Beetle pontoon (**13904**, figures 29, 31. 3-d model available online at <u>https://sketchfab.com/3d-models/cairnhead-mulberry-harbour-beetle-a5d7c6c8dcc84e47aa0917e78bf45369</u>). Although this has broken free of its moorings and now sits at the low water mark, perpendicular to its original alignment (figures 27-29, 31) it marks approximately the line of the floating roadway. Made of hollow concrete, and with a basic boat-shaped form, this is the only recorded surviving example on the Solway coast of the boat-shaped Beetle, others at Garlieston and Portwhapple are flatter octagonal shapes. Pontoons of this distinctive shape are visible supporting the floating roadway in the historic images of the Mulberry Harbour undergoing tests at Cairnhead Bay (figure 28).

Remains of the infrastructure which is probably associated with the landward end of the floating roadway includes two concrete mooring blocks with iron rings set into their tops (**13882**, **13883**), and a concrete surface formed of a grid of small squares, creating a 'chocolate block' effect, now very broken up into individual squares (**13894**, figure 32). A small expanse of this surface remains in

situ at the high water mark probably at the point where the floating roadway originally made landfall (figure 28). A cleared strip of beach running north from this probably preserves the line of the roadway. Two sloping concrete platforms built onto bedrock either side of this cleared strip are of unknown function but are almost certainly associated (**13889**, **13892**, figure 30). Their sloping surfaces would have sat above the water level at normal high tides but may have been angled to facilitate runoff of rainwater. A further long, narrow building with wide doors sits just behind the coast edge (**13900**). The accommodation camps and service areas in the hinterland include large areas of hut bases and foundations (**13902**, **13903**, figures 33, 34) but were not recorded in detail except for one area of foundations formed of the same 'chocolate block' concrete as the floating roadway (**13884**) and the ablutions block, with its reminders of the human aspect of this site; a shower enclosure, complete with a shower tray and the remains of a water tank above (**13901**).





Figure 30. Recording the intertidal platform.

Figure 29. The 'Beetle' pontoon.



Figure 31. Recording the 'Beetle'.



Figure 33. Stanchion hut foundations in the accommodation camp.



Figure 32. Recording the end of the floating roadway.



Figure 34. Recording the remains of the accommodation camp.

More remains of the Mulberry Harbour structures possibly survive offshore. However, the occasionally stormy conditions which originally made this location attractive as an evaluation site for the prototypes and which thoroughly tested the floating roadway design in 1943, may have severely damaged or destroyed any submerged remains.

4.3 Results

The Cairnhead Mulberry harbour site was originally recorded under a single basic site record **3862** which is retained as the master record for the Mulberry Harbour testing site complex. The survey has significantly improved this into 12 more detailed records of individual features.

• The overall Mulberry Harbour testing site complex is recorded under a group record **3862**.

Six individual site records have been created for the intertidal features:

- Two mooring blocks 13882, 13883,
- Two sloping concrete platforms 13889, 13892,
- The concrete roadway surface **13894**,
- The Cairnhead Mulberry Beetle pontoon **13904**.

Three buildings in the hinterland were recorded individually:

- Concrete hut base 13884,
- Shed **13900**,
- Ablutions building **13901.**

Two further records cover the two areas of the accommodation camp:

- Accommodation camp (south) 13902,
- Accommodation camp (north) **13903.**

The Beetle pontoon (**13904**) has been highlighted as a SCAPE high priority site due to its historical significance and rarity, particularly as the only known surviving boat-shaped pontoon in the Solway Firth. This is also a reflection of its vulnerability to coastal processes and decay, as a 70-year-old concrete structure in the intertidal zone, intended to be only temporary. The other known examples of Beetles at Garlieston and Portwhapple are protected as a Scheduled Ancient Monument (SM12937) along with a stone and concrete plinth at Rigg Bay which was part of one of the rejected prototype designs. It is suggested that the remains at Cairnhead also be proposed for scheduling.

The entire complex as encompassed by the group record (**3862**) has been highlighted as a mediumpriority site due to its significance for the development of Mulberry Harbours used during the D-Day landings and as one of the few places where such remains survive.

5. Conclusion

The project has significantly enhanced the records of archaeological sites at the three areas, particularly Auchencairn and Cairnhead. New site records have been created and existing records have been refined, updated and improved by the addition of details. Basic records now include written descriptions and digital photography, and in some cases, rapid survey has generated measured plans and elevation drawings, while the addition of local knowledge and historical information about the sites has improved our appreciation of them. This will be shared with regional and national heritage managers.

At Auchencairn, new information and documentation provided by members of the community has been integrated into the archaeological record and has helped us to better understand the evolution and significance of this extractive landscape and how past populations have engaged with it in various attempts to exploit the resources it represents. The work has also highlighted potential avenues of further work here; which could usefully include further and more detailed recording and survey of the historic industrial buildings.

Similarly, at Cairnhead, the archaeological record has been enhanced as individual site records have been created and refined, reflecting the complexity of the remains and the scale of the military landscape. Rapid surveys of several of the features revealed previously-unknown details of these fragile structures, intended as temporary buildings but now over 70 years old and vulnerable to the processes of decay and deterioration with obsolescence and lack of maintenance. The project also allowed some integration of the excellent historical research that has recently been carried out with the archaeological record. This documentation further highlights the significance of the site, and of the surviving Beetle which sits within its original context as a key part of a historical military landscape, as well as emphasising the role this and other coastal sites here played on the international stage during the Second World War. Further work here would also be beneficial to record, identify and research the remains, particularly for some of the features identified by this work the function of which remains unknown, such as the two sloping intertidal concrete platforms.

The information generated by this work at all three sites will inform their future management and highlights the importance of these historic coastal landscapes. Several individual sites have been highlighted as high priorities for future work due to their archaeological and historical significance, potential to add to our archaeological knowledge, and their vulnerability to loss.

Finally, all the events achieved their aims of providing enjoyable opportunities for local people to visit, engage with and learn about their coast and its heritage. Participants were actively engaged in the activities on site, which facilitated an exchange of knowledge, enhancing everybody's appreciation of the landscape they were looking at and allowing that information to enrich the records they created. Many of the participants also gained training and learned new skills in archaeological recording and survey techniques, and all benefited from the experience of looking at the Solway coast through the lens of its history and heritage.

Archiving

The data generated by the project has been uploaded onto the Scotland's Coastal Heritage at Risk Project online database and interactive Sites at Risk Map. It has been shared with the Dumfries and Galloway Historic Environment Record and with Canmore, Scotland's National Monuments Record.

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1870 Rough Sketch of the Estate of Rascarrel, Kirkcudbright Museum, Dumfries Archaival Mapping Project. Available online through the National Library of Scotland's Map Images website: <u>https://maps.nls.uk/index.html</u> Gazetteer

Redkirk

SCHARP ID	Site Name			
<u>4081</u>	Redkirk Point submerged land surface and forest			
Site Type		Period		
Buried Land Surface		Prehistoric; Mesolithic		
Easting	Northing	NMRS No	SMR No	
330400	565100			
Description				

Description

Patches of black organic material uncovered under shingle beach. Situated near excavated Mesolithic occupation site and is under severe coastal erosion as shingle beach is rapidly being removed by sea.

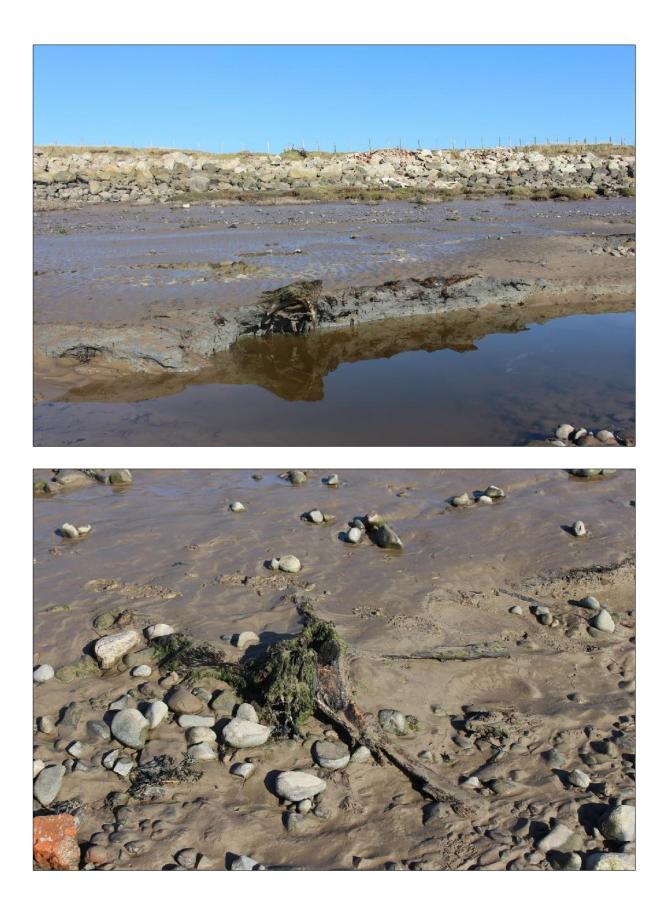
ShoreUPDATE February 2014: Two thin layers (less than 100mm) of black organic material uncovered and/or broken up / washed away. Numerous ancient tree stumps growing in and roots below organic layer also being washed away. Some trunks lying in organic layer.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal	active sea erosion;		1
	has eroded in the past		

Condition comments

Erosion here is active and ongoing, as the peat shelf collapses along the bank of the channel





SCHARP ID	Site Name		
<u>13854</u>	Redkirk Timber Post ar	nd Wattle Structure	
Site Type		Period	
Quay / Sea defences?		Post-medieval	
Easting	Northing	NMRS No	SMR No
329703	565397		

Long linear timber post structure along the bank of the main river channel where a culvert drains a small ditch into the river. Aligned NW-SE, parallel with bank, and approximately 2.5m wide, formed of eight parallel lines of upright wooden posts. Construction appears to be of lines of larger facing posts on seaward and landward sides, with traces of woven brushwood wattle forming a face on either side faces, with six more closely spaced interior lines of parallel posts, which survive to a lower height, with cobble sized stone infill. The wooden posts are variably eroded, some are roundwood, other have been cut square, some show signs of having been sawn off to their present height, all appear to be softwood. Visible for a length of c.40m, though probably continues further at both ends; posts appear to have slumped down slope of riverbank at east end and some are visible protruding at angles amongst large boulders forming riprap coastal defence here. The structure appears to have been buried by accretion at some point in its past and covered by intertidal grass and saltmarsh which has recently eroded along the central section of the structure's length leaving the visible stretch exposed, though the western end continues further towards the culvert beneath the grass.

Landowner recalls recent erosion c.2012 when the river was in spate, breached the modern coastal defences and the land was eroded back exposing this structure, a breach in the rip rap coastal defence on the east side of this structure probably dates to this event, and the coast edge is now c.30-40m landwards of the structure, leaving a c.1m high section through the till and bedrock. The recent erosion can be traced through comparison of Bing and Google satellite imagery, 2015 aerial photography and the April 2019 drone images (below). The landowner is currently constructing an ad hoc coastal defence of soil and rubble to consolidate the coast edge behind the structure.

Original function and date are unknown. The structure appears to have originally formed the coast edge, suggesting that it was built when the channel was close to its current course, which it has followed since the 1960s. However the lack of recent map evidence or local memory suggests it predates this. Earlier maps dating back to the mid-19th century show the river channel significantly further south, indicating that if this was a waterfront structure, it is presumably earlier than this date.

A waterfront/maritime function is considered the most likely, possibly forming a hard edge or quayside for ships to come alongside for loading and unloading, or a historic coastal defence representing an attempt to consolidate and reinforce the coast edge here.

Proximity to coast Intertidal	Coastal threats active sea erosion; has eroded in the	Other threats structural damage/decay	Priority score 3 / 2
Condition comments	past		

Condition comments

Both the structure, the riverbank and the coast edge are being actively eroded.





Auchencairn

SCHARP ID	Site Name		
<u>3978</u>	Airds Heugh mine	adit mouth	
Site Type		Period	
Adit		Post-medieval	
Easting	Northing	NMRS No	SMR No
281660	548320	64863	

Description

The site of a now-collapsed adit which ran north into coastal cliff inland towards site of Auchencairn copper mine in hinterland (SCHARP ID 13896). A crows foot spoil tip projects from the mouth of the adit towards to coast edge. The apparent shaft (3m by 5m, now fenced-off) on the top of the cliff above is a later collapse into the adit, not a working mine shaft. The small modern hut here was probably constructed when the mine was reopened in the 1950s. A photograph in the collection of the Beamish Museum People's Collection images shows a miner (Frank Hughes) with a carriage on the tracks running out of the adit mouth, with the fenced-off collapsed visible on the top of the coastal slope behind.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
Condition comments			



SCHARP ID	Site Name		
<u>3979</u>	Airds homestead	enclosure	
Site Type		Period	
Homestead		1st Mill BC/AD	
Easting	Northing	NMRS No	SMR No
281900	548340	64860	MDG4433

Buried walls consisting of banks and ditches. Grass covered and suffering sheep erosion. Orientated E-W, 15mx 7m x 2m.

ShoreUPDATE 14/04/2019

Bank and ditch in good condition within field walls; badly damaged, almost flattened by footpath on seaward side of wall at top of cliffs, exposing a section through the bank.

Proximity to coast	Coastal threats	Other threats	Priority score
under 10m	visitor erosion		3
Condition comments			



Site Name		
Auchencairn Bay stake	net	
	Period	
	19/20th century	
Northing	NMRS No	SMR No
550700		
	Auchencairn Bay stake n	Auchencairn Bay stake net Period 19/20th century Northing NMRS No

5 rows of piling 50m apart. In intertidal zone and under threat form plant and coastal erosion. Orientated E-W, 30m long x 3m high.

ShoreUPDATE 14/04/2019 As described

As described			
Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal		structural damage/decay	Low
Condition comments			



SCHARP ID	Site Name	1 shows an 2 nd adition OC man	
<u>13866</u>	Rascarrel Old Coal Shaft	1 shown on 2 nd edition OS map	
Site Type		Period	
Coal shaft	N a suble to a	19th century	
Easting	Northing	NMRS No	SMR No
280555	548330		
Description			
diameter and 0.5 in de		ible as a dished depression arou	and 2 meters in
Proximity to coast	Coastal threats	Other threats	Priority score
11-50m	not eroding		Low
Condition comments			
SCHARP ID	Site Name		
<u>13867</u>	Rascarrel Old Coal Shaft	2 shown on 2 nd edition OS map	
Site Type		Period	
Coal shaft		19th century	
Easting	Northing	NMRS No	SMR No
280533	548375		
Description			
Old coal shaft shown o	on 2nd edition OS map her	e. The area is very overgrown w	vith willow scrub.
Several potential shaft	s visible as sub-circular de	pressions in a very boggy area.	
Proximity to coast	Coastal threats	Other threats	Priority score
11-50m	not eroding	vegetation growth; water	Low
		erosion (e.g. stream, etc)	
Condition comments			
SCHARP ID	Site Name		
<u>13868</u>	Rascarrel Old Coal Shaft	3 shown on 2 nd edition OS map	
Site Type		Period	
Coal shaft		19th century	
Easting	Northing	NMRS No	SMR No
280623	548397		
Description			
Old coal shaft shown o	on 2nd edition OS map. Gr	assed-over sub-circular dished c	lepression with
upcast spoil forming lo	w bank around, up to 0.5	m deep.	
Proximity to coast	Coastal threats	Other threats	Priority score
under 10m	not eroding		Low
Condition comments			







SCHARP ID	Site Name	
<u>13869</u>	Rascarrel salt pans buck	et pot
Site Type		Period
Salt works; reservoir		Post-medieval
Easting	Northing	NMRS No
280655	548357	

SMR No MDG22011

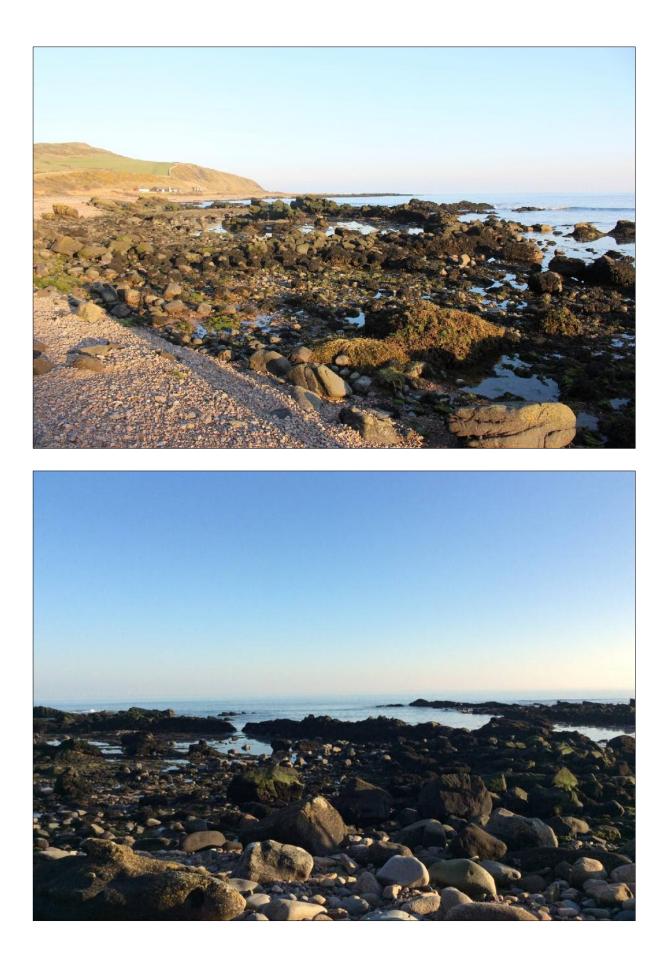
Description

A small intertidal reservoir at the top of the rock platform beach, defined mostly by the curving natural bedrock formation, with a c.0.6m high, spread wall constructed of rounded cobbles and boulders forming its west side, and a narrow channel cut through the bedrock on the seaward side. Possible bucket pot for the Rascarrel salt pans depicted on the estate plan of 1870, though no surviving evidence of other structures has been located.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal			Low
Condition comments			







SCHARP ID	Site Name		
<u>13870</u>	Rascarrel Old Coal Shaft 4	I shown on 2 nd edition OS map	
Site Type		Period	
Coal shaft		19th century	
Easting	Northing	NMRS No	SMR No
280889	548420		
Description			
Old coal shaft shown o	n 2nd edition OS map. Visi	ble as a wide terrace with a depre	ssion in the
centre partway up the	coastal slope. Heavily vege	etated.	
Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
Condition comments			
SCHARP ID	Site Name		
<u>13871</u>	Rascarrel estate bound	ary wall	
Site Type		Period	
Boundary wall		Post-medieval	
Easting	Northing	NMRS No	SMR No
280940	548323		
Description			
I am at a second should be still a f	larga ractangular draced	conditions blocks running a 42m N	IF CW down ho

Low stone wall built of large rectangular dressed sandstone blocks running c.42m NE-SW down beach from the coast edge to a high bedrock outcrop on the beach. Appears to correspond to the east boundary of the Rascarrel Estate depicted on the 1870 †Rough sketch of the estate of Rascarrel' https://maps.nls.uk/estates/rec/5660. Up to 5m wide, appears to have been faced on both sides, and for some short stretches of its length partly constructed of single very large rectangular blocks across width of wall. One course high, with Fe posts on top of structure. Several metres at landward end are topped with modern post and wire fence, line continues inland as fenceline forming boundary to junction with drystone wall which runs northwest.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal			Low
Condition comments			





SCHARP ID	Site Name		
<u>13872</u>	Auchencairn square stru	cture shown on 2 nd edition OS m	ар
Site Type		Period	
Structure		Post-medieval	
Easting	Northing	NMRS No	SMR No
281289	548353		
Description			

Much-tumbled remains of a small, square, drystone-walled building, c.3m by 3m. Depicted as an unroofed square structure on the 2nd edition (1895) OS map.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
Condition comments			



SCHARP ID	Site Name		
<u>13873</u>	Airds Heugh smithy	/ building	
Site Type		Period	
Building; smithy		Post-medieval	
Easting	Northing	NMRS No	SMR No
281370	548347	270009	MDG21492

Rectangular, multi-compartment stone building, orientated E-W, c.15m long by 5.5m N-S. Comprised of 3 rooms each with a doorway opening in the seaward (south-facing) wall. No openings in the internal dividing walls.

East room: internal dimensions c.5m by 4m. Stone built-smithing hearth in east gable-end wall with flue / hole for bellows partially exposed. No sign of a surviving chimney. Otherwise much tumble in room, no other features visible. Possible opening at SW corner.

Middle room: internal dimensions c.4m by 3.5m. Opening at SE corner, no internal features visible because of vegetation and tumble.

West room: internal dimensions c.4m by 2m Opening in south wall. Very overgrwon and full of tumble.

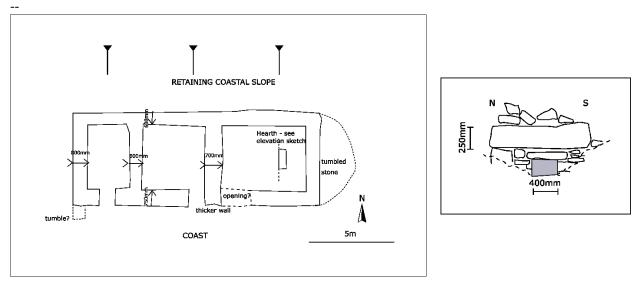
Building associated with a lot of tumbled stone, especially at the east gable end. Building is slightly terraced into the slope on its north side at the base of the coastal cliffs.

Constructed of angular roughly shaped and roughly coursed stone bonded with lime mortar, no brick in construction.

No smithing / iron slag, fuel slag or even burnt material noted, although the pile of rubble over the hearth may obscure it.

Shown as a ruin on the 1895 OS map; it is not marked on the First Ed of 1854.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
Condition comments			





SCHARP ID	Site Name		
<u>13874</u>	Airds Heugh processing	platform & spoil tip	
Site Type		Period	
Platform; spoil heap		Post-medieval	
Easting	Northing	NMRS No	SMR No
281359	548324		

Small raised rectangular grassed-over platform, c.5m by 4m, straight-sided on south and east sides with two courses of drystone masonry facing visible at base on these sides and for short stretches on north and west sides.

Spread mound of mining waste extends partially across SW side of platform and c.3.5m to west. A small erosion scar on the seaward side of this mound shows composition of crushed angular rock containing quartz and (?) barytes.

Separate linear stone structure immediately to east aligned N-S and 2.06m in length.

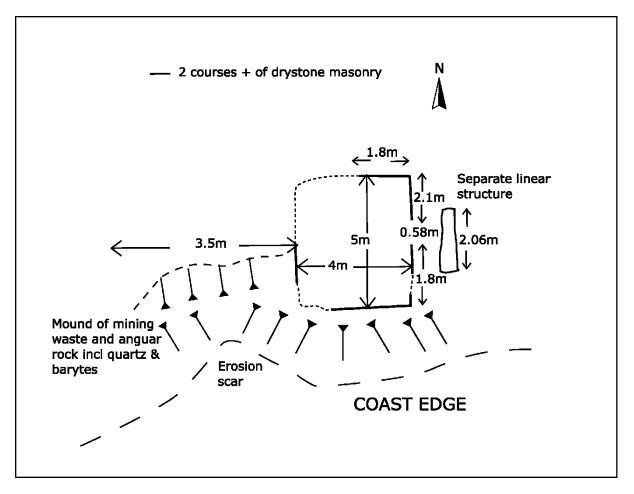
Possible remnants of a processing platform where ore was crushed / hammered for initial separation.

Site is being actively eroded, but the impact of the erosion to date is slight.

Proximity to coast	Coastal threats	Other threats	Priority score
Coast edge	active sea erosion		3
Condition comments			







SCHARP ID	Site Name		
<u>13875</u>	Rascarrel Old Coal Shaft	5 shown on 2 nd edition OS map	
Site Type		Period	
Coal shaft		19th century	
Easting	Northing	NMRS No	SMR No
281455	548306		
Description			
Square, straight-sided, v	vater-filled depression at b	base of coastal slope. Appears de	eep with vertical
sides. Slight traces of up map (1895).	cast spoil to east and west	t. Old coal shaft depicted here o	n 2nd edition OS

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
Condition comments			



SCHARP ID	Site Name		
<u>13876</u>	Rascarrel Old Coal Shaft 6 shown on 2 nd edition OS map		
Site Type		Period	
Coal shaft		19th century	
Easting	Northing	NMRS No	SMR No
280230	548170		
Description			
Approximate location	of shaft depicted on 1870	sketch map of Rascarrel Estate	
Proximity to coast	Coastal threats	Other threats	Priority score
Condition comments			
Not seen			

SCHARP ID	Site Name		
<u>13895</u>	Rascarrel Coal Sh	aft identified on site	
Site Type		Period	
Coal shaft		19 th century	
Easting	Northing	NMRS No	SMR No
280376	548239		
Description			
Design and the state			the second se

Deep, steep-sided, water-filled depression in an area of coal shafts thought to have been dug in the 19th century during a period of prospecting in Rascarrel.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m	not eroding	vegetation growth; water	Low
		erosion (e.g. stream, etc)	

Condition comments



SCHARP ID	Site Name		
<u>13896</u>	Auchencairn copp	per mine	
Site Type		Period	
Mine		Post-medieval	
Easting	Northing	NMRS No	SMR No
281723	548450	64863	MDG4436
Deceriation			

Mine originally worked for copper possibly from the 18th century and exploited in the 19th century, but abandoned when the mine flooded. Close to the old Auchencairn barytes mine, which is still visible on the hill above and to the west, though these workings are very small-scale. The copper mine was reopened in 1951 by W T Shaw and J W Simpson who were working the Barlocco barytes mine nearby.

They cleared and reopened the old adits and shaft, discovering the broken pump which had caused the flooding and abandonment of the original workings. Their attempts to mine quartz (for pebbledashing) proved not to be economically viable. However they encountered copper ore and a flotation plant was established to treat the ore and concentrate it, but it was decided that this was not worth pursuing due to prices at the time. The mine was closed, gear removed and the shaft capped in September 1957; the workings are detailed on Shaw's plan. The site continued in use as a dressing plant for the barytes from Barlocco Mine which was brought here to be crushed. The 1950s attempts at exploitation are detailed in Shaw's report on the mines of Auchencairn, first published in the Memoirs of the Northern Cavern and Mine Research Society, Vol 2 number 4, 1974; reproduced in the Auchencairn History Society Newsletter (2019, no.36) and summarised in their publication on the History of Auchencairn and District. The People's Collection, Beamish Museum, holds five photographs of the 1950 operations at Auchencairn Mine which show a number of lightweight corrugated iron buildings.

The mine complex survives in the field behind the cliffs as a drystone-walled enclosure with several ruined buildings and piles of stone, brick and concrete rubble, and the concrete capped shaft. The name Owen Beattie has been written into the concrete. A large, well-built granite building with two hearths in the north gable end probably dates to the original period of exploitation. A low brick platform with an iron cauldron set into the top with a brick chimney has been built against the south wall. The ditch which drained water pumped from the shaft runs from the complex downslope to a small pond before it continues past the site of the adit mouth (3978), visible as a wet linear depression, where it drained into the sea.

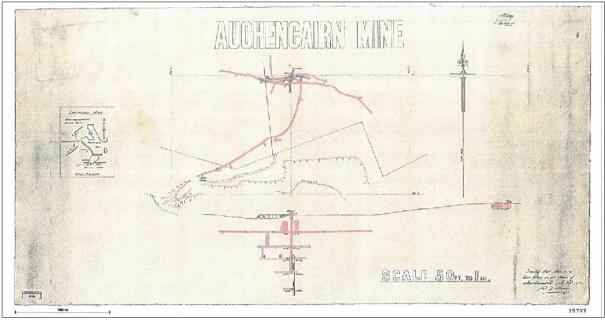
The main adit tunnel runs southwest from the shaft to exit at the coastal cliffs (SCHARP ID 3978) where there is a small crows foot spoil tip.

Proximity to coast	Coastal threats	Other threats	Priority score
more than 50m			Low
Condition comments			









SCHARP ID	Site Name		
<u>13897</u>	Auchencairn two adjoinin	ng coal shafts identified on site	
Site Type		Period	
Coal shaft		Post-medieval	
Easting	Northing	NMRS No	SMR No
280978	548347		

Two large, sub-circular dished depressions, up to c.2m deep, and c.14m in diameter, with low mounds of upcast spoil forming a bank around them.

Presumed to be coal shafts as in an area of coal shafts depicted on historic maps, though none are shown in this specific location.

Proximity to coast	Coastal threats	Other threats	Priority score
under 10m			Low
Condition comments			



SCHARP ID	Site Name		
<u>13898</u>	Airds Heugh millstone qu	iarry	
Site Type		Period	
millstone quarry		Post-medieval	
Easting	Northing	NMRS No	SMR No
281656	548217		

An intertidal millstone quarry in the sandstone bedrock. Large polygonal voids in the bedrock show where stone has been extracted, while lines of small holes along the bedding planes of the stone and outlining sub-circular shapes in the surface of the bedrock mark abandoned attempts to extract millstones. A partially-worked abandoned millstone lies on the grass immediately above the HWM.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal			Low
Condition comments			





SCHARP ID	Site Name		
<u>13899</u>	Rascarrel smithy l	building	
Site Type		Period	
Building; smithy		Post-medieval	
Easting	Northing	NMRS No	SMR No
280585	548354		
Description			

Tumbled remains of a building complex within a small enclosure on the strip of land between the coast edge and the track which runs between the beach and the coastal slope.

The main building is very collapsed, forming a stony mound up to 1m high. The original footprint is largely obscured by a lot of tumbled stone and heavy vegetation growth but appears to have been rectangular, around 4.4m by 4.5m, and of drystone construction of dressed stone blocks, with up to 2 courses of walling visible on the north and west sides.

A detached stub of drystone wall c.3.5m long runs between the main building and the coast, parallel to and immediately behind the coast edge, with some of the structure exposed in the eroding section. Possibly represents a revetment wall for the main structure.

The complex is surrounded by a sub-circular enclosure defined by a rough line of rounded boulders average c.0.34m across and enclosing an area approximately 6.1m E-W on the east side of the main building.

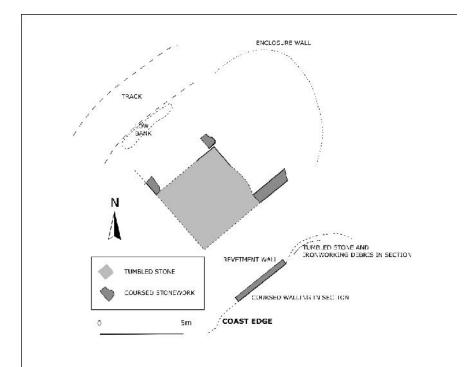
Stonework and associated deposits up to 0.6m deep are visible in section over a distance of c.8.6m in the low eroding coast edge in front of the building. The south side of the detached stub of wall is exposed in section; four courses of dressed stone are visible, with a large edge-set slab forming part of the construction. Smaller undressed stones are visible in section to the east of this with no evidence of structure and are probably tumble, with further tumbled stonework on the beach in front. Deposits exposed in this section include gritty black burnt material containing fragments of iron working debris and slag.

The line of the track respects the structures, curving around them to the north on the inland side. However, historic maps (25-inch 2nd edition OS 1895) show the track diverted around them on the south side. The change in the route may be due to coastal erosion and loss of land between the complex and the coast edge.

Thought to represent the remains of a smithy complex, possibly associated with the late 18th-19th century attempts to exploit coal in this area, and/or with the saltpans recorded on the foreshore here on the 1870 sketch map of Rascarrel Estate. John Ainslie's map of 1797 depicts several coal pits here and labels a smithy in this approximate location. The 6-inch 1st Edition OS map (1850) doesn't show a structure here but does label 'Stones' in this vicinity in the area of the bend in the track, which may represent the ruined remains of the building.

Proximity to coast	Coastal threats	Other threats	Priority score
Coast edge	active sea erosion	vegetation growth	2
Condition comments			

The site is being actively eroded, with a moderate impact on the overall site, though small trees along the line of the cost edge are partially consolidating the section, and their root systems now form small spurs projecting for 2-3m from the coast edge onto the beach.







Cairnhead

SCHARP ID	Site Name	
<u>3862</u>	CAIRNHEAD BAY MULE	SERRY HARBOUR TESTING SITE
Site Type		Period
Floating harbour cor	struction site	Second World War
Easting	Northing	NMRS No
248310	538370	265635
Description		

Description

This is a prototype testing site and associated accommodation camp for the Mulberry Harbour Project, part of the D-day preparations which involved the creation of a harbour to facilitate the beach landings. The history and development of the site and the other testing / experimental locations around the Wigtownshire coast are presented online at http://garlieston.net/wwii/ and http://www.mulberryharbour.info/.

The complex includes the remains of the landward end of the Mulberry harbour prototype; concrete structures on the foreshore, tethering posts, a concrete pontoon used as a support for the floating roadway, and associated brick and concrete structures in the hinterland; including concrete hut bases and standing buildings.

See individual site records for details and photographs. SCHARP IDs : Beetle 13984 Mooring blocks 13882, 13883 Concrete plinths 13889, 13892 Floating roadway 13894 Building 13900 Accommodation camps/buildings 13884, 13901, 13902, 13903 Proximity to coast **Coastal threats Priority score Other threats** Intertidal structural damage/decay active sea erosion 3 **Condition comments**

SMR No MDG22253

SCHARP ID	Site Name		
<u>13882, 13883</u>	Cairnhead Mulberry	Mooring Blocks	
Site Type		Period	
Anchor		Second World War	
East block (13882):			
Easting	Northing	NMRS No	SMR No
248409	538306		
Description			

Concrete block very similar to mooring block c.50m to the SW, and presumably associated. Large iron ring set into the concrete in the middle of the block. 1.37m x 1.07m, 0.47m thick.

Thought to be a mooring block for the prototype Mulberry harbour built and tested here during WW2.

Probably in original location, but softer sediment has been eroded from around it, leaving it standing proud on the foreshore.

West block (13883):

Easting	Northing	NMRS No	SMR No
248355	538294		
Description			

Concrete block measuring c.1.7m x 1m, 25cm thick. Large iron ring set into the concrete in the middle of the block. Thought to be a mooring block for the prototype Mulberry harbour built and tested here during WW2. Presumably associated with a near-identical mooring block c.50m to the NE.

Proximity to coast	Coastal threats	Other threats	0	Priority score
Intertidal	active sea erosion			Low
Condition comments				



SCHARP ID	Site Name		
<u>13884</u>	Cairnhead Mulberry cond	crete hut base	
Site Type		Period	
Platform		Second World War	
Easting	Northing	NMRS No	SMR No
248563	538287		

Possible foundations for a hut or temporary building. Linear structure of cast concrete blocks identical to those forming landward end of floating roadway surface (SCHARP ID 13894). Probably part of the associated accommodation and infrastructure of the camp.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m			Low
• H.I.			

Condition comments



SCHARP ID	Site Name		
<u>13889, 13892</u>	Cairnhead slopin	g concrete platforms	
Site Type		Period	
Platform		Second World War	
West Platform (1	<u>3889)</u> :		
Easting	Northing	NMRS No	SMR No
248318	538317		
– • · · ·			

Small, square platform built onto the bedrock in the intertidal zone at Cairnhead Bay, its surface slopes from east to west. Constructed of stone and mortar walls built directly onto bedrock, 0.54m high on the east side and 0.35m high on the west side, capped with a square, sloping slab of concrete 1.95m by 1.95m. The purpose of the structure is unknown, but another identical platform (13892, same size, slope and orientation) has been built onto the bedrock c.100m to the NE across the bay, presumably associated with this one. Possibly an observation post or a navigation marker for aircraft during the Second World War.

East Platform (13892):

Easting	Northing	NMRS No	SMR No
248424	538383		
Description			

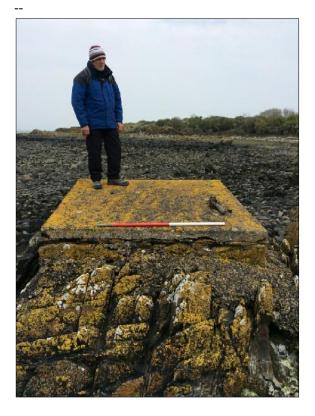
Description

Small, square platform built onto the bedrock in the intertidal zone at Cairnhead Bay, its surface slopes from east to west. Size, construction and orientation near-identical to the platform on the opposite side of the bay c.100m to the west (SCHARP ID 13889) and presumably associated, though more damaged. The concrete slab forming the surface has been broken at the SW corner. Built on bedrock on intertidal rock platform foreshore but top appears to be high enough to be above water at all states of the tide.

Proximity to coast Intertidal Condition comments Coastal threats active sea erosion

Other threats

Priority score Low





SCHARP ID	Site Name		
<u>13894</u>	Cairnhead Mulberry co	ncrete roadway surface	
Site Type		Period	
Road		Second World War	
Easting	Northing	NMRS No	SMR No
248377	538291		

Appears to have originally been an extensive area of concrete surface across the head of the rock platform foreshore at Cairnhead Bay, thought to have been the landward end of the floating roadway of the Mulberry Harbour. The surface appears to have been formed of a grid of small square concrete blocks c.0.15m square.

A curving line of edge-set blocks appears to have formed a kerb at the landward end of the surface approximately at MWHS. Now heavily eroded by wave action and largely broken into the individual pieces of the consistuent small squares which are dispersed across the beach. Only 1 section appears to be in situ close to the high water mark across an area of c.1m by 1.5m.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal	active sea erosion	structural damage/decay	Low
Condition comments			







SCHARP ID	Site Name		
<u>13900</u>	Cairnhead Mulbe	rry shed	
Site Type		Period	
Building		Second World War	
Easting	Northing	NMRS No	SMR No
248494	538398		

Rectangular stone building 7.96m N-S by 2m E-W and standing up to 2.46m high, with a concrete slab roof, part of which has collapsed into the structure. External ground level on the west side has been built up by a high mound of stone, now grassed-over. Two internal rooms, divided by a central wall with no communicating doorway between them. Both rooms have 2.33m wide doorways in the east elevation. Constructed of random coursed stone blocks, bonded with grey cement, with bricks at the corners on the east elevation, and at the reveals of the doorways in the east elevation. Gaps in the brickwork across the doorways may have housed wooden slats. A large iron hinge is set into the central stone and brick pier between the two doorways, short lengths of iron project from this pier, possibly the remains of a door housing, locking mechanism or hinge. Lengths of iron bar project up to 0.25m from high in the east wall near the north corner. Concrete floored, with a single step down into both rooms, with a flat 1.4m wide platform in front of the east wall running the length of the building. The north half of the concrete roofing slab has collapsed into the interior and the upper courses of the north wall have collapsed. Probably a store or shed associated with the Mulberrry Harbour testing site.

Proximity to coastC11-50mnCondition comments

Coastal threats not eroding Other threats structural damage/decay

Priority score Low



SCHARP ID	Site Name		
<u>13901</u>	Cairnhead Mulberry ab	lutions building	
Site Type		Period	
Building		Second World War	
Easting	Northing	NMRS No	SMR No
248540	538292		

Brick rectangular building orientated E-W, 6m by 12m, surviving to roof height of c.6m. A wide opening in the east end may be a later modification of the structure for agricultural use.

Divided into 2 main internal spaces. A large open room with an internal partition partway along the centre of the room, and two small enclosures at the west end with a water tank above. One compartment contains what looks like a shower tray.

Appears to have been an accommodation and ablutions blocks associated with the Cairnhead Mulberry testing camp.

Currently disused, but several bits of farm machinery inside attest to later reuse.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m		vegetation growth; structural	Low
		damage/decay	

Condition comments





SCHARP ID	Site Name			
<u>13902, 13903</u>	Cairnhead accommo	Cairnhead accommodation camp		
Site Type		Period		
military camp; structure	S	Second World War		
South area (13902):				
Easting	Northing	NMRS No	SMR No	
248535	538296		MDG22253	
Description				

This is the south area of surviving remains of accommodation and service blocks for the Cairnhead Mulberry harbour testing camp.

Brick and concrete foundations of at least nine structures, most probably Nissen Huts. Three of the structures have chimneys. Remnants of pathways, drains below-ground tanks are also visible. Construction type varies; some are brick strip foundations, some a concrete slab bases, some are brick stanchion foundations.

A low E-W aligned brick wall, c.9.2m long, 0.62m high and 0.6m wide, topped in concrete with a sunken trough in its upper surface stands on a grassed-over area of concrete hardstanding to the east of the ablutions building (SCHARP ID 13901) and may be associated with the camp, or may be a later agricultural structure.

North area (13903):

Easting	Northing	NMRS No	SMR No
248531	538367		MDG22253

Description

The north area of surviving remains of accommodation and service blocks for the Cairnhead Mulberry harbour testing camp. Includes foundations for several structures formed of concrete slab bases, several sunken drains and the tumbled remains of a stone wall which encloses the complex on the north seaward side.

The wall is very tumbled, visible for a length of c.22.7m NE-SW (though likely continues into dense vegetation), c.80cm wide and survives to max. 10cm at its highest point. Only stone is visible in the construction and spread rubble.

The most obvious foundation is a concrete base, c.10m by 3.13m aligned E-W, with a 0.12m wide shallow trough parallel with the north side and 0.3m from the edge, close to a 0.17m diameter pipe set into the floor. Thought to be the remains of the toilet block. A small rectangular annexe (1.19m by 0.74m) on the south side, with a small step, may be the original entrance vestibule.

Three brick-lined, sunken rectangular areas (248529, 538352; 248537, 538362; 248525, 538345) are the remains of drains. Measuring 1m by 0.75m, 2-3 bricks deep with a concrete base set with linear channel housing ceramic pipe.

Proximity to coast	Coastal threats	Other threats	Priority score
11-50m		vegetation growth; structural	Low
		damage/decay	

Condition comments

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SCHARP ID	Site Name		
<u>13904</u>	Cairnhead Mulberry Beetle pontoon		
Site Type		Period	
Pontoon		Second World War	
Easting	Northing	NMRS No	SMR No
248347	538391	287700	MDG23003

A boat-shaped 'Beetle', one of the reinforced concrete pontoons which supported the floating roadway of the Mulberry Harbour prototype which was tested at Cairnhead Bay prior to D-Day. Sitting at the low water mark on the rock platform and cobble beach, lying roughly N-S, measuring approx 15m by 7m and standing c2.5m high. The iron and wood reinforcement straps around the 'hull' are visible and still attached in places though are deteriorating with occasional detached fragments on the surrounding beach. Currently intact other than a single small hole c.0.5m in diameter in the top. Appears to be an unusual shape of pontoon; the other extant examples at Garlieston Bay and Port Whapple (Scheduled Monuments, ref SM12937) are simpler rectangular/octagonal shapes. Very vulnerable to decay and deterioration in the intertidal zone.

Can be seen in use in historic photographs on the site available at http://garlieston.net/wwii/ and http://www.mulberryharbour.info/.

Proximity to coast	Coastal threats	Other threats	Priority score
Intertidal	active sea erosion	structural damage/decay	1
C			

Condition comments

This very rare monument is important for the development and history of the Mulberry Harbours where played a key role in the Normandy beach landings, but was constructed as a temporary structure and has been sitting on the intertidal foreshore for 70 years.



