

Weelies Taing



Inter Tidal Survey

OIC Report

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Executive Summary

This report sets out the results of an inter-tidal survey undertaken by Orkney Research Centre for Archaeology (ORCA) Marine on Weelie's Taing and North Wick, Papa Westray on behalf of Orkney Islands Council (OIC). It sets out the methodology used, the results and the conclusions of this phase of investigation.

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1.0 Introduction

A coastal and inter-tidal survey was conducted in the area of Weelie's Taing on Papa Westray employing a differential Global Navigation Satellite System (dGNSS) to record man-made features in the shallow water and above High Water Mark (HWM). Dry-suit wading around the harbour allowed examination of the submerged sediment and make-up of the structures. Some stripping of seaweed was required to expose features in order to understand whether they were constructed or of natural origin. A coastal and inter-tidal walkover of the surrounding bay of North Wick (from The Cletts to Surhoose Taing) also took place to locate the sites in their maritime landscape setting (Figure 1). The survey was conducted around spring low tides to maximize the area that could be surveyed, and during early spring to avoid conflict with seal pups. During the higher stages of tide the areas above the high-tide mark were investigated.

As the inter-tidal zone is closely related to activity on the coastal and subtidal zones, this study adopts a maritime cultural landscape approach, which requires complementary investigation of not only the physical remains, but also natural and cultural features (Westerdahl, 1992). It further incorporates the dynamic nature of the relationship between the land and the sea from long-term relative sea-level change, as well as currents, winds, seabed topography, seasonal changes and the diurnal and monthly movements of the tide (Cooney, 2003: 324). It emphasises, thus, that ports, fish traps and features on the inter-zone cannot be understood in isolation of one another, or without reference to their neighbouring environments.

2.0 Maritime Cultural Landscape of the North Wick, Papa Westray

Papa and settlement at the Knap of Howar on the west coast (Ritchie, 1983). Deer antler has been found on the beach at North Wick, probably deriving from submerged terrestrial deposits formed when sea level was lower than today, that is until 4,000 years ago (Bates et al., 2012: 31). Antler was also found in deep peaty earth in the centre of the North Taing (probably Surhoose Taing or the north point of the Holm of Papa): islanders recall people crossing to the Holm by this route at low tide (Bowman, 1990: 322). The antler could have been eroded from the area of the northern chambered cairn on the Holm of Papa where it was discovered in 1849

(Ordnance Survey, 1882). Cod and ling fishing grounds are marked on charts to north of Papa Westray (Mackenzie, 1750; Bennett & Sayer, 1781), and deep-water fishing occurred from the Neolithic as cod and ling remains were found in and around the northern chambered tomb on the Holm of Papa and at the Knap of Howar (Harland, 2008; Ritchie, 1983: 56).

Weelie's Taing is at the northern end of North Wick in an area called Hundland, possibly meaning land of the dog. The North Wick is a bay on the eastern side of Papa Westray on the western side of the North Sound. The North Sound is a body of water at the northern end of the Orkneys enclosed by Papa Westray, Westray, Eday, Sanday and North Ronaldsay. To the south-east is the Holm of Papa, a small islet, which contains at least three prehistoric cairns or burial mounds. The southern end of the North Wick is Surhoose Taing (older maps refer to Shorehouse Taing), which extends seaward at low tide from Cott on Papa Westray. The body of water between Cott and the Holm of Papa is known as Holm Sound (around 900m at high water), which at low tides is only separated by 100m from the Holm of Papa. Holm could come from the Old Norse *hörn* - a 'haven' or 'good anchorage'. However, *holm* also means a small island. The perilous nature of this coast is revealed by three 20th-century shipwrecks: MFV *Damari*, a small British fishing vessel wrecked in 1997; *Tyra*, a Swedish wooden schooner with a cargo of pit props, lost in 1913; and SS *Bellavista*, a Panamanian cargo ship carrying iron ore that ran aground in dense fog in 1948 (Whittaker, 1998). Parts of these vessels were recorded during the survey of Weelie's Taing (Figure 2). An anchorage is marked on charts to the north of Papa Westray between Holm of Papa and Papa Westray (Bennett & Sayer, 1781). The North Wick offers the closest sheltered area to the fishing grounds and also the closest harbour on the route northwards to Fair Isle and Shetland. The currents are strong off Mull Head at the northern part of Papa Westray: they are known as The Bore Röst with speeds of 5 knots. As it is the highest point on Papa Westray at 48m, the North Hill was probably one of the medieval signal posts.

The hinterland of Weelie's Taing today is in an area of farmland, while fishing continues offshore. Seaweed is washed up along the northern shore, and has traditionally been used for fertiliser. Weelie's Taing is an ayre made of boulders that extends southward from the headland of Savil Ness. At the lowest tides, bedrock on which the ayre has formed is exposed to the west and south west of the ayre (Figure 3). The enclosing boulder spit is 20 to 50m wide. The ayre encloses the Loch of the

Taing with a sandy substrate: it measures about 200m N-S by 150m E-W. An older ayre (Ayre o'Stoorgray) forms the beach on the west and north side of Weelie's Taing enclosing the small Loch of Ness in the farmland landward. The Ayre o'Stoorgray has now grassed over and cobbles form the beach. The Loch of the Ness could have been an inner more sheltered loch at Weelie's Taing when it was in use. Evidence of coastal change is visible in thin layers of peat in the eroded section of the beach separated by beach sands. At high tide today Weelie's Taing is completely covered. The shallow ayre even at high tide contributes to a sheltered area on this exposed coast so it may have been in use even when completely submerged.

2.1 Coastal settlement

The Cletts (Site 2) is a series of drystone wall enclosures along the shoreline to the north of Weelie's Taing. These walls probably functioned as farm buildings in the 19th century, but more recently have been used for growing vegetables and are referred to as 'The Quoys', Orcadian for enclosure or cattle pen. Evidence of kelp pits was recorded, and burnt stone; periwinkles, limpets, and an iron handle for a cooking pot were seen eroding from the midden and buildings along the HWM. The foreshore here is not a suitable boat landing due to the exposure to waves from the north and east: consequently, Weelie's Taing, or North Wick to the south, were probably used for landing vessels.

Surhoose Taing (Site 3) begins in the west at Cott and Shorehouse, which is a prehistoric to present settlement consisting of a mound, with traces of dry-stone structures, and a midden of shells and animal bones exposed along the shore. Structural remains and anthropogenic soil deposits are visible in the coastal exposure for over 100m. The section stands up to 3.5m high. The midden deposits contain inclusions of shell, bird, mammal and fish bone, peat ash, charcoal and burnt stone. The latest structural phase lies beneath a farm mound and a farmstead of 18th- to 20th-century date. The extensive archaeological remains in this area apparently represent a settlement of some duration. Of the several parts of the buildings currently visible, none is obviously of Iron Age type and it is possible that they predate this period (Moore and Wilson, 1998: 39). The settlement here is probably associated with the Holm of Papa opposite due to the short walking distance at low tide. Wells are marked in the 1882 OS map at farmsteads along the North Wick including Shorehouse, Ness and Via.

2.2 Landing places

Landward on the northern side of Weelie's Taing, near to a kelp pit, are sharp bends landward in the line of a field wall which is otherwise parallel to the HWM. This marks out a space accessible from the Loch of the Taing, landward of Feature 8 and above the HWM. It may have been a boat house or store for fishing or other maritime equipment i.e. a naust that is older than the field wall, which had to respect its position (Figure 4). A fibre-glass boat recorded at the HWM of Ayre o'Stoorgray indicates the use today of the ayre for shelter and as a landing place. Local knowledge records that there were nausts below Hundland and Bewan (the area of the North Hill), but no traces could now be seen (Canmore ID 3248).

Just outside Weelie's Taing to the west are further structures associated with landing boats, including an iron winch probably marking the location of a naust; and further south again are two upright flagstones perpendicular to each other immediately above the HWM, which is a similar type of wall construction to the nausts at Cott (Site 3). Both of these nausts have been badly eroded, and the winch is presently lying on the cobble beach.

There are at least eight nausts in the steep banks directly below the settlement at Cott and Shorehouse (Site 3) (Canmore ID 2883). These are formed of upright flagstones set edge to edge. The chain for securing a boat to a hole drilled through one of the flags, survives in one of the nausts. Bowman (1990: 317, 322) identified two nausts at Shorehouse as late 19th-century or early 20th century, but there has been significant erosion in this area that has probably removed earlier features. Myhre (1985: 52-3) believed Norwegian boathouses were built in the same location for several hundred years as they indicate the important administrative centres. The importance of North Wick as a landing place is shown that locals said most of the Papay boats used to land their catches at Cott at the turn of the century (Lamb, 1982). The inter-tidal zone in front of the nausts at Cott is flat bedrock below a sandy beach, which would have been safe areas for landing a boat. This is on the sheltered north side of Surhooose Taing. The inter-tidal pier at Shorehouse (Figure 5a) does not appear to have been recorded in earlier surveys. It is in the middle of the western landward side of Surhouse Taing and is associated with landward nausts. It consists of vertical boulder flagstones up to 1m wide placed perpendicular to the direction of

the pier. The pier extends from the sandy beach in the upper inter-tidal zone to the more exposed bedrock and cobble/boulder beach of the taing. The site uses the shelter provided by the taing for vessels at high tide to either sail southwards into South Wick or north to North Wick depending on the wind direction. There is a cleared channel on the southern side of the pier where boats can be brought up onto the sandy substrate. This lies between the pier and high bedrock outcrop. Unless there has been relative sea level fall, the pier was probably only used during middle stages of the tide as it is covered at high tide.

2.3 Inter-tidal features on Weellie's Taing

Features 1 to 4 are in the north-western part of the ayre covering an area about 34m by 17m. Feature 1 consists of N-S orientated drystone cassieing that gently slopes up and back down again to form a domed shape on the north western side of the slipway (Figure 5b). The feature is 9.6m E-W by 4.5 to 6.5m N-S. The domed shape is probably to allow water runoff and acted as a pier where people or goods could be unloaded or loaded from a boat. The cassieing would have made the surface less perilous for people working or boarding vessels. The cassieing and gentle slope would also have allowed ponies or horses to walk on this surface and would have helped in the transport of goods to and from the vessel to other parts of the island. The curve of the feature could also help with the curved hull of vessels coming alongside. As this feature is covered by high tide it may have been in use as the tide fell after a boat was brought beside at high tide. Feature 2 shows similar cassieing joined onto the southern end of Feature 1. The boulders that comprise it are orientated E-W (perpendicular to F1) with dimensions 3.6m wide by 3.0m: it is probably a later addition to F1 as it does not extend the complete southern length of F1, instead respecting F1's position. This indicates that at some point there was a need to extend Feature 1, perhaps resulting from an increase in boat size or need for more working space on the pier.

Feature 3 consists of flagstone boulders on the north (landward) side of Feature 1, arcing for around 8.8m NE-SW. They slope underneath supporting Feature 1 (Figure 5c). These blocks are 0.45m by 0.15m and up to 1.0m in length. The steep unsupported angle on the landward side of Feature 3 indicates that there was probably a feature immediately landward. It may be that the stones for this landward feature were reused in making the pier or it was made of wood and has not survived.

It could have been a circular watchtower or custom house as Features 1 and 2 could be a loading pier. Cassieing in the same direction as Feature 1 is along the eastern edge of Feature 1 indicating that this edge is contemporary with the feature. They are at a different direction to the make-up of Feature 4 – drystone walls and beach clearing. Feature 4 is probably a later construction (Figure 5d). The Ordnance Survey map from 1882 shows a landing place or cleared area of large stones in the area of Features 1 to 4 indicating that this could have been a place where vessels were dragged or pushed up the beach when tide was low.

Feature 2 shows cassieing orientated in the same direction as the stone walls that make up the beach clearing, while its eastern edge is orientated at the same angle suggesting that features are contemporary. Feature 4 is made up of two stone walls with cassieing perpendicular to its length. The western wall is a continuation of Feature 2. This eastern wall stretches for around 27.7m and the beach clearing is around 7.5m. Feature 4 walls are around 1.2m wide orientated N-S but most of the boulders in its construction are orientated E-W like Feature 2. These walls and beach clearing lead to a tidal stream at the mouth of the ayre where boats can be launched into the North Wick. The eastern dyke is longer starting from approximately the same distance landward as Feature 1 and then running parallel with the other dyke until they both reach the mouth of the ayre at low tide. Stones have been cleared from this area to make a 'slipway' for boats to be brought up the beach between the dykes from the mouth of the ayre. The beach clearing widens near its landward terminus (due to Feature 1 being constructed at a different angle) and this must have been for more boats to be anchored ready for being brought down the slipway. It is possible that the HWM was much nearer this location when the slipway was in use and erosion has caused shoreline retreat to its present position. The beach clearing was evidently in use in the 20th century as there are the remains of an iron trailer to launch boats on the inter-tidal zone nearby.

Feature 5 is a stone wall orientated NE-SW cutting across the highest part of the ayre taking the shortest distance across the ayre i.e. perpendicular to the ayre (Figure 5e). The stone wall consists of boulders and flagstones extending for 15.13m by 1.99m. The most likely explanation is that this wall was a boundary of a canal that formed another entrance to the loch. It also links with the southern end of the outside dyke which has been interpreted as a pier. This more southerly location across the thinnest

area of the ayre makes more sense for launching boats out of the ayre more quickly than the more landward location in use today.

Feature 6 is a drystone stone circular structure with an outside diameter of 11.4 to 13.0m and an inside diameter of around 7.9m (Figures 4 and 5f). It is made of boulders, some very large, forming walls up to 1.7m thick. There is seaweed in middle indicating today that it floods at high tide. Rubble is especially noticeable on the south side. This has previously been interpreted as a refuge or 'sheep-fort', for sheep cut off by the tide (RCAHMS, 1983). However, its position at the highest point of the ayre overlooking the Loch of the Taing to the north, North Wick to the south and North Sound to the west suggests it was a watchtower guarding the entrance to the loch. It may also have a function as beacon to guide ships to the harbour.

Feature 7 is a wall broadly orientated NE that curves east with distance from the stone circular structure (Figure 5g). It cannot be seen to connect to feature 6 at its western extent as this area has been eroded. The wall is 0.6m high today and appears to block the way on to the ayre from the east. It is 57m long and 1.8m thick, boulders are 0.6m by 0.15m by 0.3m above ground. A particularly large boulder around 2.0m in length and 0.5m wide is found near the eastern end of the wall. This wall and the watchtower are found along the highest part of the ayre suggesting it was in use for defending the eastern side. This may be for military defence or defence against the sea to protect the loch's waters at high tide. The apparent lack of wall continuance to the north of this point is probably due to either erosion or deposition of boulders on top of the wall's foundations. The northern side of the ayre is more exposed to sea and, therefore, more likely to have been exposed to marine processes.

Situated on the northern side of Weellie's Taing, Feature 8 appears to be a pier (Figure 5h). It is linear and of regular height as it extends into the Loch of the Taing. It is covered at high tide and appears below the modern cobble and boulder upper beach extending through the sandier substrate of the loch. Today loose boulders and cobbles cover a brown sandy soil enclosed on both sides by vertically-placed boulders. The boulders are sub-angular and around 0.7m in size. The pier is 61.35m long and 5.26m wide. The soil suggests that this was once above HWM indicating that the feature was built when relative sea level was lower. Other possibilities are that the soil was transported to infill the structure or the pier was dug out of the

coastline. There are two 'arms' to this pier perpendicular to the main length of 5.39m width and 24.48m length. These may have enclosed docks for servicing vessels. The seaward end of this pier is curved, and may have been affected by erosion. The upright boulders could only be traced as far as the 'arms'. The line of boulders enclosing the peat could not be observed near the seaward end or on the arms. For many of the features on Weelie's Taing to perform their tasks, including the watchtower, the entrance canal and the docking area at Weelie's Taing, relative sea level would have had to be lower, emphasising the antiquity of the site.

Finally, Feature 9 is another pier situated seaward of the modern southern mouth of the ayre (Figure 6). It is made of cassieing blocks around 55m in length (NE-SW) and 1.0 to 4.0 in width. It is below the top of the ayre so could only have been used at low tide. It has been built on a sandy substrate. This must have been a place for boats to wait at low tide before entering the ayre at high tide. Boats probably used it to enter the ayre between Features 4 and 5. The northern end is particularly well placed for vessels to reach the beach clearing of Feature 4 as the tide rises. There is evidence of collapse of this drystone structure and is heavily covered in seaweed. Figure 6 shows a beach clearing along the western side of Weelie's Taing indicating that vessels may also have been brought up this side of the ayre. This beach clearing leads to the area of a winch and naust at HWM recorded in the survey.

3.0 Conclusions

The physical evidence at Weelie's Taing in the form of a beach clearing and piers determines that it was used as a harbour in a manner which is not uncommon in other ayre environments elsewhere in inter-tidal Orkney. At Weelie's Taing, however, considerable work has gone into the construction of a channel into the ayre, a pier now only usable at low tide (perhaps due to sea level rise), a platform perhaps designed for ease of entering vessels, and a watchtower and seawall along its eastern side. Important fishing grounds exploited since the Neolithic are found to the north of Papa Westray and Weelie's Taing, is the closest harbour to those waters. However, the high level of construction of Weelie's Taing was probably beyond the requirements of the fishing community itself as they could have used landing places around the North and South Wick.

That being so, it is interesting to speculate on the wider potential past use of the harbour. It is noteworthy that Papa Westray had an important religious community from the Medieval period, notably at St Boniface and St Tredwall. Fish processing at St Boniface church in the 12th century AD was also an element of the maritime setting. Whereas St Boniface and St Tredwall are located on the west of Papa Westray, landing opportunities are poor on this rocky and exposed shoreline. It is not difficult to imagine Weelie's Taing, lying less than 3kms to the east, providing the connecting link to the world beyond the island and the principal landing-place for the fish catch. The religious theme is also extant in the meaning of Weelie's Taing if 'weelie' is correctly interpreted to refer to a recognized stopping-point in the transportation of a corpse. The possibility is again raised of a link with those same religious communities if death occurred elsewhere but burial was to be conducted on the island.

Weelie's Taing might have had wider significance in the communication map of the Medieval period. Its location in the far north of the Orkneys close to the Fair Isle Channel, (and the lack of an equivalent sheltered harbour on North Ronaldsay, which lies to the north-east of Papa Westray), would suggest its possible importance on the route northwards to Shetland. In the exposed waters of the North Atlantic the minimisation of any sea-leg when under sail or oar would have been advantageous: thus, Weelie's Taing as a jumping-off point or arrival destination could have kept the 100km distance to Shetland, or 70km to Fair Isle, to a single day's travel.

It is unfortunate that the lack of artefactual evidence and long-term actions of marine processes severely restrict a more certain reconstruction or dating of the harbour. The general absence of ceramic in many Norse sites eliminates an otherwise useful dating facility, although the maritime environment is often not conducive to shoreline preservation even if pottery had been used. The surrounding coastal settlement evidence from the North Wick suggests use of the area from the Neolithic to the 21st century. However, the cassieing inter-tidal stonework, which is very prominent in many of the features in Weelie's Taing, appears to be related to nausts contemporaneous with the pier at Cott and Shorehouse, which date more from the Medieval period through to the recent past.

Both field investigation and its interpretation are further complicated by sea-level change and marine erosion since construction. Erosion of the nausts is readily apparent along this coast, while the pier at Shorehouse no longer extends back to the

shoreline. Moreover, the presence of peat along the beach within the ayre, and the observation that features on the ayre itself perform no purpose at high tide today due to their submergence; show the impact of a rising relative sea level since the time of the harbour's principal use. This tends to confirm that Weelie's Taing's peak significance dates to a much earlier period, and probably Medieval times when Papa Westray was less isolated and economically and culturally peripheral than it is today, although the possibility of even earlier use cannot be ruled out. Overall, the study emphasises the challenge of archaeological field-work in an active marine environment, but one which in this case has revealed both a novel type of harbour deriving from Orkney's maritime geomorphology, as well as the possibility of an intriguing potential history.

4.0 Abbreviations

dGNSS	differential Global Navigation Satellite System
HWM	High Water Mark
OIC	Orkney Islands Council
ORCA	Orkney Research Centre for Archaeology
RCAHMS	Royal Commission on the Ancient and Historical Monuments of Scotland

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6.0 Figures



Figure 1: Surveyed areas around the North Wick (E. Pollard).

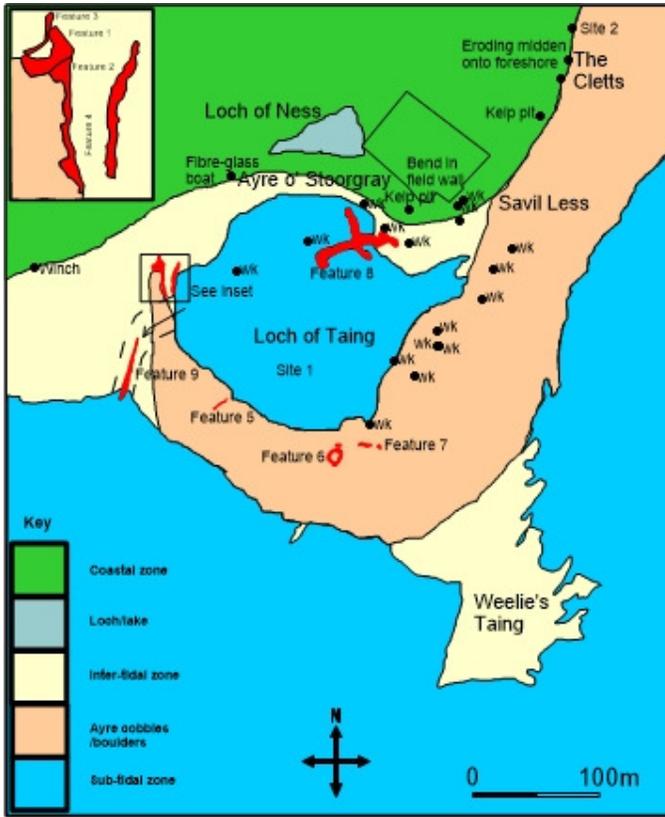


Figure 2: Features on Weelie's Taing (E. Pollard).



Figure 3: Weelie's Taing looking east at a high (left) and low (right) stages of water. There is an extensive tidal range of 3 to 3.5m exposing a foreshore of around 80m width (E. Pollard).

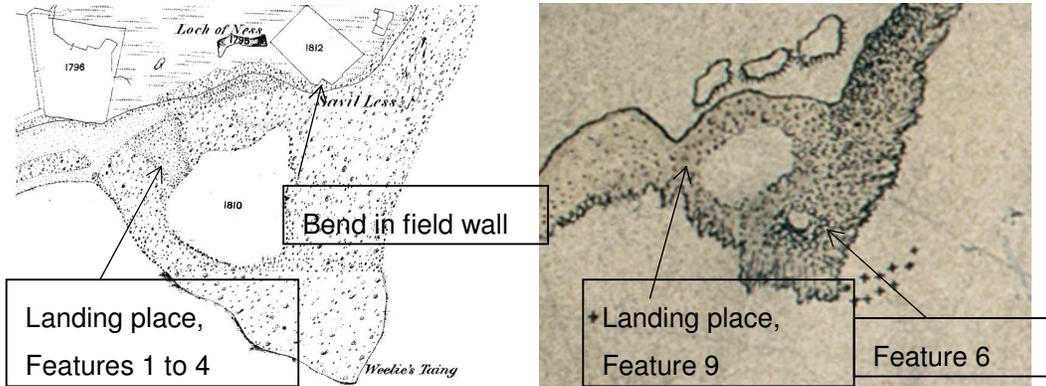


Figure 4: (Left) OS 6-inch map (Orkney and Shetland (Orkney) 1882, sheet lxxi); (Right) Section of the original hand-drawn Admiralty chart of The North Sound showing the North Wick and a circular structure on Weelie's Taing (Thomas, 1848).

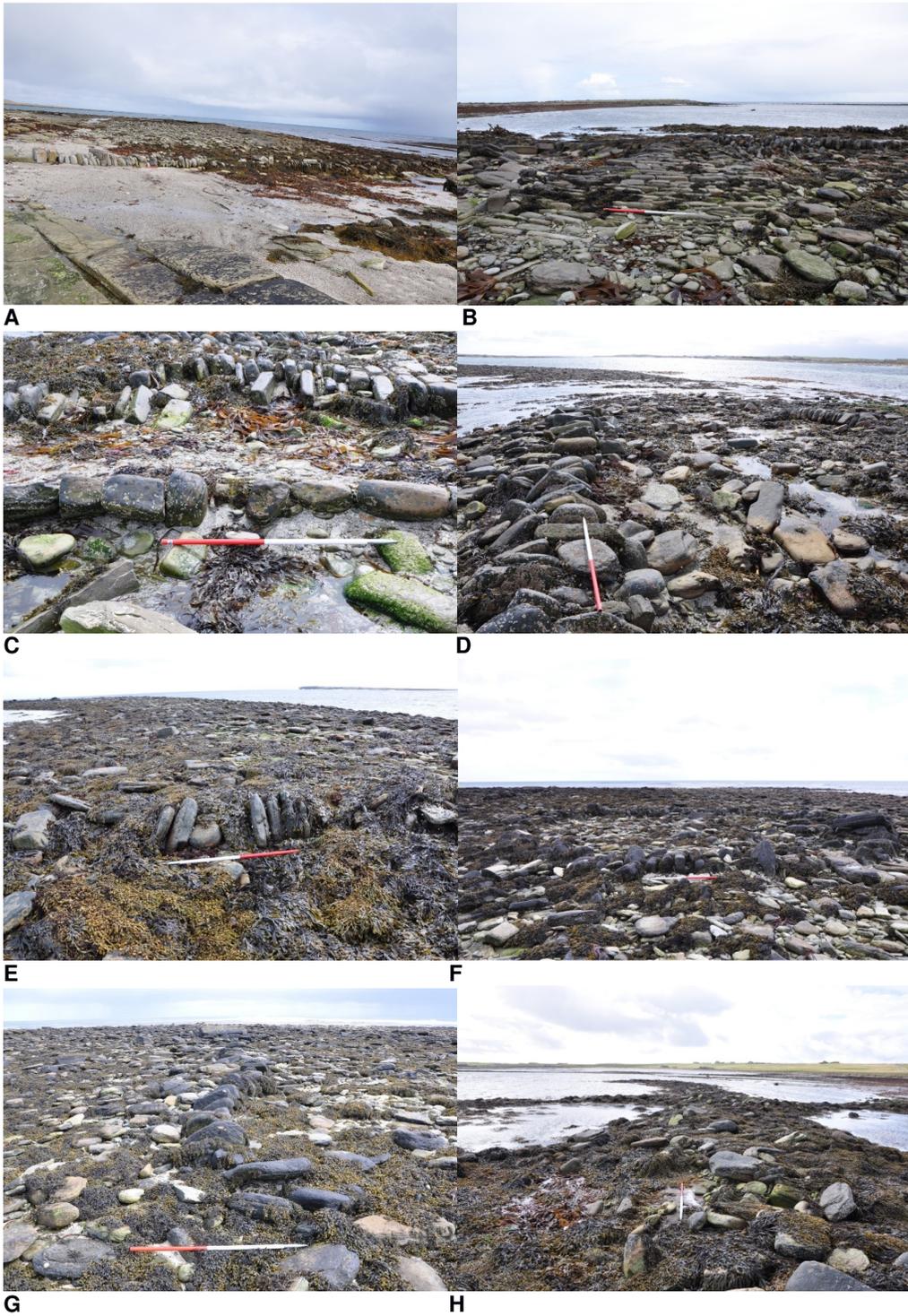


Figure 5: A: Site 3 pier at Shorehouse looking north at low tide; B: Feature 1 looking east; C: Feature 3 boulders set below F1 looking south at the northern or landward edge of F1; D: Feature 4 walls looking south at the entrance to Weellie's Taing; E: Feature 5 looking south; F: Feature 6 looking east; G: Feature 6 boulders on looking SW; H: Feature 7 looking east at wall that possibly originally connected to Feature 6; I:

Feature 8 looking SW showing soil in the centre of the pier; J: Feature 9 looking south (E. Pollard).

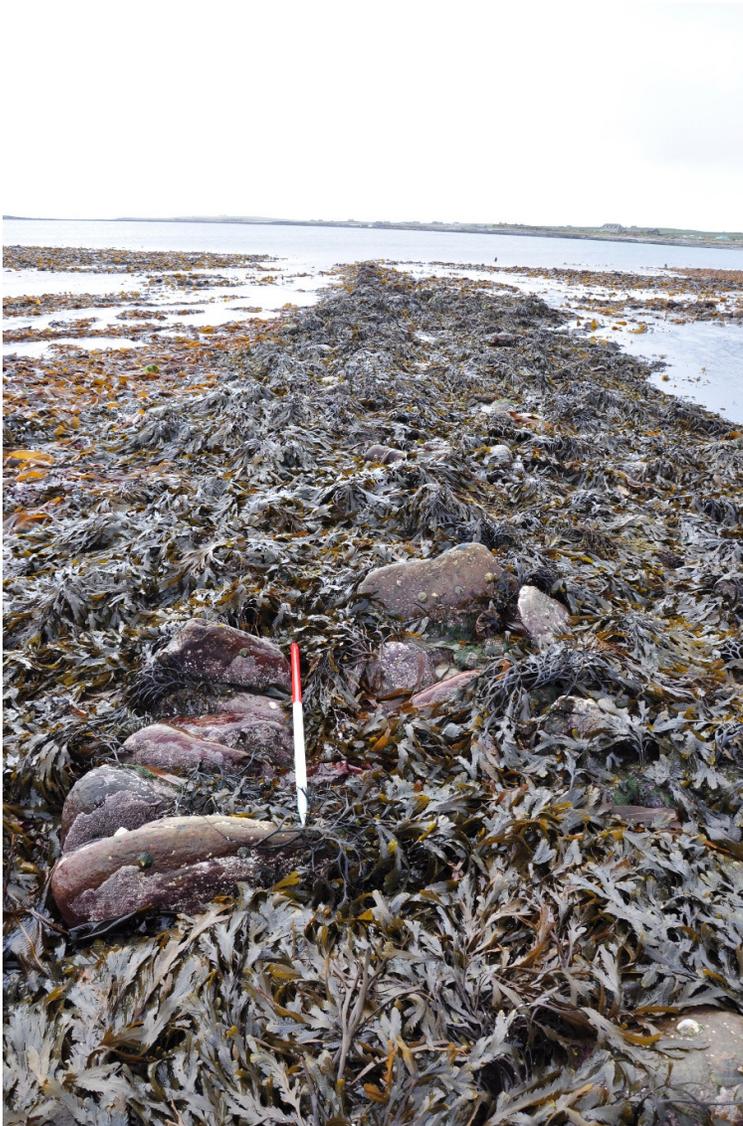


Figure 6: Feature 9 looking south with some seaweed cleared to show the cassieing (E. Pollard).