'We were always chasing time.' Papers presented to Keith Blood.
(Northern Archaeology *volume 17/18, 1999*).

The Sands of Time: The Investigation of a Norse Settlement at Dunnet Bay, Caithness

Tony Pollard

Introduction

This paper presents the results of the small scale investigation of a Norse settlement at Marymas Green, Dunnet Bay, Caithness (NGR ND 219 706). It seems a fitting contribution to a volume dedicated to an archaeologist who during his years with the Ordnance Survey spent much time recording the archaeology of north-east Scotland. The author cherishes happy memories of the year Keith took part in the excavation of the site at Dunbeath about 35 km to the south of Dunnet, carried out by members of the Archaeology Dept. at Glasgow University under the direction of Alex Morrison. Those fortunate enough to have been part of the excavation team that season, including Andrew Baines and Iain Banks, still talk of the evenings spent with Keith and his friend John Barneveld in the Inver Arms, whistling along to the songs of Roger Whittaker which issued, again and again, from the newly installed CD player.

The site (Fig. 1 and Plate 1) reported here first came to light when archaeological deposits were observed eroding from the landward side of a sand dune at the rear of the beach at Dunnet Bay (Myatt 1992). This dune had been partially cut away some 30 years before during the construction of a new road (the A836) which runs immediately to the east of the site (Fig. 1). This disturbance, along with erosion caused by grazing sheep, revealed deposits of marine shells and elements of dry-stone walling high up in the exposed face of the dune. The deposits were brought to the attention of the Regional Archaeologist who, with the encouragement of the local community, commissioned an evaluation of the site. An investigation of the site was carried out by the author, with assistance provided by postgraduate students from Glasgow University and members of the local community as part of Highland Archaeology Week in September 1995.

Excavation aims and strategy

The project had several aims, all of which were to be accomplished within the confines of a small scale evaluation excavation. The most important of these aims were to assess the date, function and extent of the archaeological features eroding from the sand dune. The eroding section, from which the shell midden and elements of masonry protruded, was selected as the first element to be investigated, as it allowed access to archaeological deposits without the prior excavation of trenches. The section was cut back, cleaned and the archaeological remains recorded. Examination of the section face suggested that the exposed archaeological deposits ran back into the body of the dune, possibly for some considerable distance. In order to verify this a series of small trial trenches were excavated on the summit of the dune and around its edges. Archaeological features and buried land surfaces were detected in a number of these trenches, indicating the presence of archaeological deposits beneath much of the area now occupied by the remnant dune. Archaeological deposits within the trial trenches were subject to the minimum degree of excavation necessary to achieve the aims of the evaluation. Once the work had been completed all trenches were carefully back-filled and the exposed section consolidated as far as possible with material removed during the course of the investigation.

Excavation Results

Eroding Section

Shell midden deposits and drystone wall

What first appeared to be a wall-end (008) eroding from the sand dune, with a shell midden deposit heaped against its southern face, was very soon found to represent the south-eastern face of a wall which ran into the dune at an angle. Isolated stones, visible in the section face to the north of the exposed wall (Fig. 2), appeared to represent remnants of the wall after partial collapse.

Cutting back the midden deposit (007) to the south of the exposed wall portion revealed the continuation of the wall beneath the sand. The wall was constructed from unmodified blocks and water-rolled slabs of Caithness sandstone.

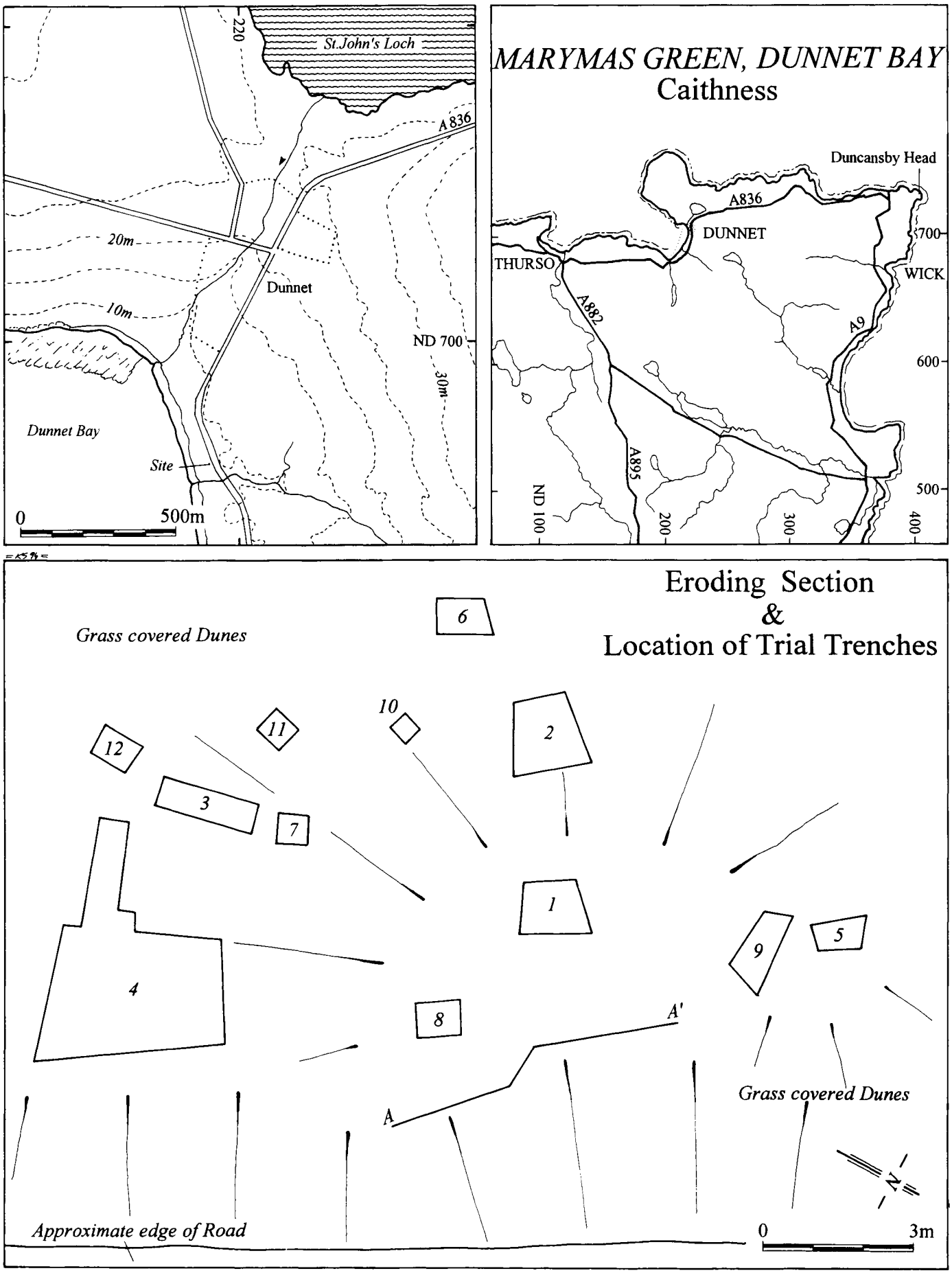

Fig. 1. Dunnet - site and trench location.

Buried land surfaces

Cleaning back the section revealed that the drystone wall (008) described above had been built on a buried land surface. In order to investigate the character of this deposit more thoroughly the cleaned section face to the south-west of the wall (Fig. 2) was extended downwards, by cutting a series of steps into the dune, which sloped steeply toward the road. This exercise revealed not only the former land surface but also a series of earlier land surfaces, at least some of which may have had an anthropogenic origin.

This series of earlier soils (043, 033, 013, 036), consisting of bands of dark and light brown humic material, possibly enriched by charcoal and other fertilising agents, was buried beneath deposits of clean, blown sand. These deposits may therefore represent agricultural soils which had been buried beneath wind-blown sand. Archaeological investigations in areas such as the Outer Hebrides and Orkney have demonstrated that even active sand dune systems can support low level agriculture. However, these marginal soils require careful husbandry and the regular application of fertilisers such as seaweed or midden material (Dockrill *et al.* 1994). These machair environments are fragile and prone to rapid destabilisation. The removal of bonding grass cover by grazing animals may have been one cause of the submergence of these former ground surfaces beneath deposits of blown sand (Ritchie and Welfare 1983).

In order to further investigate the relationship of the wall foundations to these buried horizons the sand face immediately to the north-west of the denuded wall (008) was cut back at a right angle to the section face (not illustrated). This north facing section revealed that the foundation stones of the wall had been cut into humic deposits similar to those identified in the long portion of the section to the south-east. These deposits were overlain by a considerable quantity of wind-blown sand which had come to rest against the north-western face of the wall. Some of the upper stones in the wall appeared to have toppled against this sand deposit, which graded in colour from grey to white, perhaps indicating several episodes of accumulation. The presence of a thin deposit of dark brown sand (024) which contained charcoal, clay and some periwinkle and limpet shells, sandwiched within the wind-blown sand deposit represents further evidence for this episodic deposition. The convex profile of this deposit, as it appears in the north-east facing section (Fig. 2), may have resulted from midden material being dumped onto sand which had accumulated in a mound against the north-western, seaward face of the wall. The full extent and character of this deposit was not ascertained during the excavation, although its absence in the slot cut back into the section to provide a profile of the wall suggests that it is of limited extent.

On the basis of the field examination of the deposits described above it is possible to propose an interpretation for this part of the site. It has already been suggested that the buried organic horizons may represent agricultural soils which were periodically submerged beneath deposits of blown sand. The wall, the foundations of which were cut into an upper horizon of organic soil, may represent an attempt to prevent sand blowing from the beach onto an arable field represented by this soil horizon. Following the wall's construction, midden material (007) accumulated against its inland face, perhaps prior to being spread on the fields as fertiliser. However, a limited deposit of blown sand had accumulated against the eastern wall face prior to the deposition of midden material. Far more substantial accumulations of sand were present on the north-west side of the wall, the upper courses of which had toppled onto this heaped sand. Eventually the blown sand completely smothered the wall, burying both the latest organic-rich soil horizon and the heap of midden material.

Trench 1

In order to supplement the examination of the section face a number of trial trenches were excavated across the dune. Trench 1 was located on the summit of the dune (Fig. 1), and was found to be bereft of any obvious structural remains. However, soil horizons similar to those identified in the lower part of the eroding section were present, and may provide further evidence for the presence of arable fields prior to the accumulation of the sand.

Trench 2

This trench was located against the seaward (west) side of the main dune mound, where again the removal of wind-blown sand revealed buried soils. The first of these layers consisted of a dark brown sand with charcoal fragments. Beneath this layer was a deposit which had been stained dark through the presence of charcoal. A number of stones which appeared to have been burnt were stratified beneath these two layers.

Trench 3

Removal of the turf and an upper deposit of clean sand in this trench cut into the south facing slope of the dune revealed a dark brown organic layer which contained burnt stones, burnt and unburnt animal bone and some shell. This deposit was also observed in trench 7, where it represented the upper of several similar deposits. In the down-slope, south end of the trench this deposit terminated abruptly and was replaced by clean, grey sand. This termination may mark the original extent of material tipped down the slope but may equally represent an area of more recent disturbance.

Trench 4

This trench was located to the south of the eroding section on relatively flat ground in a hollow which ran between two dune crests (Fig. 1). It was initially hoped that this trench would correspond to the line of the wall (008) eroding from the exposed dune face. Removal of the turf revealed a scatter of stones around 0.3m beneath the surface. Once this area had been cleaned the line of a wall (016) running north-south was identified (Fig. 2). The scattered stones sitting upon wind-blown sand on either side may represent collapse from the wall.

As the wall in this trench was revealed so the cutting back of the midden deposit (007) heaped against the wall in the dune section revealed enough of the wall's length to establish that it entered the dune at a less acute angle, running further to the south-west, than had at first been

thought. Sighting along the line of the wall (008), using ranging rods, cast considerable doubt on the initial suggestion that the length of wall uncovered in trench 4 (016) represented a continuation of this wall, assuming of course that the original wall did not deviate from a straight line.

The single-skinned construction of the eroding wall (008) and the apparent double-skinned construction of the wall in trench 4 (016) may provide further evidence that the two elements do not relate to the same structure. It has already been suggested that wall 008 represents a revetment wall built to control shifting sand, the double skinned nature of 016 may suggest that it represents a building, with the possible double skin providing a more stable structure and increased protection against the elements.

That the wall in trench 4 represents a building was given further credence by the recovery of artefacts and the presence of features which one would expect to find in association with a building (see below). However, the absence of obvious floor layers, in the form of paving stones or beaten/trampled clay, did little to strengthen this hypothesis.

When the wall was first encountered blown sand was found to have accumulated against both the eastern and western sides. Numerous stones, some of which appeared to be burnt, were scattered across the sand. The removal of this sand revealed a series of complex cultural deposits on both sides of the wall, which in places at least was several stones thick.

Eastern side of wall 016

In the centre of trench 4 a slot (not illustrated) was excavated through the blown sand accumulated against the eastern side of the wall, with the western side of the slot terminating at the wall face. A thin layer of limpet shells was encountered about 0.10m beneath the surface of the sand. This midden deposit had accumulated on the blown sand and sloped gently away from the face of the wall, against which it had accumulated. In the opposing, north facing section of the slot was a thin lens of charcoal-rich sand, on a level slightly lower than the limpet shells in the south facing section. The dirty yellow/brown sand beneath both the limpet and charcoal deposits contained scattered fragments of charcoal which may have been blown in with the sand. This deposit sealed greyer sand which contained smears of clay and concentrations of charcoal. Cut into this lower deposit and filled by yet more blown sand was a shallow 'v' shaped channel. This feature, into which several burnt stones had been tipped, ran parallel with the wall, some 0.5m from its base.

The south-eastern corner of trench 4 was occupied by a spread of dark brown humic sand (017) which was charcoal rich and contained scattered marine shells, mostly periwinkles. A second slot (not illustrated) was excavated through this feature, against the north facing baulk of trench 4. This exercise again revealed deposits of some complexity.

Context 017 was found to represent a thin midden deposit overlying and buried beneath yellow sand, although the sand beneath was cleaner than the sand above. Within the baulk section the western limit of the midden rich deposit was defined by a steep sided, flat bottomed cut in the yellow sand. Although apparently representing a shallow pit of some sort the function of this feature, like others on the site, remains unclear due to the limited nature of the investigation.

Western side of wall

Excavation on the western side of the wall, once again against the north facing baulk of trench 4, revealed a thick deposit of dirty brown sand. This layer contained numerous fragments of charcoal and, in places, concentrated deposits of periwinkles.

In order to more fully examine the nature of the deposits on the western side of the wall, trench 4 was extended through the excavation of a narrow slot trench (Figs. 1 and 2). The upper horizons were wind-blown sands, with a lower deposit of dirty brown sand overlying more clean sand. The most striking feature within the section was a thick deposit (around 0.5m) of dark brown humic sand, rich in charcoal fragments and crushed shell. Laminated within this deposit were a number of lenses of clean white sand and clay, which along with a layer of periwinkle shells toward the base point to periodic accumulation. Deeper parts of the trench revealed a deposit of dark grey, ashy sand, which in turn overlay clean sand, which in its upper parts contained limpet shells.

It is very difficult, on the basis of the limited excavation carried out here, to make firm statements about the processes responsible for the deposits recorded within the extension trench. If this area does represent the inside of a building then obvious floors or occupation surfaces are lacking. The lenses of clay and sand within the humic sand are of very limited extent and do not represent regular layers as would be expected of floors or surfaces. On balance however, this side of the wall is more likely to represent the inside of a building than the eastern side, which was dominated by clean blown-sand. The presence of ash, perhaps originating from a hearth, and artefacts, such as a shale bracelet fragment and bone pin (see below), on the western side of the wall may represent material which was deposited and accumulated within a building. However, artefacts can be dropped outside a building and ash from hearths can be swept out of the door. Clearly, techniques such as micromorphological analysis must be used alongside further excavation before firmer conclusions can be drawn.

Trench 5

Stones, some of which appeared to have been burnt, were encountered 0.10m beneath the surface in this trench, located on the northern side of the dune mound. These overlay a midden deposit which included a mammal scapula wedged between the stones, fish bones and charcoal which formed the midden.

The cleaning back of the north-east facing section revealed an antler comb (Fig. 3). Excavation in this trench ceased just beneath the surface of the midden deposit which was found to contain more stones. It is possible that the stones, which approximated two parallel rows running along both long sides of the trench, may represent a hollow

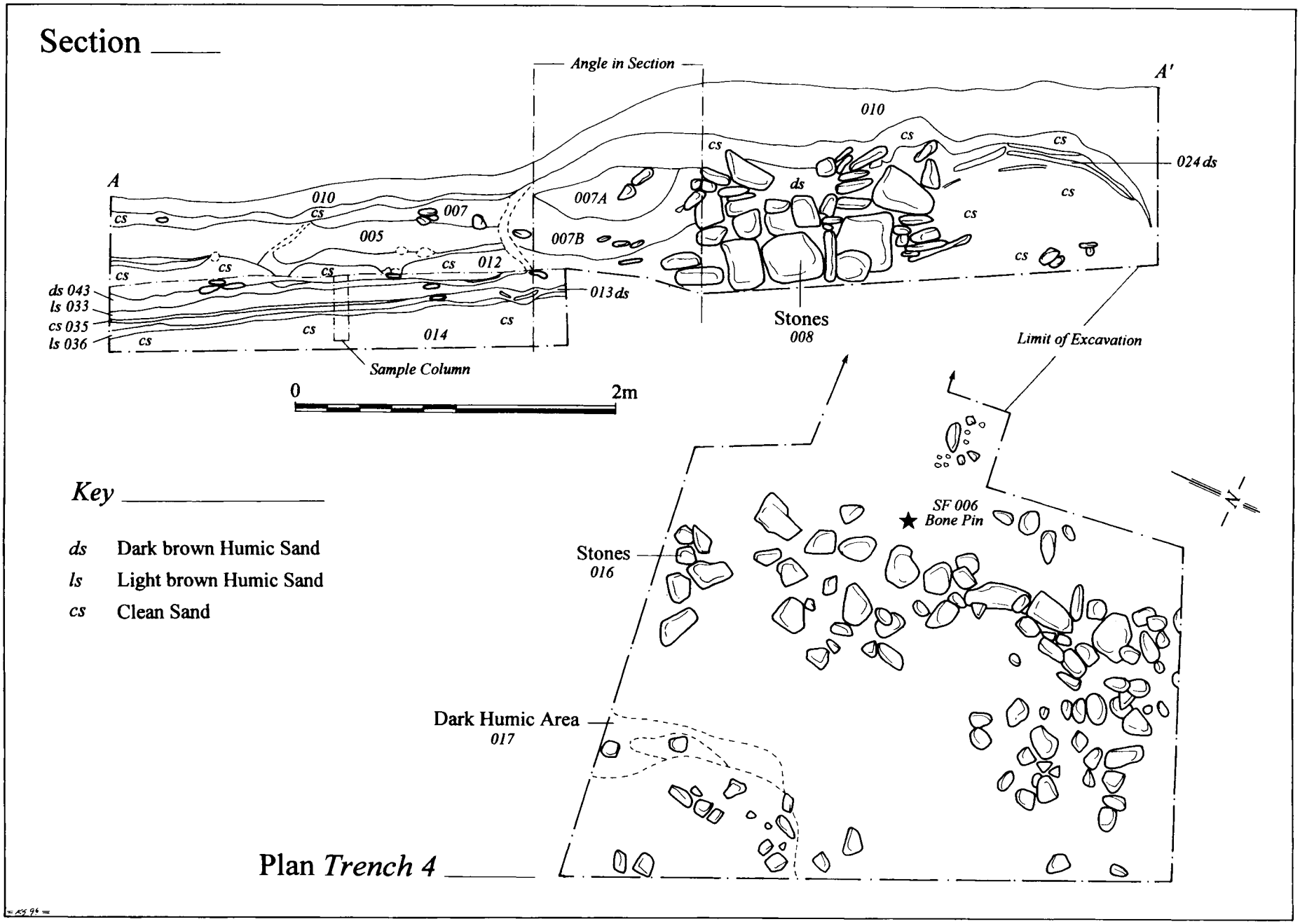

Fig.2. Section face and trench 4.

wall containing a fill of redeposited midden. Further evidence for a wall running in the same direction was uncovered in trench 9, located immediately to the south-east of trench 5.

Trench 6
This trench was located on the western side of the hollow which ran between the archaeologically-rich dune mound and the less pronounced mounds to the south and west. This trench was sterile, containing only clean sand.

Trench 7
In contrast to trench 6, those situated toward the foot of the dune slope on the opposite (eastern) side of the hollow, including trenches 7 and 3, were found to contain a complex series of archaeological deposits.

The upper portion of the south facing section of trench 7, directly beneath the turf, was occupied by a fine grey sand overlying yellow sand. This wind-blown deposit covered a dark brown sandy humic deposit, some 0.10m thick, which included charcoal flecks, burnt stones and unburnt animal bones. This deposit bears some similarity to those identified in the eroding section, which may have been buried agricultural horizons. However, the presence of greater quantities of animal bones, stones and marine shells may suggest that this is a midden deposit rather than an arable soil, although these materials may simply be the result of midden enrichment of the soil.

The lower part of the profile included a further deposit of blown-sand, with some charcoal flecks, sealed beneath the organic layer described above. At least three more humic, midden-rich deposits were identified, each of which rested upon and was sealed beneath deposits of sand. Excavation ceased at 0.85m below the surface, with a deposit of grey/white sand. Further archaeological horizons may well exist at greater depths.

Trench 8
It was hoped that trench 8 would correspond to the line of the wall observed in the eroding section. However, no trace of the wall was detected and the further exposure of the wall in the section, with the removal of the midden deposit (007), indicated that it ran in a north-east to south-west direction rather than north to south as was first thought. The upper horizon of blown-sand carried on down uninterrupted for a depth of about 0.5m. Beneath this clean sand was brown humic sand which contained small stones and limpet and winkle shells. There can be little doubt that this lower horizon once again represents a humanly modified deposit, although limited excavation alone was not enough to ascertain the full nature of its accumulation.

Trench 9
This trench was located immediately to the south-east of trench 5 which contained what appeared to be a midden-filled wall. Within a deep deposit of wind-blown sand were several large sandstone slabs and rounded stones, sitting in the same north-south alignment as those in trench 5. Unlike the feature in trench 5 there was no sign of a midden deposit, nor indeed of a double skin. However, the wall here appeared to be highly disturbed and may have suffered robbing.

Trenches 10, 11 and 12
Uninterrupted blown sand down to 0.75m where excavation ceased.

Material Culture

Although relatively few artefacts were found, with a marked absence of pottery sherds, the assemblage did include several impressive finds. The first of these to be found was an antler comb (Fig. 3), recovered from the midden fill of the wall in trench 5. Teeth survived intact only in the central part, where they appear to have been cut from two plates of antler, held in place by copper-alloy rivets. The presence of cut marks in the handle between the surviving teeth indicates that the teeth were cut into the plates after they had been fixed in place. Combs of this type date from the 12th to 14th centuries AD, the comb therefore suggesting mid to late Norse activity (Batey pers.comm.).

The comb appears to have been introduced into the wall core along with midden material during the construction process and thus may have been present within the midden, after being broken and discarded, before being redeposited within what may be a double-skinned wall. Midden filled walls are a relatively common feature of prehistoric and early historic stone buildings in northern Scotland, where they are found from the Neolithic onwards. This building technique may not only be indicative of the need for adequate insulation but also the desire to integrate residues related to earlier activity on the site within new structures, thus emphasising the importance of tradition, memory and place in maintaining and renegotiating social relations (Pollard 1994).

The second notable organic artefact was a bone pin (Fig. 3) recovered from the western side of the wall running through trench 4. The relationship of this find to the wall itself is uncertain and it is possible that it was deposited prior to construction. The shaft of the pin is gently curved, and appears to have been made from the rib bone of a pig. The head of the pin is cylindrical, with four circular depressions decorating the top. Further decoration takes the form of diagonal lines incised into the shaft directly below the head. Pins of this type are markedly older than the antler comb, perhaps 8th century AD, and thus pre-Viking (Batey pers. comm.). The presence of this pin and the comb therefore suggests that the site witnessed human activity over some considerable time, possibly extending at least from the pre-Viking to late Norse periods. On the limited basis of artefact evidence alone it appears that the building from which the pin was recovered may pre-date that in which the comb was found by several hundred years.

The only other notable find made during the excavation was a fragment of shale bracelet (not illustrated), which may have been deposited on the floor of the building in trench 4. Unlike the comb and pin, which can be used as chronological indicators, shale bracelets appear to have been manufactured and used over a long period of time, with examples appearing as early as the Bronze Age and as late

Plate 1. Dune mound from south, trench 4 in foreground, Dunnet village in background.

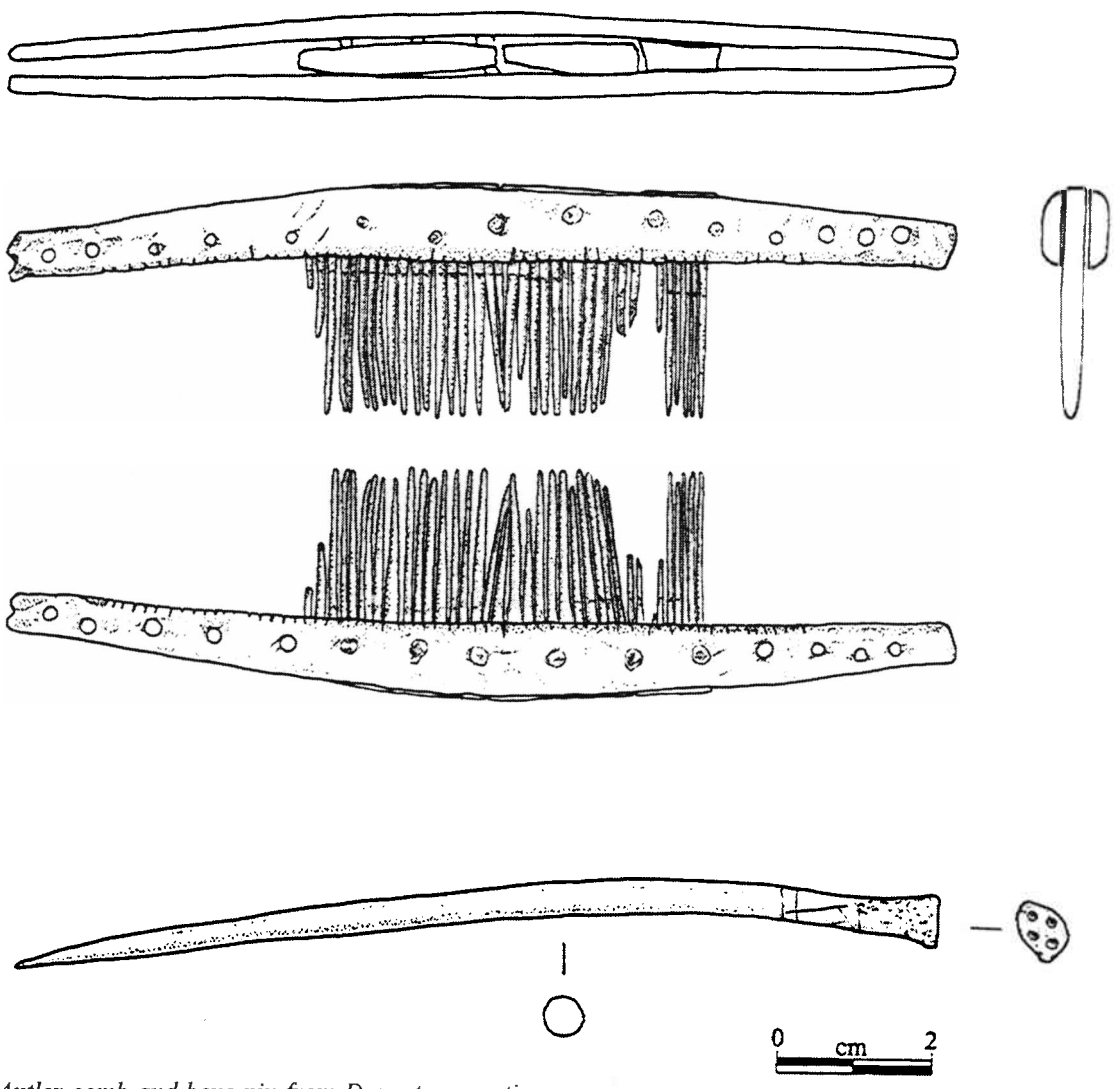

Fig. 3. Antler comb and bone pin from Dunnet excavation.

as the Dark Ages.

The apparent absence of pottery is peculiar, and may simply be due to the limited nature of the excavation. It is tempting, given the predominance of 'impressive' finds to suggest that recovery bias had a part to play here, especially on a site where so much work was carried out by inexperienced volunteers. However, in the writer's experience eager volunteers, rather than missing finds, tend to be very cautious and keen eyed when looking for artefacts, keeping for inspection anything even slightly resembling an artefact. Since the excavation took place sherds of grass-tempered pottery have been recovered from rabbit holes in the grass covered dunes which occupy the field across the road (by Paul Humphreys). This pottery, which bears close similarity to that recovered in great quantity from the fish processing site at Robert's Haven, near John O'Groats (Barrett 1995), not only provides further evidence for Norse activity in the vicinity but also strongly suggests that the excavated site extends into the field beyond the road.

Conclusions

The main aims of the excavation were to assess the date, function and extent of the site, all of which were to some extent accomplished. It is clear however that further work will be required before any definitive statements can be made about the site.

The occupants of the site appear to have practiced mixed agriculture, with animal bones including cattle, sheep and possibly pig providing evidence for the pastoral side of the economy. It has been suggested that at least some of the buried soil horizons represent arable cultivation, but further analysis would be required before this can be verified. The various midden deposits, some of which may have been destined to provide fertiliser for the arable fields, included marine shells and fish bones, both of which provide clear evidence for the exploitation of the nearby shore and the sea beyond. Further evidence for the mixed character of the economy was provided by boar tusks and deer bones, both of which suggest that hunting had a role to play.

It is important to stress that the archaeological significance of the area is not limited to the immediate vicinity of the excavated trenches. The recovery of grass-tempered sherds provides strong evidence that activity contemporary with that identified in the excavation extends beyond the road to the east. A further series of archaeological features, including what may be stone wall foundations and areas of paving, have been identified since the excavation reported here. These more recently identified features were exposed after a dune blow-out about 1 km to the south of the site. These discoveries along with local stories of buildings and skeletons uncovered over the years, clearly point to the archaeological sensitivity not just of the northern part of the dune system but of the entire area currently occupied by sand dunes in Dunnet Bay.

Although place-name evidence has long suggested that the coasts of Caithness and Sutherland were quite heavily settled by the Norse, archaeological evidence relating to this period has until recently been very thin on the ground (Waugh 1995). However, with the discovery of the Dunnet site and the presence of others at Reay (Graham-Campbell and Batey 1998), Freswick Links (Batey 1987) and Robert's Haven (Barrett 1995) in Caithness, and Smoo Cave (Pollard in press) in Sutherland, it is clear that the archaeological evidence does exist. Nor can it be doubted that as the dynamic landscapes represented by sand dunes, such as those at Dunnet, are subject to the effects of the wind and other forms of erosion so more Norse sites will come to light.

Acknowledgements

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