

ART. XII – Recent archaeological work on the Holm Cultram sea dyke, Skinburness, Cumbria

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FOllowing a proposal by the National Rivers Authority (NRA) to remodel the tidal defences on the Cumbrian coastline at Skinburness, in an area between NGRs NY 128558 and NY 138547, a programme of archaeological investigation was undertaken on the Holm Cultram sea dyke by the Lancaster University Archaeological Unit (LUAU). The Cumbrian County Archaeological Curator, Mike Daniells, had recommended that the NRA commissioned an archaeological record of the earthwork prior to any intervention. The reconstruction works have now largely replaced the original dyke feature, which was constructed as a sea defence, probably during the late 15th century or early 16th century.

At the north-western limit of the Cumbria coastal plain, between Silloth and Bowness-on-Solway, the coastline of the Solway Firth is broken by the broad, shallow inlet known as "Moricambe". The mouth of this estuary has been partially closed in antiquity by the growth of the coastal spit of Grune Point, upon which the village of Skinburness has developed (Fig. 1). To the south-east of Grune Point is Skinburness Marsh, an extensive plain of estuarine alluvium, which is frequently inundated at high tide. The Marsh is bounded on the south-west by the Holm Cultram sea dyke, which runs broadly south-eastwards for over 1.5 km (Fig. 2), protecting the low-lying land to the south-west from encroachment by the sea. The Marsh is a Site of Special Scientific Interest, and permission had to be sought from English Nature for access to undertake the works.

The proposed programme of archaeological works comprised the following elements:

- i) A desk-top study of all known records relating to the sea dyke and surroundings.
- ii) A detailed topographic survey of the earthwork and surroundings.
- iii) Selected evaluation trial-trenching at points along the dyke to determine its archaeological potential.
- iv) Limited area excavation at any point(s) where archaeological potential was demonstrated.
- v) A watching brief during the dyke reconstruction works in order to record any previously unsuspected features which were exposed.
- vi) A written report to detail the results of the work, and the creation and deposition of an archive containing all of the related records.

Historical Background

Although Roman remains and artefacts have been attested from the Skinburness area, including the site of a milefortlet related to the Hadrian's Wall frontier defence system (Bellhouse, 1989), there is no reason to suppose that any sea defence works were constructed in the vicinity in that period.

The origins of Skinburness as a settlement and port may be traced back to the

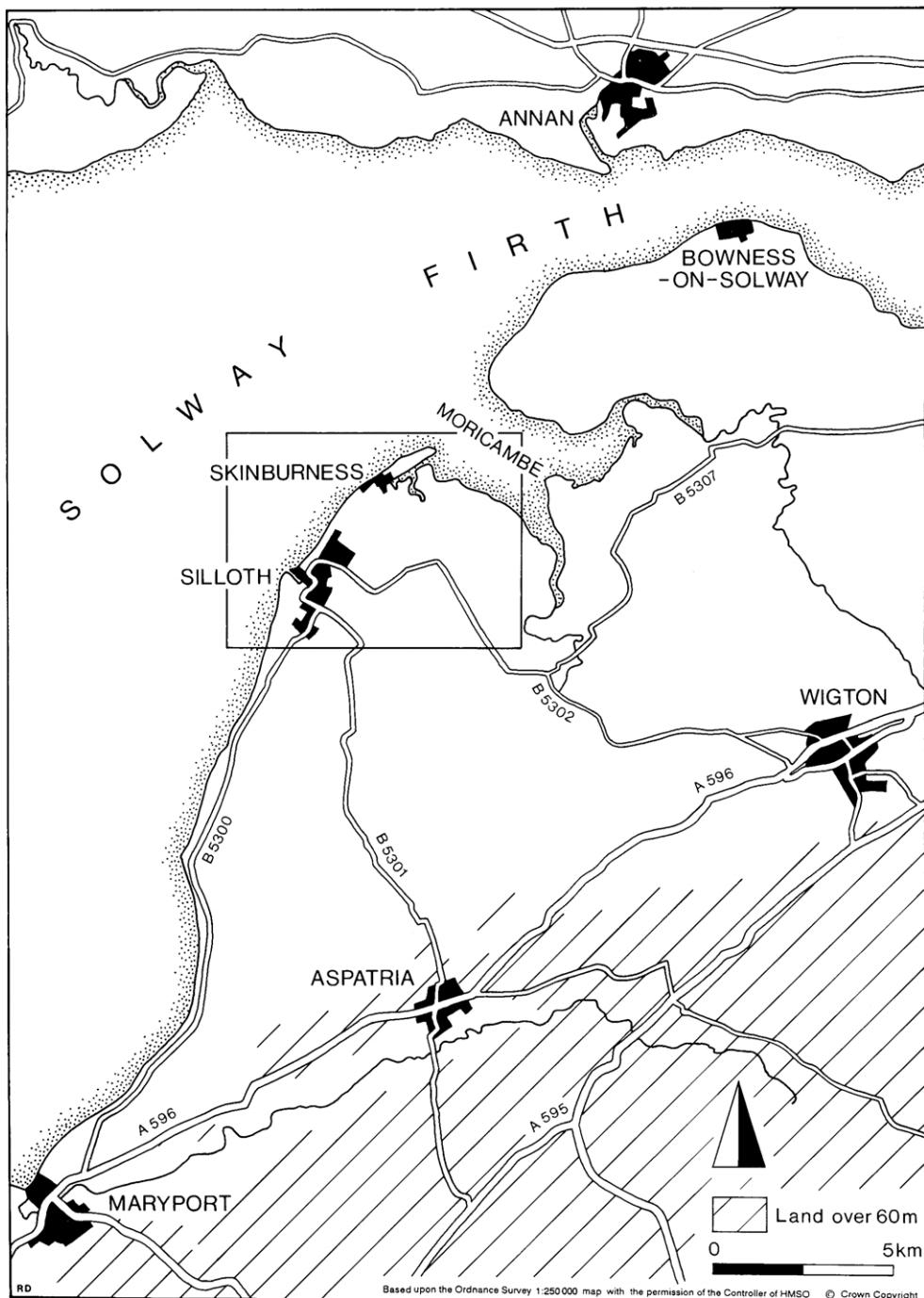


FIG. 1

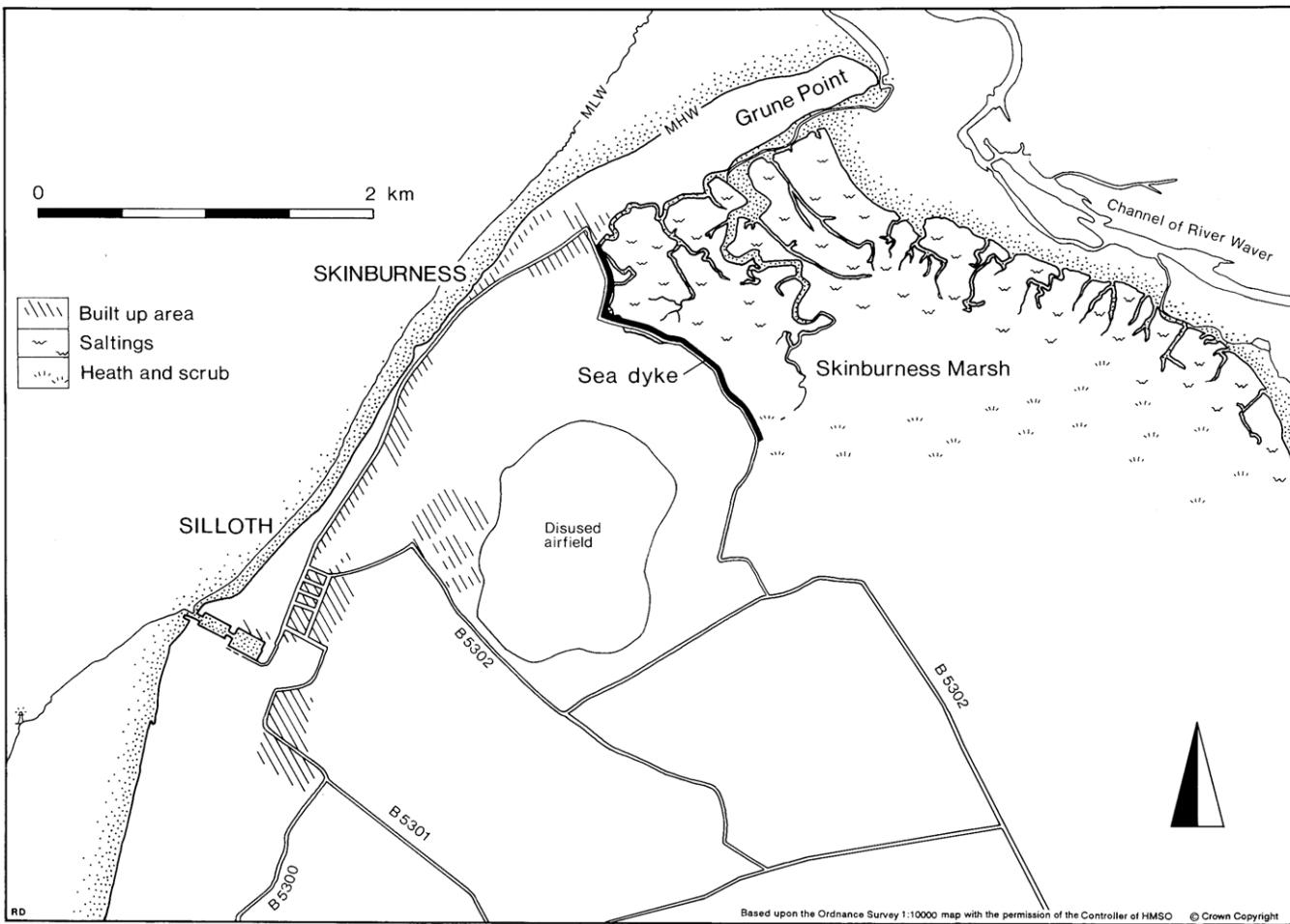


FIG. 2

year 1150, when Henry, Prince of Cumberland, granted land to the Cistercians for the foundation of a monastery, Holm Cultram Abbey (Lysons & Lysons, 1816, 113). Following this, the monks established six granges for husbandry, one of which was “Skinburne” (Skinburness). By the beginning of the fourteenth century, Skinburness was a small fishing town of some consequence, having a market and a fair. Moreover, it was the chief place for the King’s magazines for supplying the army employed against the Scots. In 1301 a licence was granted by the bishop of Carlisle for the building of a parish church to serve the proposed new borough of Skinburness, and although this building was erected, probably on the Grune to the east of the port (Gray & Birley, 1950, 122-3), the licence was cancelled in 1304 as Skinburness was destroyed by the sea, sometime between August 1301 and April 1304 (Grainger & Collingwood, 1929, 137). Shortly after the destruction of Skinburness, although the actual date is unknown, the first sea dyke was believed to have been constructed.

In 1538, following the Dissolution of the monasteries, Holm Cultram Abbey was surrendered to the Crown. As the Abbey had held all pervading power over the area, this created an administrative vacuum. Hence the Manor became vested in the Crown, and remained so until 1693, and local administration was undertaken by a range of small bodies of local people. One such body was the “Sixteen Men of Holm Cultram”, which became recognised as the “Parliament” in the manor of Holm Cultram. “The Sixteen Men” are first mentioned in 1586, almost fifty years after the Dissolution of the Abbey, and as an organisational body continued for a further 300 years (Grainger, 1903, 174). They exercised local control over a wide range of functions, including the repair and maintenance of the sea dyke.

The “Sixteen Men” had a number of powers at their disposal to ensure that the sea dyke was maintained, and could order each manorial tenant to send an able-bodied man to assist in the repairs. This involved duties such as transporting oak trees from Wedholme Wood to Skinburness, where these were worked into stakes and driven into the earthwork, to give it strength and rigidity. Wedholme Wood was the only significant source of woodland in the area, and was handed over to the “Sixteen Men” by the Crown during Elizabeth I’s reign, on condition that the timber from it was used solely to repair the sea dyke.

From the minutes of the meetings of the “Sixteen Men”, which exist for the period between 1630 to 1884, it is clearly apparent that much effort was expended on the sea dyke, indicating the functional importance of the feature. For instance, during 1688, tenants fulfilling their manorial obligation resulted in a cumulative total of 1,264 days work on the sea dyke (Grainger, 1903, 195). In January 1767 and February 1768, the dyke suffered serious damage from flooding, as witnessed on the latter occasion by a Mr Jefferson:

Was the greatest Innundation of fresh water that ever was known at Skinbernees in the Memory of Man as they say they were obliged to cut the Seadike at three different places so that it run with the great violence for four days upon Wednesday the 17th we set men to work (Grainger, 1903).

In 1888, the duties of the “Sixteen Men” were taken over by the Trustees of the Holm Cultram Sea Dyke Charity, who in 1995 relinquished their responsibilities to the NRA.

The archaeological investigation

The LUAU archaeological works on the sea dyke were undertaken on an intermittent basis between February and September, 1995, commencing with a detailed desk-top study of all primary and secondary historical sources relating to the area. In view of the scale of the proposed NRA works on the sea dyke, preservation *in situ* of the feature was not deemed to be an option, and therefore a full and detailed topographic survey of the entire earthwork and its periphery was required. This was executed by using a total-station theodolite to record breaks in slope and spot heights, with the data being downloaded into an AutoCAD package. The survey control was tied into the OS National Grid using a Global Positioning System which relies on satellites to accurately locate survey station co-ordinates. This digital data was then utilised to produce contoured and hachured large-scale plans of the sea dyke and its surroundings, serving firstly as a record of the earthwork prior to the NRA works, and secondly as a basis for locating the subsequent archaeological works.

The form of the dyke in plan was that of a sinuous earthwork, following the line of the 5.5 m OD contour, and extending for c.1640 m broadly south-eastwards between Skinburness village and Sea Dyke End Farm. A minor road between Skinburness and the B5302 road closely follows the dyke, crossing over it at a point just south of the village (Fig. 3). On average, the earthwork measured 7.5 m wide at the base, was flat-topped with a crest width of 1.5 m, and was 1.6 m high, with flanks sloping at between 30 and 45 degrees from the horizontal. The profile, however, was rarely symmetrical, with the steeper flanks tending to face the Marsh. Its narrowest point was adjacent to the Sneckyeat Beck culvert, where it measured c.5.1 m wide at the base, while its widest point was located at the northern terminal, where it measured c.12.5 m wide, the massive scale at this latter point probably reflecting the close proximity of the Great Gutter tidal creek. An obvious impression gained from a visual inspection of the length of the whole earthwork was the relative clarity of the cross-profile – on a superficial level, the feature did not present itself as of a medieval origin, and the subsequent trial-trenching revealed little evidence to correct this suggestion.

Within the course of the sea dyke there were two abrupt changes in direction which deserve comment. The first of these was at a point c.500 m south of Skinburness village, where the course altered by c.90 degrees, from approximately north-south, to east-west. This is most probably related to the nearby position of the meandering north-south channel of the Great Gutter, to the east, which would have precluded a more direct route for the dyke by its influence upon the surface levels of the Marsh in this area. The second change in direction occurs c.500 m to the east of the first, where a northward-extending “bulge” occurs between dyke sections of slightly different orientation. This apparent anomaly may be related to the section of linear earthwork located on the Marsh to the north of here (see below). The tactical value of both of these points for military coastal defence during the Second World War did not go unrecognised, in both places concrete pill-boxes were erected on the, dyke, but these had been largely destroyed some time prior to the LUAU survey. The north-western dyke terminal ran up against the higher natural bank of the “Grune” on the south side of Skinburness village, while the south-eastern dyke terminal may well now comprise the substantial positive lynchet to the south-east of

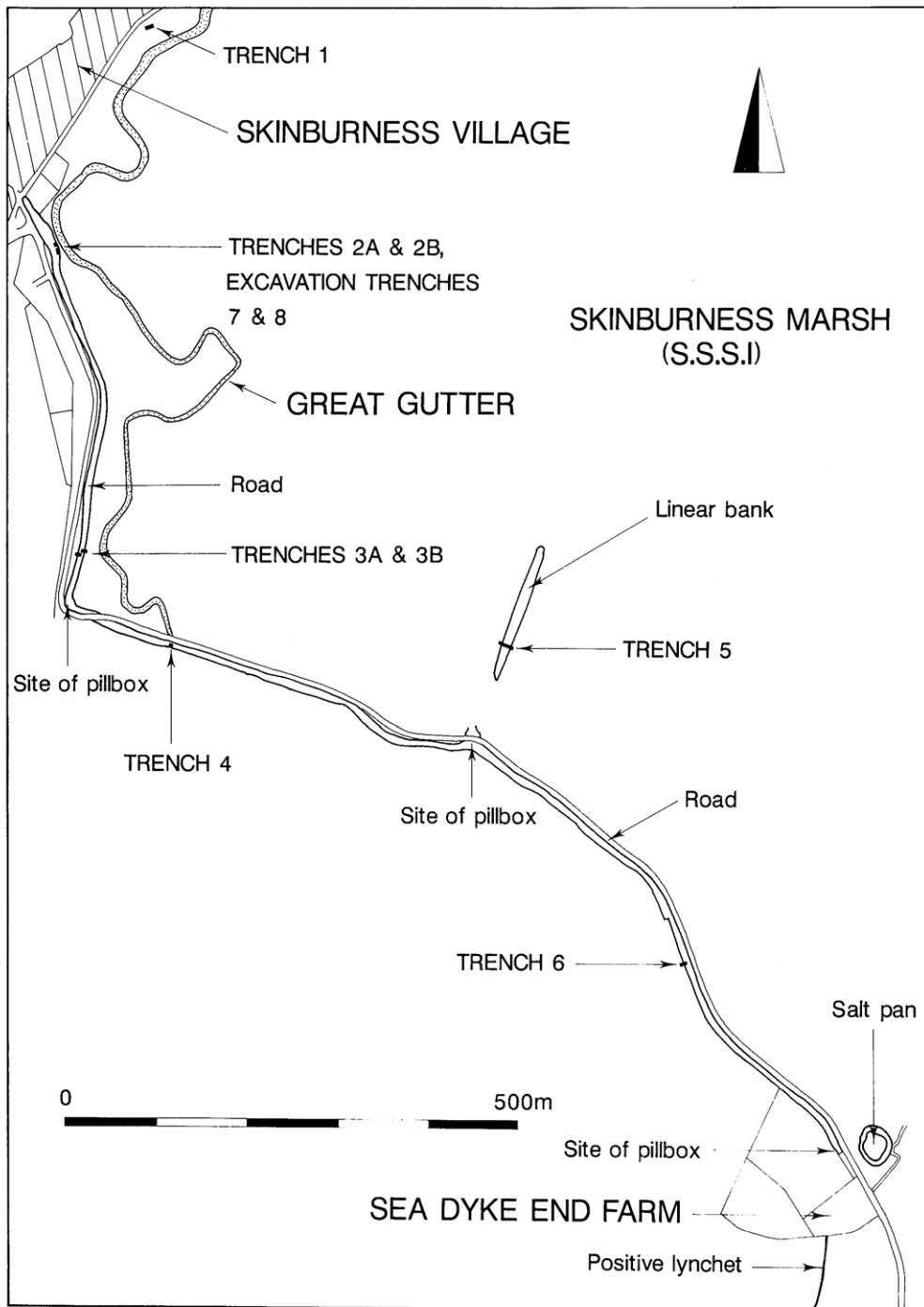


FIG. 3

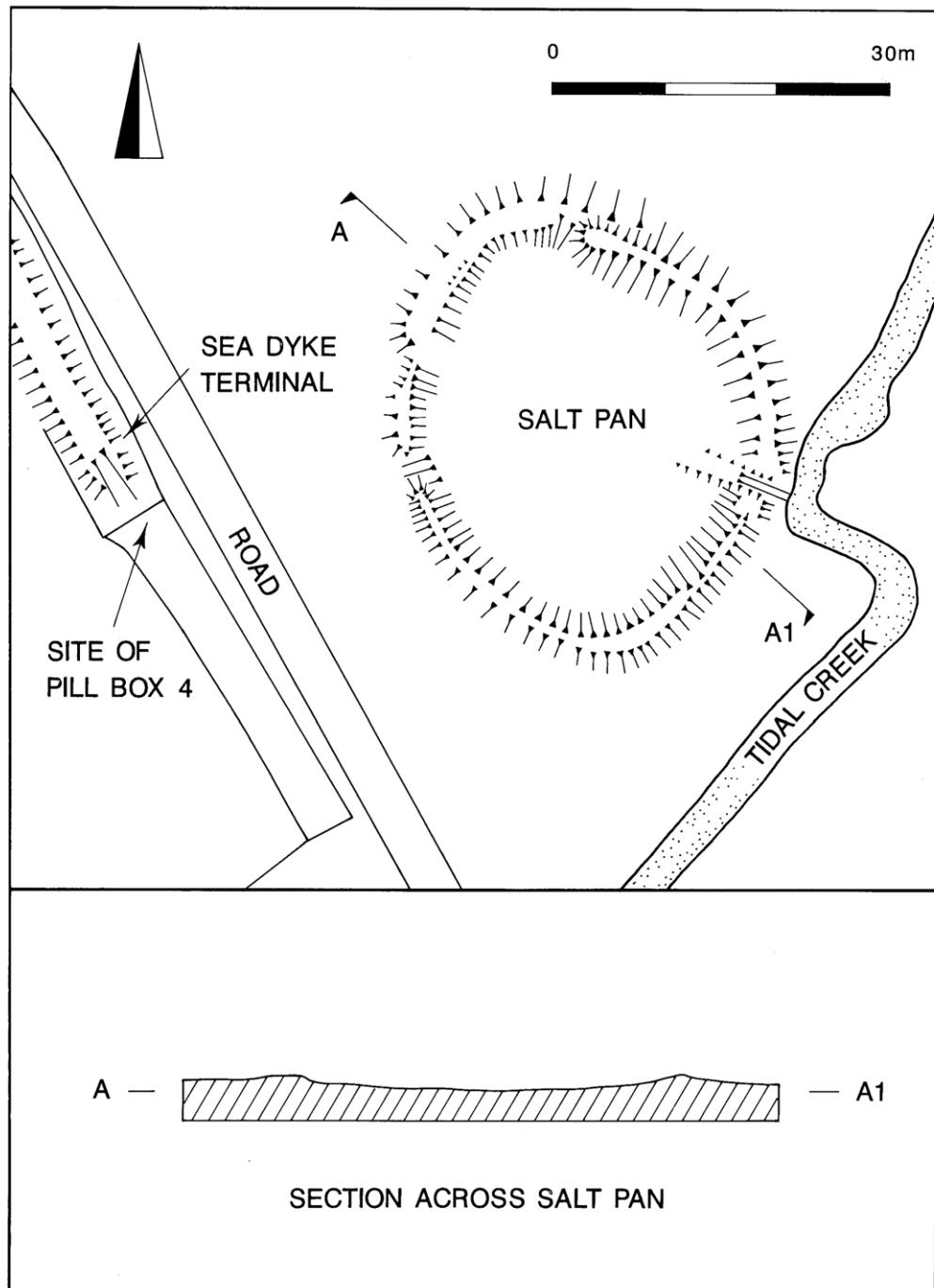


FIG. 4

Sea Dyke End Farm, which could be discerned running parallel to the road for a short distance, before turning to run southwards and inland from the Marsh, towards higher ground (Fig. 3).

Two additional features on the Marsh were recorded because of their apparent significance with relation to the sea dyke, although they were originally outside the remit of the archaeological brief. The first of these was located c.75 m to the north of the "bulge" in the dyke described above. It comprised an isolated, linear bank, c.160 m in length, orientated from north-north-east to south-south-west (NGR NY 1337055470 to 1331855324), and with a degraded, symmetrical profile, up to c.12 m in width and c.1.2 m in height above the Marsh. Of a similar scale to the dyke itself, it is clearly man-made, but considering its present form and isolation in the Marsh, it would be difficult to suggest a clear function for this earthwork. The second of these features was a probable well preserved salt pan, c.22 m to the north-east of the garden of Sea Dyke End Farm (NGR NY 1374454810). This comprised a well-defined sub-circular bank, c.30 m in diameter, with a central shallow bowl, having a maximum depth of c.0.75 m below the external ground level (Fig. 4). On the south-eastern side, the bank was breached by a steep-sided channel which ran into a nearby seawater creek. It is suggested that this may have represented the original inlet to the salt pan.

Immediately following the survey work, in February 1995, a limited programme of evaluation excavations was undertaken in order to provide evidence for the nature of the original earthwork construction and of any subsequent refurbishment. Evaluation excavations, by definition, identify the top of significant archaeological deposits, and leave them unexcavated *in situ*. Trench 1 was located at c.250 m to the north-east of the sea dyke northern terminal, because proposed NRA groundworks here were in close proximity to the identified Roman fortlet site on the the "Grune" to the north-west. Six trenches were excavated into the sea dyke itself, 2a & 2b, and 3a & 3b being offset by a short distance from one another in order to avoid wholly breaching the dyke and compromising its function as a sea defence. Trenches 4 and 6 were excavated only into the landward flank of the dyke. The actual trench locations were selected with reference to areas deemed as of greatest archaeological potential and/or areas of greatest probable destruction during the proposed NRA groundworks, and an additional trench (no. 5) was excavated through the linear bank located on the Marsh (Fig. 3). A small hydraulic excavator was used to remove non-archaeologically significant fills, and following recording, photography and sampling, the trenches were backfilled.

The stratigraphic sequence through the sea dyke was essentially very similar in each of the excavated trenches. A thin deposit of clay-silt topsoil sealed the earthwork, and was seen to increase in depth down the flanks of the feature, demonstrating the natural process of soil creep. Located exclusively across the flat top of the earthwork, immediately below the topsoil, was a 0.06 m deep lens of small stones and gravel, which appeared to form a metalled surface along the crest of the dyke. This was most likely to be a trackway, and was in all probability a relatively recent addition to the dyke crest. It is quite possible that it was associated with the construction and usage of the Second World War "pillboxes" located at points along the dyke.

Below the metalled surface was a redeposited clay silt material, which formed the

main bulk of the upstanding earthwork feature. In three of the four excavated evaluation trenches, this material was seen to be homogenous and as such was most probably the result of a single phase of construction. The exception to this was identified in Trench 4, which was excavated adjacent to Sneykeat Beck culvert. In this trench, the clay silt soil contained a higher proportion of gravel and had a mottled appearance, suggesting that it had been disturbed. However, given the location of Sneykeat Beck culvert, such disturbance could be expected as any culvert repairs or replacement would require excavation of a cutting here. Whilst no precise date for the construction of the culvert has been identified, it is probable that the well-dressed stonework feature is of relatively modern origin, perhaps being constructed under the aegis of the Sea Dyke Trustees, a body which was formed in 1888.

Other than suggesting that the present bank predates the construction of the Sneykeat Beck culvert, a precise date for the deposition of the clay silt material has not been determined from the evaluation excavations, largely due to a lack of any independent dating evidence. Work on the available secondary sources has shown that, under the administration of the "Sixteen Men", the sea dyke had numerous refurbishments, all of which would appear to have been on an *ad hoc* basis. It is, therefore, of potential interest that much of the upstanding sea dyke bank was seen to be constructed of a single, homogenous horizon, with no evidence of refurbishment identified above the surrounding ground level, apart from at the northern terminal. Whilst acknowledging that the evaluation trenches only sampled a small part of the sea dyke as a whole, it may be tentatively suggested that the present earthwork largely post-dates the activities of the "Sixteen Men", thereby giving it a date after 1888.

Within Trench 2 (at the northern terminal of the dyke), and located below the bank material, was a deposit pertaining to an earlier phase of construction. Composed of very similar soil to that of the overlying bank material, this earlier deposit was discernible by its slightly lighter colour and greater compactness. Excavation through this material revealed a number of worked wooden stakes (Fig. 6) on the seaward (east) side of the dyke bank (Trench 2b). These were recorded *in situ*, but the excessive depth of the excavated trench prohibited further investigation.

Evaluation Trench 5 was excavated through the linear earthwork located on the Marsh. This showed the bank to comprise a very simple stratigraphic sequence. It was formed almost entirely from an orange-brown clay silt material, very similar in colour, texture and consistency to the soil recorded as forming the bulk of the sea dyke bank. This homogenous deposit seemed to represent a single phase of construction, and had been raised directly on top of the natural mottled grey-brown subsoil.

Following on from the evaluation, excavation of two limited area trenches was undertaken, during March 1995, to make a detailed record of the seaward section of the sea dyke, where during the evaluation, Trench 2b had revealed the presence of timber stakes, and to record the *in situ* arrangement of these stakes within the dyke structure of the bank. The trenches were opened on the seaward (east) side of the dyke, Trench 7 being located to the south of the site of Trench 2, and Trench 8 to the north (Figure 5).

The stratigraphic sequence revealed in the excavation trenches was the same as

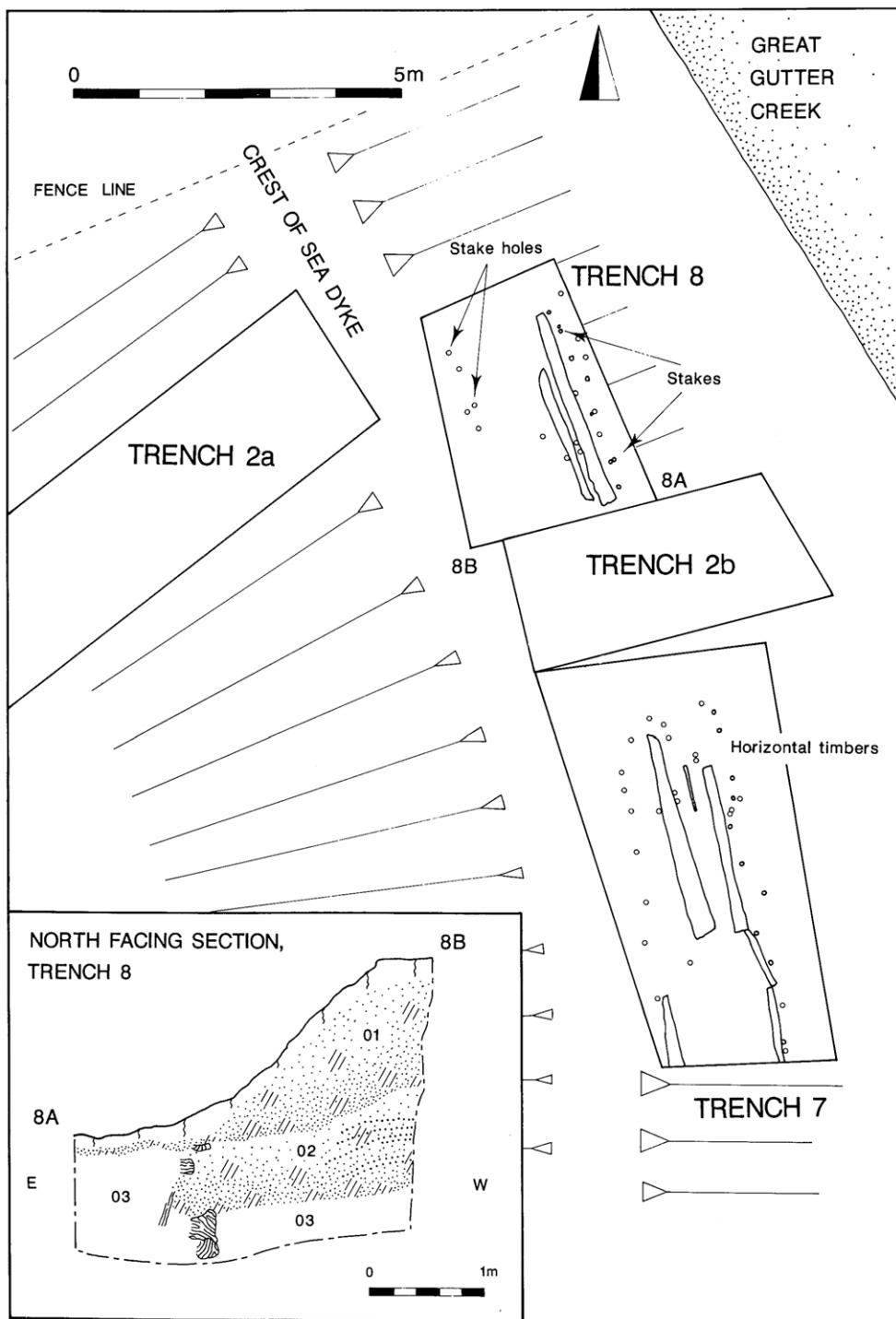


FIG. 5

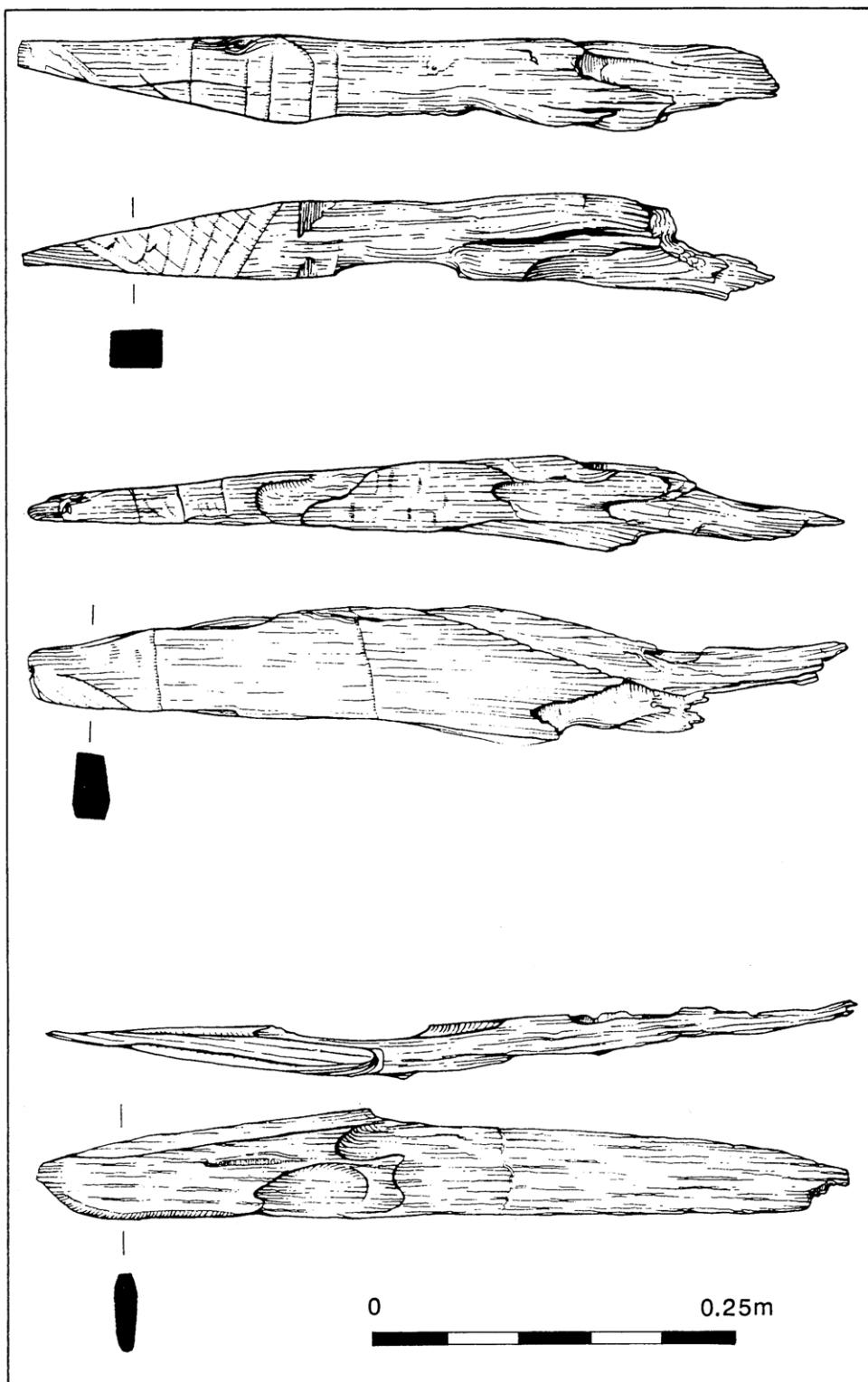


FIG. 6

that described in the evaluation trenches. Sealed by the homogenous silty clay deposit, which formed the bulk of the upstanding earthwork, was a low bank of similar estuarine silts. Contained within this deposit, and located along the seaward margin of the dyke, a complex of lateral substantial timbers and wooden stakes was recorded. The eastern (seaward) edge of this timberwork arrangement comprised a line of regularly spaced, inclined stake-holes. The angle of incline showed that the top of the stakes sloped westward at an angle of between 65-70 degrees from the horizontal. Situated immediately to the west of the stake line was a line of squared lateral timbers. The best preserved of these timbers measured 0.25 x 0.25 m in cross-section, by 0.87 m in length. Within the line of lateral timbers were numerous vertically positioned stake-holes. Further vertically positioned stake-holes were identified set towards the centre of the dyke, and these appeared to form a staggered line (Fig. 5).

The stakes were constructed from lengths of oak, split along the grain, and worked at the tips, probably by an axe. These are difficult to date by visual analysis, although it is most likely that they are medieval/early post-medieval in origin. Dendrochronological assessment by the University of Sheffield unfortunately found that none of the recovered timbers were suitable for tree-ring dating.

The evidence produced from the excavations shows that in the earliest surviving phase of construction, the seaward edge of the dyke was reinforced by a line of timbers pinned in position by lines of angled and vertically positioned stakes, and possibly by further pinned timbers in the centre. The large number of stake-holes identified in the small area excavated suggests that the timbers were frequently replaced, and the surviving stakes driven adjacent to redundant stake-holes support this.

During the dyke reconstruction work, a watching brief was undertaken to record any features or deposits not previously encountered. The only significant result of this aspect was during the rebuilding of the Sneyckyeat Beck culvert, the invert and walls of which were found to be lined with oak timbers. These, however, could not be examined *in situ*. A smaller culvert to the south of the site of trench 2 was found to have been constructed from timbers ranging between 1.2 and 1.8 m in length, which appeared to have been re-used from a timber building, as one timber demonstrated sockets and peg-holes for studding.

Conclusions

Linear earthworks, as a distinct class of field monument, are notoriously difficult to date by fieldwork, simply because excavation rarely reveals evidence for the material culture pertaining to the relevant periods. When considered that only about 0.6% of the sea dyke length was subjected to evaluation/excavation, it is perhaps not surprising that no absolute dating evidence was recovered.

The earliest documentary reference to existing "Seadykes" at Skinburness was in 1570 (Grainger, 1903, 173), and although the sea dyke may have originated in the medieval period, as is commonly believed, no archaeological evidence was revealed to suggest anything other than a post-medieval date, and the overall preservation of the dyke profile, and the largely homogenous nature of the dyke fills, could suggest that the whole of the earthwork was largely reconstructed as late as the nineteenth or

early twentieth centuries. Only at the northern end of the dyke was there any indication of an earlier, possibly medieval phase, with a clear stratigraphic development and the remains of a timber framework.

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