

Excavation of cropmarks at Skateraw and Thorntonloch, East Lothian

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ABSTRACT

A number of small cropmarks were excavated at Skateraw Farm and Thorntonloch Holding 21, East Lothian, in the autumn of 1978, prior to their destruction by roadworks. The project was funded by Historic Scotland (formerly Historic Buildings and Monuments). At Skateraw, two circular cropmarks – considered to be possible sunken houses – were found to be gravel extraction pits of late 18th-century date. Further trenches produced slight evidence of earlier agricultural activity. At Thorntonloch, an annular cropmark was found to be a ring ditch, most probably of funerary rather than domestic function. Although archaeologically disappointing, the results of both excavations provide useful lessons in the interpretation of cropmarks.

INTRODUCTION

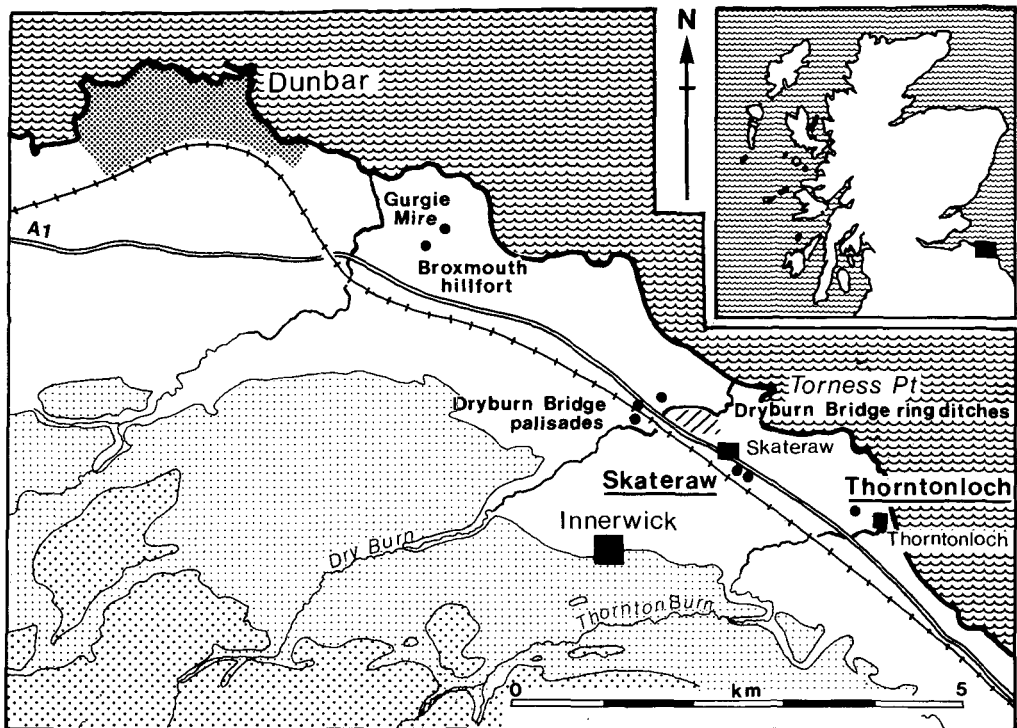
The area between Dunbar and Torness Point (illus 1) is rich in cropmark and other evidence of early settlement. In 1972, in the immediate vicinity of the Skateraw cropmarks, roadworks on the A1 disturbed burials of the Bronze Age and Early Christian periods (Close-Brooks 1979a & b); while two cists containing instruments associated with Beaker vessels had previously been uncovered by ploughing (Stevenson 1940; Ritchie 1958; Close-Brooks 1979a, fig. 1). At Torness a survey and small-scale excavation by the University of Edinburgh in 1975 (Mercer 1976) had located a flint scatter indicative of prehistoric activity, together with evidence of post-medieval agriculture. At Broxmouth, closer to Dunbar, excavation in the mid- to late 1970s of a plough-truncated multiphase hillfort in advance of limestone quarrying, had apparently demonstrated the reliability of cropmark indications in this area (Hill 1982). At Dryburn Bridge, 2 km north-west of Skateraw, the excavation of the southernmost of a group of three apparent palisaded settlements, in response to the same quarrying threat, was about to take place (Triscott 1982).

In the autumn of 1978, immediately prior to the re-routing of the A1 trunk road in association with quarrying and beginning of the construction of the Torness nuclear power station, the opportunity arose to investigate a number of small cropmarks at Skateraw Farm and Thorntonloch Holding 21. Excavation was instigated and funded by Historic Scotland (formerly Historic Buildings and Monuments).

SKATERAW (illus 2)

This site comprised two circular cropmarks, each about 15 m in diameter and some 120 m apart, on the northern slope of a low fluvio-glacial ridge c 500 m south-east of Skateraw farmhouse (centred

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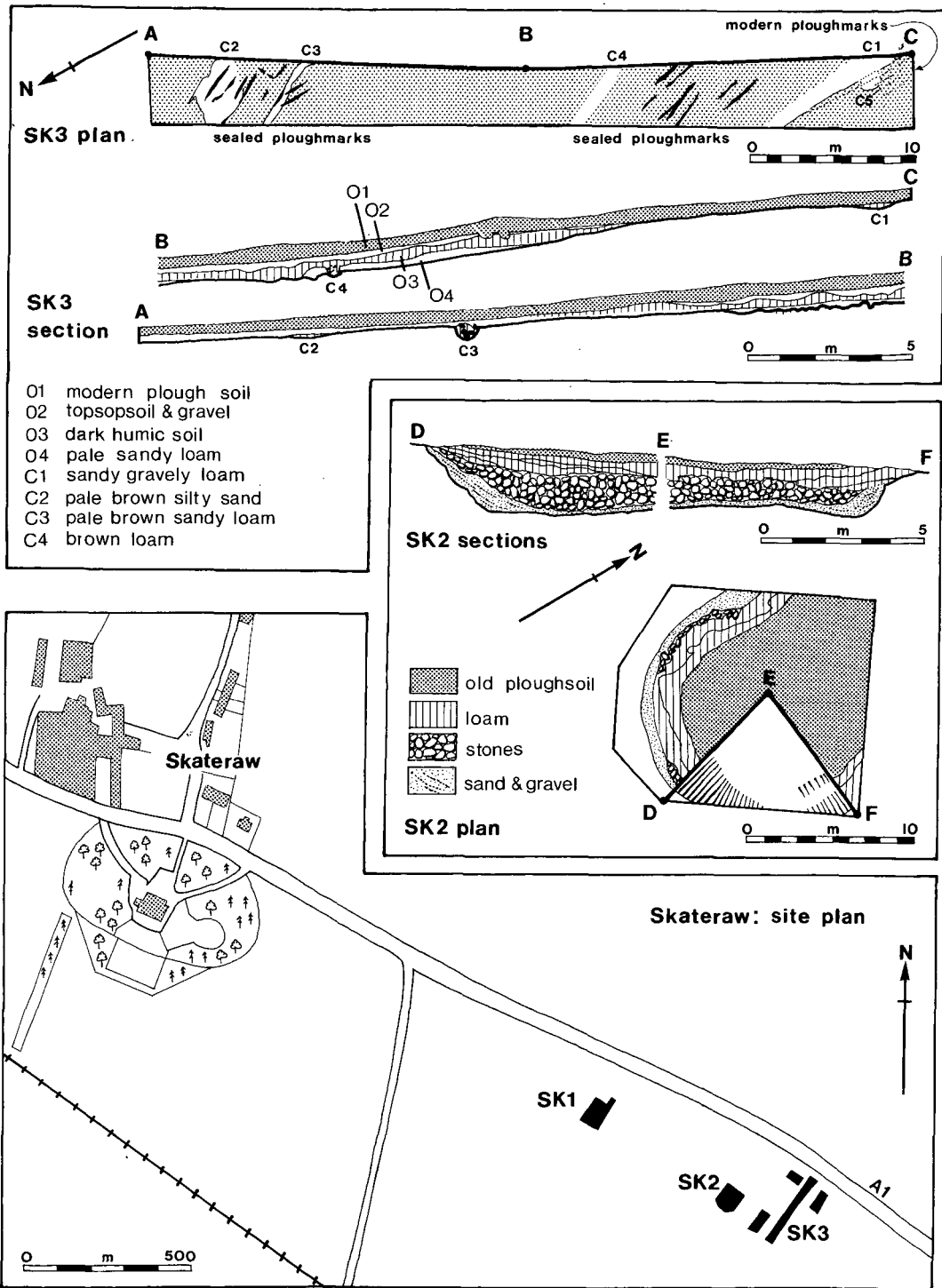


ILLUS 1 Site location map and distribution of cropmarks. (Based on the Ordnance Survey map © Crown Copyright)

at NGR: NT 736 748). They appeared similar to several at the Broxmouth hillfort which had proved to be sunken-floored houses of the later Iron Age. There was no indication of any enclosure, but their position, overlooking the level fertile ground running north to the coastline, seemed not to be out of place for an unenclosed agricultural settlement of that period. Trenches were opened over both of these anomalies (SK1 & SK2), exposing roughly three-quarters of their areas, and four other trenches (SK3) were excavated down the slope to the north-east of SK2 to investigate the potential of a less obvious oval cropmark, and the lower part of the hillside where a considerable depth of hillwash would have inhibited the formation of cropmarks. The overburden was removed by JCB.

RESULTS AND INTERPRETATION

Both circular features proved to be gravel-extraction pits. The clearly defined outer edge of the cropmarks had been produced by truncation of the layers of infill by subsequent plough action, resulting in the formation of a central deposit of soil bounded by a perimeter of loose rubble. Each pit had been cut into the hillside from the north to a depth of at least 2 m below the base of modern topsoil and backfilled almost immediately with a thick layer of large pebbles, some plough-damaged and with ploughsoil adhering, which were dumped into the crater. This 'inverted' field clearance cairn had been sealed with a slightly clayey loam and returned to cultivation with a mantle of topsoil. A lens of this original material survived below the modern ploughsoil preserved by subsidence and the grading process of the ploughshare. Pottery from the backfill of SK2 indicated a date in the later decades of the 18th century and the proximity of the feature to the present A1 trunk road suggests that the quarries may have been associated with the upgrading of the turnpike road in c 1779.



ILLUS 2 Skateraw: location of trenches; SK1 plan and section; SK2 plan and section

Evidence of earlier activity was noted in SK3, cut from top to bottom of the slope. Here a well-formed soil (03) had been sealed by material carried from the crest of the ridge, itself sealed by the modern ploughsoil. Ploughmarks associated with this buried horizon were preserved in the underlying subsoil. The profile of the slope in its original form was a series of shallow steps interpreted as lynchets. A similar profile was noted in the north extension of SK1. One sherd of heavily abraded undecorated Samian pottery was recovered from 03; no medieval or later material was recovered. Three linear features ran across the trench on a NW/SE alignment, reflecting the direction of the present contours of the ridge. The uppermost feature, C1, had been truncated by ploughing and survived as a shallow ledge on the main break in slope. Its relationship with a shallow pit, C5, on its eastern edge had been destroyed by recent ploughing; the function of the pit is unknown. Downhill, linear feature C4 was emptied by the mechanical excavator; the alignment is projected on plan between the two sections recorded in the trench sides. This gully or slot, with its collapsed stone packing, most probably represents the remains of a fence line associated with the lynchet. Further downhill, gully C3 was excavated by hand. This feature again most likely once contained a fence. Packing stones were found at one end and somewhat dubious post-pipes were recorded at the other.

C3 had been disturbed by ploughmarks relating to the buried soil 03. A shallow depression, C2, some 2 m to the north had been similarly disturbed and its shape was amorphous as a result. An assemblage of 17 pieces of hand-built pottery, including a rim sherd, were recovered from the fill, indicating that this feature may have served a domestic function, but too little evidence survives for more detailed interpretation. It was not possible to determine an exact relationship between C2 and C3 but there is no reason why they should not be contemporary.

THORNTONLOCH (illus 3)

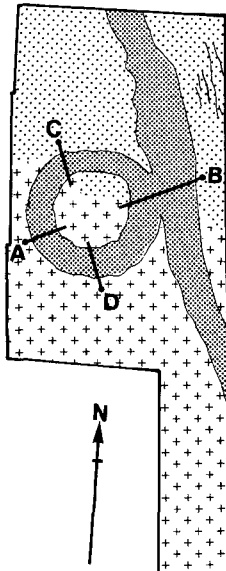
An annular cropmark (at NGR: NT 746 745) was visible at the junction of fluvio-glacial deposits on level ground in the centre of the field immediately north of Holding 21, and appeared to be a ring ditch some 5–8 m in diameter. It was similar to a group of cropmarks on the eastern edge of the Dry Burn (at NGR: NT 727 754), immediately north of the A1 trunk road and occupying a similar topographical situation, and its imminent destruction afforded an opportunity to characterize this type of anomaly. A second, linear, cropmark was visible abutting the east edge of the ring ditch and running for some 50 m NW/SE before disappearing into soils less responsive to aerial photography at either end. Five trenches were opened: one to examine the ring ditch and the associated linear feature; and the remainder to test resistivity anomalies which proved to reflect natural boundaries (cf Mercer 1976).

RESULTS AND INTERPRETATION

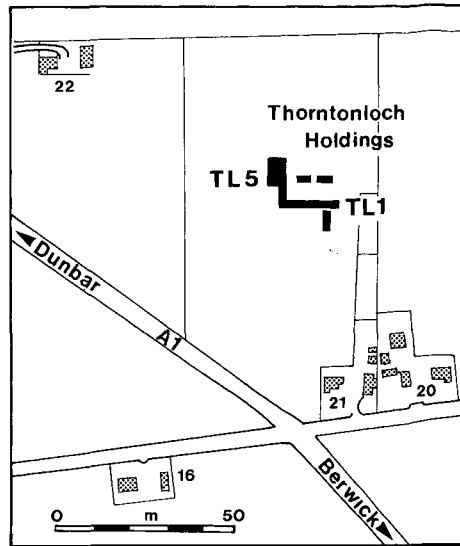
Excavation confirmed the presence of a ring ditch of mean diameter 7 m, abutted on the east by a shallow linear gully. The relationship between the two had been destroyed by recent plough action and disturbances caused by the disposal of diseased domestic fowl during a fowl pest epidemic in the 1930s. However it seems likely that the gully represents a somewhat earlier activity associated with land enclosure during the late 18th century.

Owing to collapse of the ditch sides on the eastern arc, the ring ditch survived as a slightly oval enclosure with a depth of c 0.7 m from the base of modern ploughsoil. It appeared that agricultural activity had caused at least 0.2 m of truncation of the original profile. The lower fills comprised sand and gravel tips concomitant with weathering of the ditch sides, though the amount of this material suggests that a proportion had derived from the original quarry spoil which had been dumped on the central platform. A re-cut through these fills was located on the east and most damaged, arc of the ditch, indicating reuse. Once the entire circuit had been infilled to a depth of c 0.45 m, a deposit of large glacially rounded rubble was dumped deliberately into the depression and then levelled with a capping of sandy loam. This event appears to represent agricultural clearance and is likely to be associated with the construction of the linear boundary. Destruction of archaeological monuments in the late 18th century is recorded in *The New Statistical Account of Scotland* (NSAS II, 233–48, Innerwick).

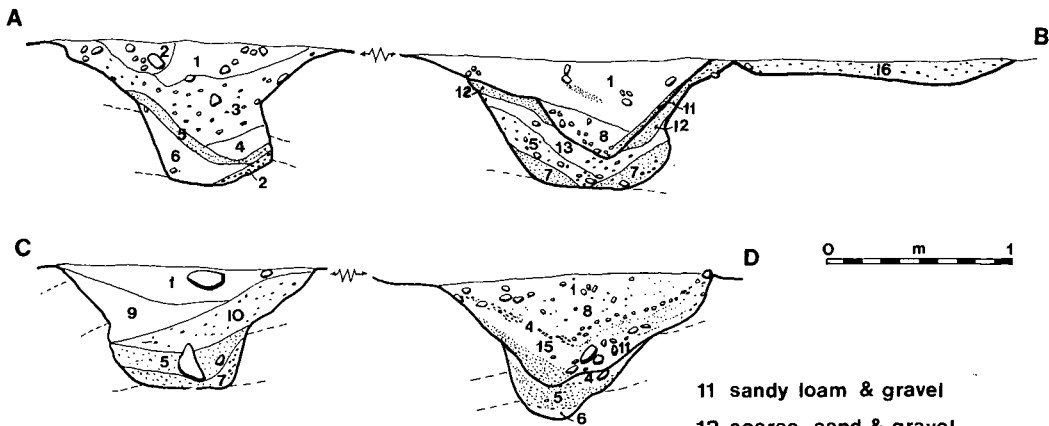
TL 1 & 5 plan



Thorntonloch site plan



TL 1 & 5 sections A-B & C-D



- | | | |
|------------------------|---------------------------|---------------------------------------|
| 1 sandy loam | 6 silty loam | 11 sandy loam & gravel |
| 2 loose gravel | 7 coarse sand & gravel | 12 coarse sand & gravel |
| 3 loose gravel & stone | 8 sandy loam with pebbles | 13 silty sand |
| 4 fine sandy loam | 9 silty clay loam | 14 coarse sandy loam |
| 5 loose gravel & sand | 10 gravelly loam | 15 sandy loam |
| | | 16 fine sandy loam with coarse gravel |

ILLUS 3 Thorntonloch: location of trenches; plan of excavated features; ring ditch sections

No archaeological features existed on the internal platform and truncation had precluded the survival of any associated ground surface. A prehistoric flint scraper and two rubbing stones which were recovered from the upper fill of the ditch are likely to be redeposited in this context. Flecks of burnt bone and charcoal were noted throughout the lower fills but all were too small for identification purposes.

The linear feature survived as a shallow gully, 0.1–0.15 m deep and slightly over 1 m wide, the fill consisting of a sandy loam sealing a thin layer of redeposited gravel. It would seem to represent the base of what was originally a more substantial cut, now denuded by ploughing. A discontinuous alignment of large stones along the western edge may represent field clearance.

DISCUSSION

The results of both excavations were archaeologically disappointing in the sense that little can be said of the date, nature and function of the Thorntonloch ring ditch, and the Skateraw cropmarks proved to be of relatively recent origin. However, the latter demonstrates that features of widely differing functions and date can appear remarkably similar as cropmark anomalies. This is particularly misleading in those areas where substantial survival of earlier landscapes does exist, as is the case on the East Lothian coastal strip. A similar situation was encountered during the excavation at Broxmouth where the cropmark of an apparently sub-rectangular enclosure lying outwith the defences at Gurgie Mire proved to be a glacial feature (Hill 1982, 142, 180). Elsewhere, the excavation of an annular cropmark which had looked convincing as a ring ditch house at Capo, Kincardineshire, proved to be a bomb crater of the Second World War (Tavener 1991). This, too, lay in an area of high cropmark density.

The incomplete nature of cropmark evidence was further demonstrated by the presence of those features sealed beneath plough drift on the lower slope of the ridge: these had become buried below too great a depth of material to present differential crop growth. Both these features and the apparent field boundary at Thorntonloch serve to indicate that there has been intensive, and probably continuous, agricultural activity in this area from early times.

The clarity of the aerial photographic evidence at Thorntonloch appears to have been caused by the high degree of truncation suffered by the features and it is likely that similar cropmarks in the area will have fared no better. There was no evidence of a domestic function for the ring ditch and, on the very limited evidence available, it seems more likely to represent the remnants of a sepulchral monument in which the burial could be presumed to have been deposited in a now-vanished mound. References to the removal of tumuli during agricultural improvements provide the best support for this theory (NSAS II, 233–48, Innerwick).

ACKNOWLEDGEMENTS

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