Preserved in the Forest?

Excavations at Glen Brein, Stratherrick, Inverness-shire 1996

Interim Report

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INTRODUCTION

Project Details & Acknowledgements

Excavations were conducted by Inverness Museum & Art Gallery over c.3 weeks during May 1996 on the site of the MOLRS township of *Tillinhassen / Dalchapple* in the Glen Brein Forestry Commission plantation, Boleskine & Abertarff parish, Stratherrick, Inverness-shire, centred at NH 4718 1220 (see Fig. 1).
The excavations were directed by R.G.Hanley & J.Wordsworth and funded by Inverness Museum & Art Gallery (Cultural & Leisure Services, Highland Council).

We wish to thank the staff of the Forest Enterprise Fort Augustus District, particularly Malcolm Wield (Forest District Manager), Chris Nixon & Gordon Donaldson for permission to excavate, assistance in the felling and clearance of trees from the excavation area, and for on-site comments. Tim Yarnell (Forestry Commission Archaeologist) also provided valuable background and on-site advice. Dr Shaozhong Shi of Inverness College offered expert comments on the site soils. Mike Cressey (CFA) provided an advance copy of his useful report on excavations at Tamshiel Rig.

We would also like to thank the site volunteers; Annette Jack (present for the whole excavation) and Jenny Hanley.

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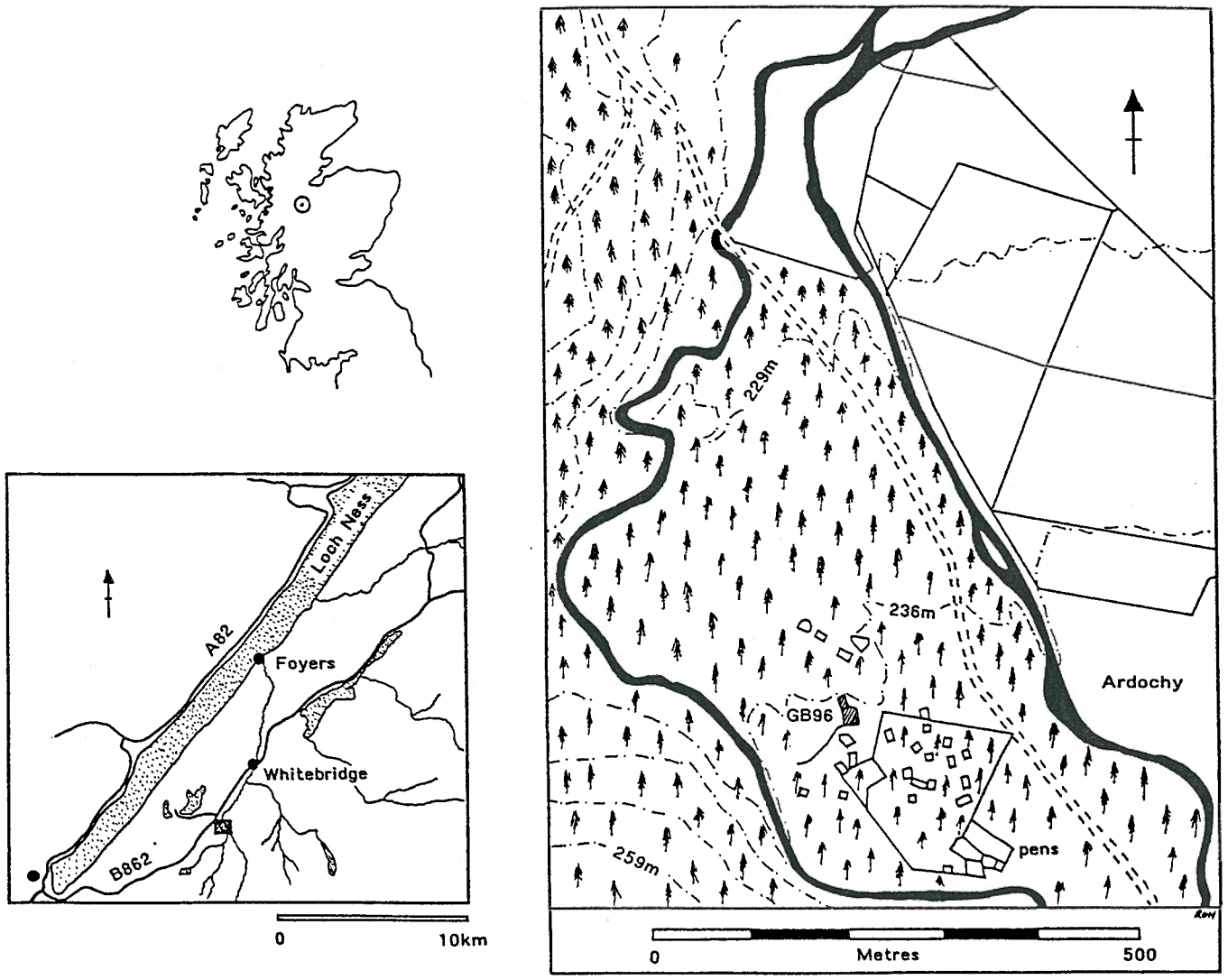
Figure 1

Glen Brein location map



Site History

The settlements of *Dalchapple* and *Tillinhassen* along with their associated cultivation plots are clearly marked on Roy's Military Survey of c.1750 (K111640), lying on an expanse of fertile and sheltered ground between the Allt Breineag and the Cumrack Burn (c.234m OD). Roy's map suggests that these two settlements were separate entities, with the former situated closer to the confluence of the burns. There were two additional building clusters nearby at *Ardochy* and *?Tu(a)Fehat.*

It is clear that this location had proved attractive to settlement during earlier periods, some fourteen hut circles with associated clearance cairns being recorded in the same area (HC SMR NH 41 SE 013).

No information was recovered relating to these townships during the later eighteenth century. The 1841 census for Boleskine parish indicates that only the family of a single agricultural labourer was in occupation at *Dalchapull.* The OS Name Book (21) for 1871 records that Dalchapple consisted of a single house occupied by a shepherd. The 6" map for 1903 shows this single building with an associated sheepfold, the dykes of which remain largely extant within the modern plantation. It appears likely that the township sites were deserted c.1800 and the land put down to sheep grazing.

The grassed-over footings of the township structures are clear in a vertical RAF aerial photograph taken in 1949 (RCHMS-541/A/483), although surface remains are only apparent in the area described by Roy as *Tillinhassen*, close to the later sheepfolds of Dalchapple. The MOLRS sites apparent on this photograph were visited by the OS inspector N.K. Blood in 1964 (NH 41 SE 3), who recorded:

> *grass-covered footing of 32 buildings and 24 enclosures, 4 corn-drying kilns, the extant remains of a mill, with a dried-up lade, and several field walls. Within the same area there are the extant remains of 4 buildings and a large dry-stone sheep enclosure. The construction and condition of these features suggests a later date than the remainder. In the area centred at NH 474 118, there is evidence of lazy beds.*

Figure 1 shows the structures and enclosures recorded by the O.S prior to forestry planting.

Forestry Operations

Following the acquisition of Glen Brein and the neighbouring Knockie Block by the Forestry Commission, the Glen Brein area was ploughed and planted during the early 1970's. The ploughing within the excavation area appears to have been carried out by a tracked machine with a fixed plough, this producing a single upcast to the right. The nature of the cleared cultivation soils across the site would have greatly facilitated this

ploughing process, with the machine probably operating at maximum speed. Little resistance would have been encountered from the buried stone walls of the buildings and enclosures. During the ploughing process, the fixed plough would have bounced out of the ground. Such bounces were detectable within the excavation area.

Excavation Site Description

The site selected for excavation consisted of a rectangular building orientated N-S, with an attached sub-circular enclosure to the S. These features are marked on the OS 1:10,000 map sheet NH 41 SE (see fig. 1). The building had been ploughed E-W and planted in 1976 as part of an experimental block of cloned Sitka Spruce. The plough furrows were located at c.2 metre intervals, with trees being planted on the inside slope of the furrow upcast (see Fig. 2). Considerable growth differential was apparent across the site area which had not been thinned, but which had suffered considerable degradation by deer grazing.

The N side of the attached enclosure lay apparently undisturbed within a forest ride, which passes NE-SW across the site. A section of this enclosure was excavated to provide a control against which the ploughed-out building might be compared. The S side of the enclosure had also been ploughed and planted in 1976.

The good soils and sheltered location in Glen Brein appear to have facilitated rapid tree growth since 1976. The trees across the site are as advanced in growth as comparable 30-40 year old trees located on poorer soils or in more marginal situations (info. T.Yarnell).

Prior to excavation - with the exception of the section of enclosure preserved in the forest ride - the site was poorly preserved as an upstanding field monument. The N end wall of the building was unploughed and largely extant, however the remainder of the building walls were almost undetectable on the moss-covered ground surface and there was a dense scatter of disturbed stone.

Excavation Strategy

The excavation had two objectives:

1. recovery of information relating to the history of the MOLRS site
2. assessment of the effects on the preserved archaeology of forestry activities 1976-96

The site area was cleared of trees by Forest Enterprise staff and then planned @ 1:20, with all plough furrows, tree stumps and stone scatters marked (see Fig. 2).
Five small trenches were opened during c.3 weeks of excavation:

Trench A: a control trench located on an extant section of the stone walled enclosure preserved on the line of a forestry ride. This trench was intended to provide an indication of the quality of site survival pre-forestry planting, and a direct contrast with the adjacent ploughed and planted site areas.

Trench B: positioned E-W across the short axis of the rectangular building. This trench was intended to follow the line of a plough furrow through the building and identify walls in section. It was anticipated that any preserved deposits within the interior of the building would also be identifiable.

Trenches C-D: soil profile test pits within the enclosure area

Trench E: a small trench within the building interior investigating existence of preserved deposits beneath furrow upcasts

Root Density Descriptions

The DAFOR scale used at Tamshiel Rig (Cressey 1996) was followed to describe root density (r/d) within the recorded contexts (D-Dominant, A-Abundant, F-Frequent, O-Occasional, R-Rare). e.g. r/d=D

EXCAVATION RESULTS

Trench A

Description: The length of partially tumbled drystone wall in Trench A defining the sub-circular enclosure stood to a height of c.0.25m within the ride prior to excavation. There appeared to be an entrance into the enclosure close to the SE corner of the rectangular building. A 5.2m long & 2.2m wide (at max.) fan-shaped trench was positioned across the preserved enclosure wall close to this entrance and located to provide a clear section across the inner and outer tumble, original wall line and enclosed area. There was less tree root intrusion and no plough damage within the defined trench area.

A dense mat of grass and moss [100] (r/d=D) was removed by hand from the upper surface of the partially collapsed enclosure wall. A greater density of moss was apparent over the wall material. This vegetation deposit sealed a mixed organic-rich loam [101] (r/d=A) which produced finds of bottle glass of C18 type and china. This context appears to represent modern litter deposition. Context [101] incorporated a mass of enclosure wall tumble [102] (r/d=F), this deposit being denser on the N side of the enclosure wall. Finds of bottle glass including sherds of squat type wine bottle (c.1710-90) were made within this context. The removal of [101]&[102] revealed the enclosure wall *in situ* [104] (r/d=R). This feature was constructed with facings of large water-worn stones set each side of a rubble core. Finds of bottle glass and china were made. The removal of [101] & [102] from the SW (inner) side of the enclosure wall revealed a homogeneous deposit [105] (r/d=F) consisting of a sandy loam with a high organic content including charcoal flecking, built up to a depth of c.400mm against the inner face of the wall. This presumably represents the development of a cultivated soil within the enclosure over many generations. At the base of [105] within the enclosure, some leaching and iron pan formation was observed at the junction with the subsoil fluvio-glacial gravels [106] (r/d=R). The removal of the enclosure wall [104] revealed a compacted spread of smaller water-worn stones [103] which had been detected previously in the NE sector of the trench. This spread ran up to and under the enclosure wall, but did not extend to the enclosure interior. This spread is interpreted as a possible earlier feature (?cairn) sealed by the later enclosure wall (Plate 4). It had been truncated by cultivation activities within the enclosure. This spread was associated with a probable cultivation deposit [109] (r/d=O) similar to [105]. Below [103] & [105] on the NE side of the enclosure wall was a grey clay gley [108] (r/d=R) deposited in natural subsoil hollows. The subsoil [106] consisted of fluvio-glacial gravels with an orange sand & gravel interface [110] (r/d=R).

Trench B

Description: A rectangular trench 8.8 x 1.8m was positioned running SW-NE across the short axis of the stone walled building which ran N-S across the site. The alignment of this trench allowed a single forestry plough furrow to be followed as it cut through the external walls and internal area of the building. At one point within the trench area, the plough appears to have bounced out of the ground, potentially preserving an internal house deposit c.1m in length. The 3 *in situ* stumps of felled trees within this trench

exhibited differential growth, and there was additional root intrusion from stumps located outside of the trench limits.

A dense mat of surface vegetation [200] (r/d=D) consisting largely of moss was removed by hand. Obviously loose stones - presumably dislodged from the building walls by plough impact - were also removed as part of this operation. The majority of these loose stones had a direction of pitch into the plough furrow. The removal of [200] revealed a dense root mat [201] (r/d=D) consisting primarily of smaller tree roots, these covering the whole trench area. Incorporated within and extending beneath this root mat was a organic-rich loosely textured loam [206] (r/d=A) with large numbers of smaller and larger tree roots. The edges of the plough furrow could be clearly defined running through the trench. It was clear that the larger tree roots were following the furrow, which served as the line of least resistance through the wall collapse debris (Plates 1-2). It was also clear that the movement of the larger tree roots along the line of the furrow was causing additional disturbance to the stones from the building wall which had previously been disturbed during the ploughing episode. Incorporated within [206] were numbers of loose rounded stones. This layer is interpreted as a disturbed or upcast deposit associated with the forestry ploughing episode.

A SE-facing section across the better-preserved long axis building wall line in the SW area of the trench revealed a series of deposits (see Fig. 3). To the W (exterior) of the *in situ* wall [211], a spread of collapsed walling material [212] incorporated within [206] sealed a dark brown organic loam [207] (r/d=A/F) which appeared less disturbed and more compacted than [206]. This deposit was interpreted as an exterior surface to the building. The spread of collapse [212] was consistent with the plough passing NE-SW across the site, dragging stones which had presumably already collapsed from the wall (as suggested by the aerial photograph). The limited quantity of stone indicates the building was of turf-walled construction, based on stone footings. Beneath [211 & 206/212] was a pale brown loamy sand [204] (r/d=F) with occasional charcoal flecking. Iron leaching was visible at the base of this layer. This deposit was interpreted as a cultivation soil pre-dating the building. On the W (exterior) side of the wall an orange sandy-gravel layer [208] was interpreted as a B-horizon deposit. Beneath the wall, the cultivation soil [204] overlay the subsoil fluvio-glacial gravels [209] (r/d=R), which contained traces of iron pan formation. Within the interior of the building, wall collapse incorporated within [206] overlay a stiffer organic-rich deposit [210] (r/d=A) of an indeterminate nature. The pre-building ?cultivation soil [204] underlay this deposit, sealing [209].

Preserved within the building interior beneath [206] in the NE part of the trench was a small area of clay floor surface [202], c.1200mm long x c.480 mm wide x c.60mm thick (at max). This was interpreted as flooring for the building, overlying [204]. The preservation of the floor surface at this point may be explained by the presence of an apparent plough "bounce", with a clear break in the line of the plough furrow.

The wall of the building in the NE part of the trench was poorly preserved, being largely obscured by the line of a plough furrow.

Trench C
Description: A test pit 1.0 x 1.5m was laid out across a plough furrow and associated upcast within the enclosure. This trench indicated that the plough furrows in this area cut through the entire depth of archaeological deposits and into the fluvio-glacial gravels.

Trench D
Description: A test pit 0.75 x 0.75m laid out within an area of the enclosure interior forming part of the forestry ride and apparently unaffected by ploughing or tree root action. This trench revealed a c.300mm depth of cultivation soil [105] immediately beneath the vegetation/litter surface. This cultivation soil was of a homogeneous organic-rich nature, containing much charcoal flecking. Iron mineral leaching was apparent at the base of this cultivation soil, which overlay the fluvio-glacial natural [106].

Trench E
Description: A test pit 1.5 x 0.8m was laid out across a plough furrow and associated upcast within the W wall of the building. The trench was intended to determine the survival of any preserved building interior surface deposits beneath the furrow upcast. Rapid excavation revealed a probable beaten earth floor surface [203] preserved beneath the ploughing upcast and cut by the furrow. Surviving in the SE corner of this trench was a hearth deposit [205] of c.0.2 x 0.18m associated with finds of burnt stone. This feature was cut by the plough furrow. The base of this burnt deposit appears to abut the c.120mm higher earth floor surface [203].

Soil Profile Cores
A series of cores were taken by Dr S.Shi along the line of the largely undisturbed forestry ride to the W of the enclosure, as far as the Cumrack Burn. These cores produced consistently similar soil profiles to that observed in Trench D, but with a shallower depth of cultivation soil. These cores indicate the existence of cultivation soils outwith the enclosure, confirming the image presented in the Roy Military Survey of extensive cultivation plots associated with the settlements.

CONCLUSIONS

Site Development

1. The Enclosure

It appears that the construction of the *in situ* enclosure wall was pre-dated by an earlier feature; possibly representing a robbed out clearance cairn. Any surviving stratigraphic relationship between the building and enclosure was not investigated during this first season. Within the enclosed area there was a considerable build-up of cultivation soils, these probably cutting into the subsoil against the inside face of the enclosure wall. The homogeneous nature of this cultivation soil did not allow any definition of the length of enclosure use and probably indicates spade digging. There was clear evidence for cultivation outside of the enclosed area and a cultivation soil was preserved beneath the W wall of the building.

2. The Building

As an archaeological site, the building had been considerably compromised by forestry operations, however some deposits were preserved in pockets. It appears that the building was constructed on an earlier cultivation soil. The limited quantities of stone visible on the site suggested a turf walled construction based on stone footings, although it is possible that stone was robbed from the site during the construction of the C19 sheep enclosures. The preserved wall width is wide enough to support a stone wall to eaves height. Fragments of two floor surfaces of beaten earth and clay survived, probably representing evidence for separate activity areas within the building, rather than different phases. Associated with the beaten earth floor were the remains of a hearth, indicating that this was a dwelling house rather than a byre. It was clear that there had been some wall collapse prior to forestry ploughing operations. No dating evidence was recovered.

Identified Effects of Forestry Activities

The level of archaeological preservation within the control Trench A (Plate 4) highlighted the poor survival of the building investigated in Trench B. It was clear that the greatest damage to the preserved archaeological deposits associated with this building had occurred during the pre-planting ploughing episode, in the course of which the plough had cut through the entire depth of archaeological deposits down into the subsoil. Soil alterations resulting from ploughing and subsequent root action were apparent e.g. [206]. It was clear that during the ploughing episode the plough had broken through standing wall footings, dragging tumble for up to c.300 cms along the furrow. This disturbance was subsequently exacerbated by major tree root action; the furrows being followed as the line of least resistance (Plates 1-2). The major Sitka roots had clearly displaced tumbled stone further and there was evidence for this root action contributing to the mixing of soils e.g. [206]. The Sitka Spruce on the site developed shallow but extensive root systems, with considerable overlapping of roots from adjacent stumps (Plate 3). Allocating specific soil effects to individual trees was therefore not possible. These processes mirror effects observed at Tamshiel Rig in a more exposed situation (Cressey 1996: 22). The shallow nature of the root systems may result in archaeological deposits being preserved beneath

stumps; as suggested by the SE-facing section. It is clear that the trees had grown rapidly on the site, presumably benefiting from the fertility of the cultivation soils of the earlier settlements.

Archaeological deposits survived in the following situations:
1. beneath stone features between furrows e.g. [210] sealed by wall/tumble
2. beneath furrow upcast in areas of limited tree root activity e.g. [203]
3. plough "bounces" e.g. [202]

Implications

The level of destruction within a plantation of only 20 years growth is significant. Clearly the majority of damage occurred at the time of ploughing, with subsequent root action causing further disturbance to dislodged stones and the increased mixing of soils. The site certainly survives as a readily discernible landscape feature, however any validity as a preserved archaeological site must be questioned, with the recovery of only fragmentary deposits.

When consideration is being given to the clearance of trees from previously afforested sites within densely-planted forestry plantations, the implication of this work is that the majority of archaeological deposits have been largely destroyed at the time of planting. Once a 10-20 year period has elapsed, root disturbance has probably peaked in terms of major site damage.

Reference:

Cressey, M. 1996 Forestry & Archaeology at Tamshiel Rig in Borders Region
Centre for Field Archaeology Report no.267

APPENDIX 1

List of Finds by context

note: all glass blown unless otherwise stated

Trench A [u/s]:
2 small stem sections from clay pipe
4 undiagnostic body sherds of green bottle glass

Trench A [101]:
1 small sherd of glazed white china
1 rim plain sherd of machine-made clear glass
24 undiagnostic body sherds of green bottle glass
1 sherd from kick-up base of green glass bottle
1 sherd from bulbous neck of green glass bottle
1 decorated body sherd in green glass
1 green glass bottle neck with string ring (C18 type)

Trench A [102]:
7 undiagnostic body sherds of green bottle glass
2 sherds from kick-up base of green glass bottle (squat type c.1710-1790)

Trench A [104]:
9 undiagnostic sherds of green bottle glass
2 base sherds of green bottle glass
2 body sherds of white glazed china

Trench A [105]:
2 undignostic sherds of green bottle glass
1 sherd from neck of green glass bottle

Trench D [u/s]:
1 undiagnostic sherd of green bottle glass
1 body sherd of brown glazed china

Enclosure [u/s]:
1 sherd from kick-up base of green glass bottle (C18 type)

Figure 2

Pre-excavation site plan showing position of trenches

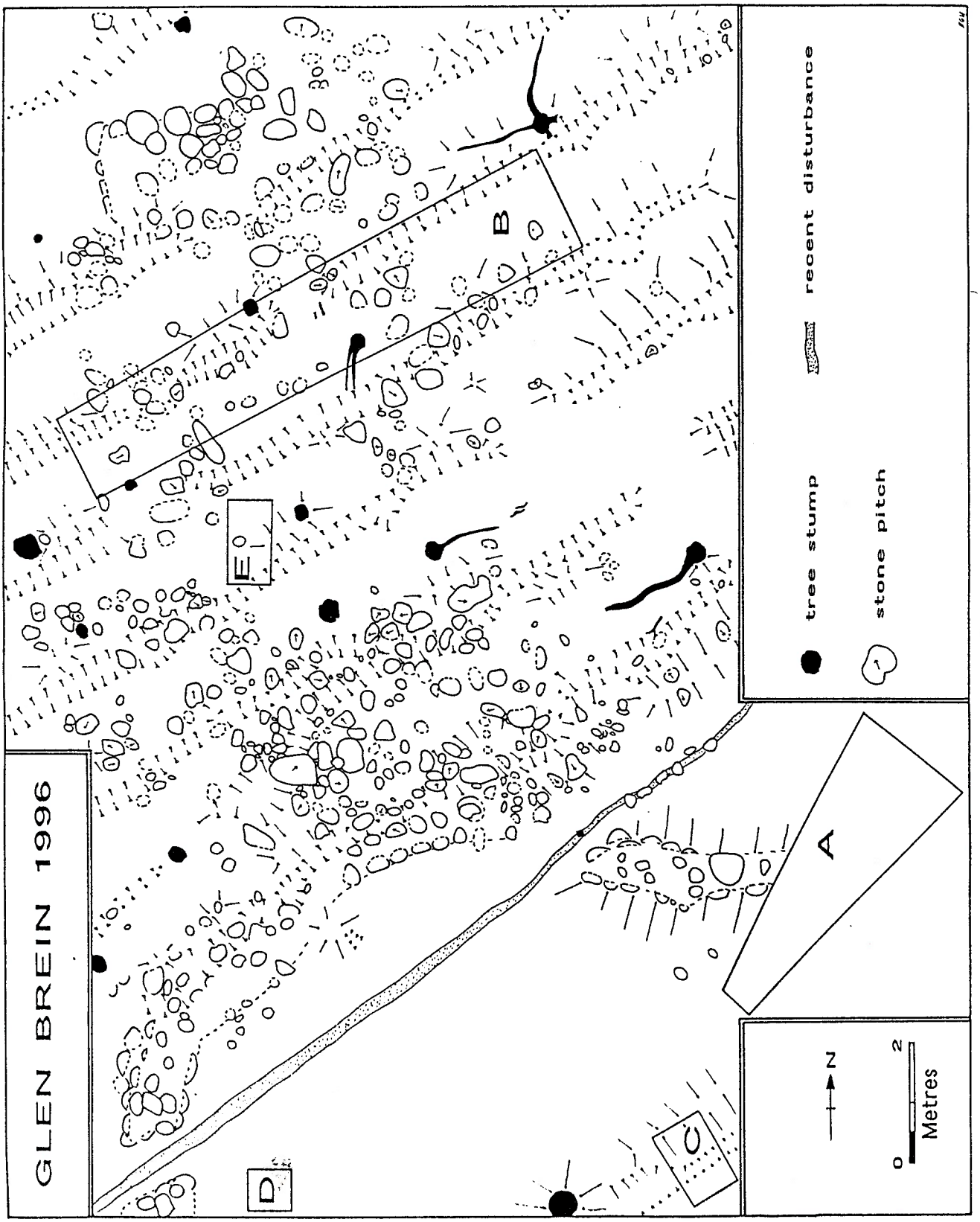


Figure 3

South-East facing section in Trench B

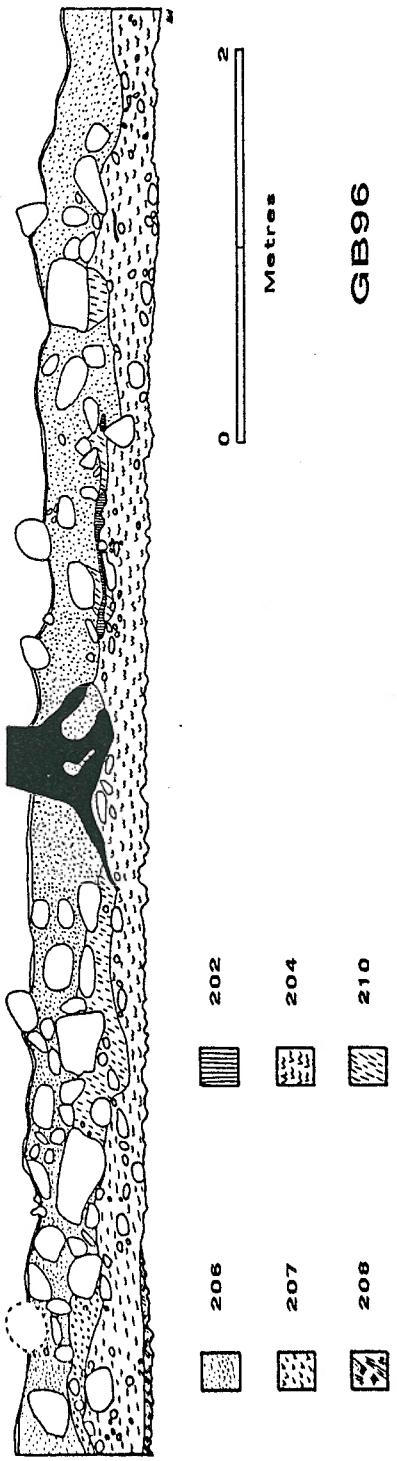


Plate 1

Trench B S-facing showing:
- W wall of building cut by plough furrow
- associated root action

Plate 2

as Plate 1: detail of root action

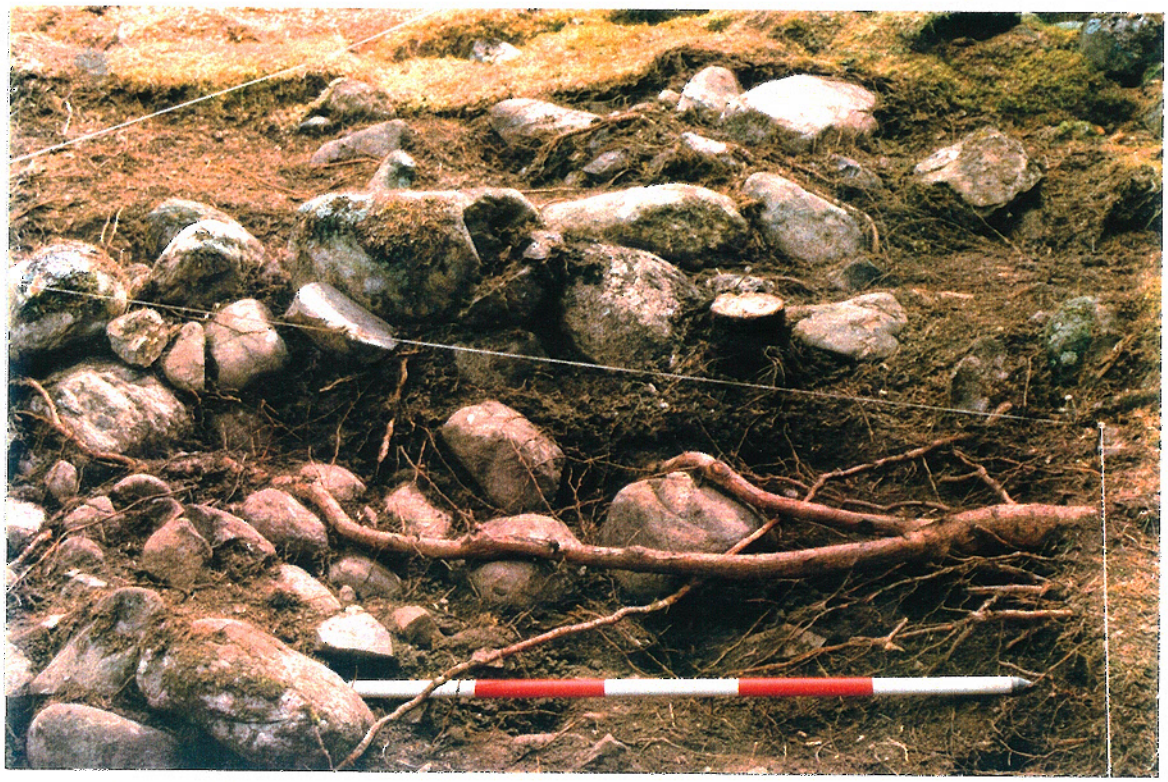


Plate 3

Trench B N-facing showing:
- linking of adjacent tree root systems
- preserved N end of building
- position of preserved clay floor surface (at R tip of scale)

Plate 4

Trench A SW-facing showing:
- sectioned enclosure wall
- earlier stone feature sealed by above