Small-Scale Sampling at Tràigh an Teampuill (Temple Bay), Toe Head Peninsula, Northton, Harris, 2012; Data Structure Report

Tràigh an Teampuill (Temple Bay) under excavation at high tide

Project Summary

National Grid Reference	NF9734 9132
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Schedule	September 2012
Sponsors	National Science Foundation of America (grant number 1202692), Historic Scotland, Durham University

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1.0 Summary

The third Mesolithic site in the Western Isles of Scotland at Tràigh an Teampuill (Temple Bay), Toe Head peninsula, Harris (NGR NF9734 9132) was identified in 2011 as part of a wider research project into the Mesolithic of this region, led by Mike Church and a team from Durham University. The preliminary investigation indicated this site had excellent preservation and the team returned to conduct further sampling and assessment of the site in 2012, in advance of on-going coastal erosion (Blake *et al.* 2012a:6; Church *et al.* 2011a).

The deposits consist of several buried ground surfaces mixed with anthropogenic midden material, which probably form part of the early to mid-Holocene buried landscape identified through coring in 2001 and during the excavation of Northton in 2010 (Bishop *et al.* 2010; 2011a; 2011b; Gregory *et al.* 2005; Simpson *et al.* 2006). A scoop was cut through the buried ground surface deposits and was subsequently filled with shell-rich midden deposits and an ash spread. Charred hazel nutshell fragments recovered from the site have been dated to c. 5700-5400 cal. BC.

2.0 Introduction

2.1 Previous Mesolithic Research in the Western Isles

Until recently, conclusive archaeological evidence for Mesolithic occupation in the Western Isles of Scotland has remained elusive (Edwards 1996; Edwards & Sugden 2003; Gregory *et al.* 2005). In 2001 the first Mesolithic site was identified at Northton, Toe Head peninsula, Harris as a result of small-scale sampling of an eroding section (Gregory *et al.* 2005; Simpson *et al.* 2006). Carbonised hazel nutshell fragments recovered from these samples indicated Mesolithic activity in the area between 7060 and 6090 cal. BC (Gregory *et al.* 2005:945). A team from Durham University returned to sample the site in 2010 as part of a wider research project investigating evidence for the earliest inhabitants of the Western Isles (Bishop *et al.* 2010; 2011a; 2011b). The results of the excavation revealed a bioturbated palimpsest of multiple occupation phases, including scattered knapping debris and the mixed remains of hearth deposits containing the remnants of waste food and fuel. In 2011, the team returned for a further season to undertake small-scale sampling along a greater stretch of the eroding coastal edge that had exposed the buried ground surface identified in

2001. The results established that the spatial extent of Mesolithic archaeological deposits at Northton were restricted to an area c.45-50m along the coastal erosion edge (Bishop *et al.* 2012).

In 2010, a two-litre sample was taken from the eroding section of a previously identified aceramic, open-air shell-midden at Tráigh na Beirigh, Cnip, Lewis (Armit 1994:67, Site code no. 30; Burgess & Church 1997:117). Radiocarbon dating of carbonised hazel nutshells yielded dates for the main body of the shell midden accumulating between c.4400-4000 cal. BC, thus confirming Tráigh na Beirigh 1 as the second positively identified Mesolithic site in the Western Isles (Blake *et al.* 2012b; Church *et al.* 2011b). In 2011, a coastal erosion assessment was conducted at the site by the team from Durham University in order to establish the extent of the Mesolithic archaeological deposits through small-scale sampling and test-pits (Blake *et al.* 2012b; Church *et al.* 2011b). The effects of severe coastal erosion at Tráigh na Beirigh were very clear and in 2012 the team returned to fully excavate this site before it was destroyed completely by the sea (Church *et al.* 2012b). The preliminary interpretation based on the excavation results is that the Mesolithic shell-midden constituted the discarded food and bait from multiple short-term occupations at the site, overlying a buried landscape that also bears the remains of hunter-gatherer activity – including features indicative of potential structures (Blake *et al.* 2012b; Church *et al.* 2011b; Church *et al.* 2012b; Piper & Church 2015).

2.2 Sampling at Tràigh an Teampuill in 2012

The third Mesolithic site discovered in the Western Isles was identified at Tràigh an Teampuill, Toe Head peninsula, Harris during fieldwork by Durham University in 2011 (Blake *et al.* 2012a; Church *et al.* 2011a; 2012a). A full coastal erosion assessment and small-scale sampling was conducted of an exposed eroding section, which exhibited a similar stratigraphic matrix to that of the Mesolithic site at Northton (Blake *et al.* 2012a; Church *et al.* 2011a; 2012a). Carbonised hazel nutshells from the site were radiocarbon dated to 5715-5368 cal. BC, placing the occupation of the site between that of Northton, just around the peninsula, and Tráigh na Beirigh on Lewis (Blake *et al.* 2012b; Gregory *et al.* 2005). During the fieldwork season in 2012, the team returned to conduct further small-scale sampling in advance of the threat of sustained coastal erosion. The site comprised a buried ground

surface mixed with anthropogenic midden material, which was part of the same early to mid-Holocene landscape identified at Northton, with a scoop cutting into it. The scoop was filled with an ashy deposit and a shell-rich midden deposit (Blake *et al.* 2012a:10; Church *et al.* 2011a; 2012a).

2.3 Research Aims of the 2012 Season

The sampling at Tràigh an Teampuill aimed to:

1. Assess the extent of coastal erosion of the site.

2. Establish the nature and extent of the Mesolithic deposits.

3. Undertake further sampling and analysis of the archaeobotanical, zooarchaeological and artefactual remains recovered from the eroding deposits.

4. Retrieve further material for radiocarbon dating.

3.0 Methods

3.1 Coastal Erosion Assessment & Sampling

The exposed eroding section of archaeological deposits at Tràigh an Teampuill was digitally photographed prior to being cleaned back. The initial cleaning exposed c.5m of deposits along the section, a smaller area of which was identified in 2011 (Blake *et al.* 2012a:8). All the deposits were sampled by hand and recorded using a single context system. Each context was digitally photographed, recorded and the section drawn at a scale of 1:10. A 100% sampling strategy was implemented when excavating the deposits and 134.8 litres of bulk samples were taken (Jones 1991). Additional spot and column samples were also taken for routine soil tests, as well as Kubiena tin samples for thin-section analysis, with their locations also noted on the section drawing. Small finds were recorded in three-dimensions and all quartz (worked and unworked) was recovered for specialist analysis, following Ballin (2009:90). A GPS Topcon Positioning System was used to survey the site and surrounding area, before it was reinstated with stones and turf to protect the remaining archaeological deposits.

3.2 Post-Excavation Analysis

All excavated material was returned to the Department of Archaeology at Durham University for post-excavation processing. The bulk samples were wet-sieved in the Environmental Laboratories in the Department. The flot was captured by 1.0mm and 0.5mm mesh sieves, and the residue by a 1.0mm sieve. Both flots and residues were oven-dried due to the significant volume of material. Once dried the residue was sieved again through 4.0mm, 2.0mm and 1.0mm mesh stacking sieves. The >4.0mm fraction was sorted by eye, whereas the >2.0mm and >1.0mm fractions were sorted under a low-powered binocular microscope to ensure comprehensive recovery of all zooarchaeological and archaeobotanical remains (Wheeler & Jones 1989:50, 59). The specialist analysis of all recovered material is co-ordinated by Mike Church.

4.0 Results

4.1 Erosion Survey

The exposed section had clearly suffered from further coastal erosion since its reinstatement following investigation in 2011. It is evident from the photograph on the cover page how high the tide can reach at certain times of year aided by a westerly, onshore, wind. The archaeological deposits will be steadily eroded in future years and eventually completely destroyed.

4.2 Contexts and Stratigraphy

The site context register is provided in Table 1, the digital photograph register in Table 2, the drawing register in Table 3, details of small finds in Table 4 and the sample register in Table 5. The site section and plan are provided in Figs. 14-16 and the Harris matrix in Fig. 17.

During the 2012 season, a c. 1.5m extension was cleaned westward along the eroding section to expose c. 5m of eroding deposits. The western extension revealed C011, a dark grey-brown sandy clayey silt deposit with occasional inclusions of angular and sub-rounded stones (<10cm long). Although it was noted that there appeared to be less anthropogenic material in C011 than in C004 and C005, it has been interpreted as an extension of the same deposit. C011 underlay C009 and overlay C003.

C013 was the cut number for a scoop identified in the 2012 season in the centre of the section. The scoop had a gently sloping eastern side but a straight western side and a flat base. C013 cut C005 and was filled with C006 and C007. Context numbers C001, C010 and C012 were cleaning contexts.

5.0 Discussion

Further investigation at Tràigh an Teampuill, the third identified Mesolithic site in the Western Isles, has demonstrated the excellent stratigraphic preservation and research significance of the site. Furthermore, it has again highlighted the potential for examination and positive identification of discrete and relatively small-scale Mesolithic archaeological deposits eroding between the bottom of the machair and the early Holocene soils/boulder clay. The buried old ground surface identified here and at the adjacent headland during excavation at Northton (Bishop *et al.* 2010; 2011a; 2011b) suggests that the southern coast of the Toe Head peninsula, Harris was a prime location for hunter-gatherer activity during the Mesolithic. The excellent preservation of environmental remains recovered from these sites has provided the first evidence of the nature of native plant and animal species on the islands during the Mesolithic period (Kitchener *et al.* 2004:80; McCormick & Buckland 1997:87). This is invaluable to understanding Mesolithic subsistence practices in the island and, crucially, exploitation of non-marine resources in contrast to the shell-middens that are so readily evident in the Inner Hebrides (Kitchener *et al.* 2004:80; Milner 2009:68). Preliminary sorting of the bulk samples has noted the presence of 1000's of fish bones, a red deer antler tine, 100's of small mammal and bird bones and 100's of fragments of hazel nutshell, smaller plant macrofossils and charcoal. Initial analysis of the quartz and flint knapping debris recovered from Tràigh an Teampuill indicate the use of both local and non-local raw materials respectively.

6.0 Acknowledgements

We would like to thank the following people for their permission to excavate at Tràigh an Teampuill: Mrs Caroline Mackie, Mr Robert Charles Hitchcock and Mr Simon Fraser, owners and Factor of the Bays of Harris Estate; Donald R MacDonald, Clerk of the Northton Grazing Committee. The following are also thanked for providing funding for the project: National

Science Foundation of America (grant number 1202692), Historic Scotland and Durham University.

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8.0 Figures

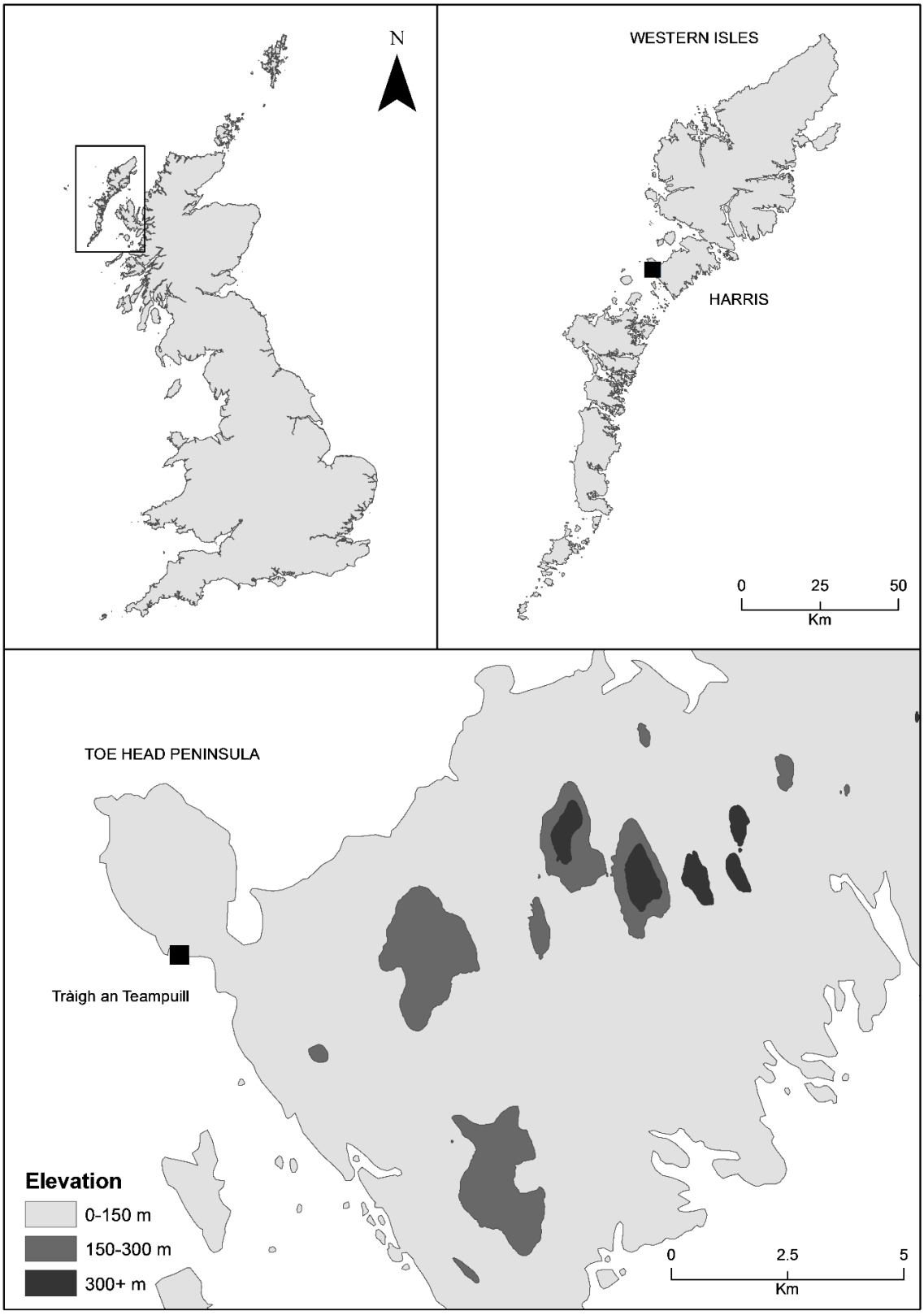

Figure 1 Tràigh an Teampuill site location. Ordnance Survey data © Crown Copyright/ database right 2014. An Ordnance Survey/EDINA supplied service.

Figure 2 View of the Northton coastline with approximate locations of the Mesolithic sites of Tràigh an Teampuill (1) and Northton (2), facing north-west.

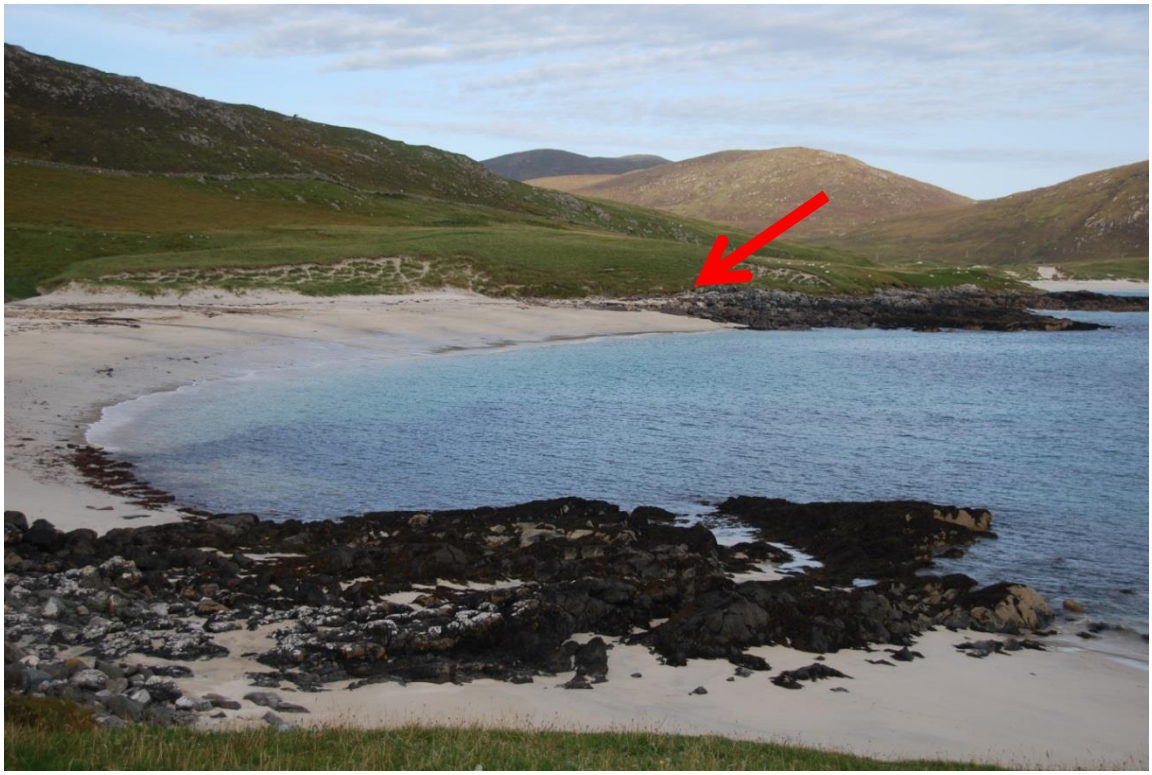

Figure 3 View of Tràigh an Teampuill with the approximate location of the eroding section, facing north-west.

Figure 4 View of Tràigh an Teampuill in relation to the sea at low tide, facing east.

Figure 5 Eastern extent of the eroding section at Tràigh an Teampuill before cleaning, facing north-east.

Figure 6 Central section of the eroding section at Tràigh an Teampuill before cleaning, facing north-east.

Figure 7 Western extent of the eroding section at Tràigh an Teampuill before cleaning, facing north-east.

Figure 8 Eroding section at Tràigh an Teampuill after cleaning, facing north-east.

Figure 9 Eastern extent of the eroding section at Tràigh an Teampuill after sampling, facing north-east.

Figure 10 Central section of the eroding section at Tràigh an Teampuill after sampling, facing north-east.

Figure 11 Western extent of the eroding section at Tràigh an Teampuill after sampling, facing north-east.

Figure 12 Detail of scoop C013, filled by C006 and C007, facing north-east.

Figure 13 Tràigh an Teampuill after excavation following reinstatement, facing north-east.

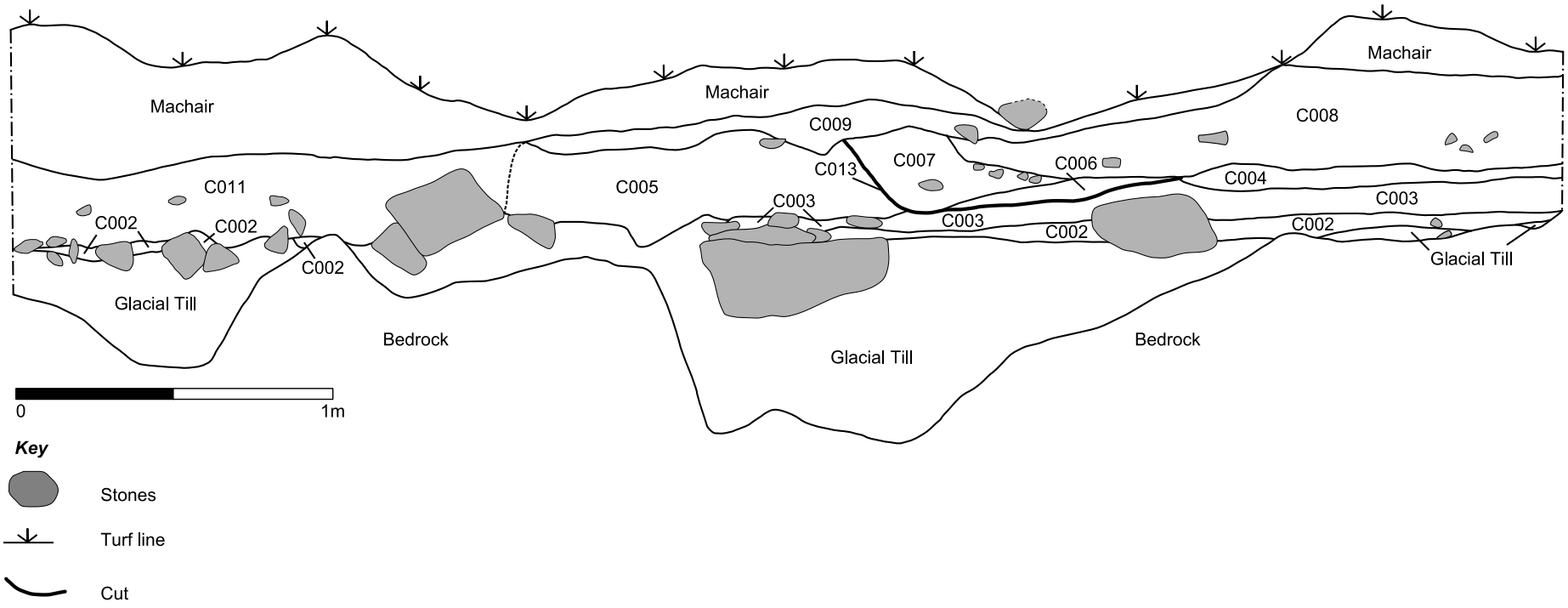

Figure 14 Tràigh an Teampuill section

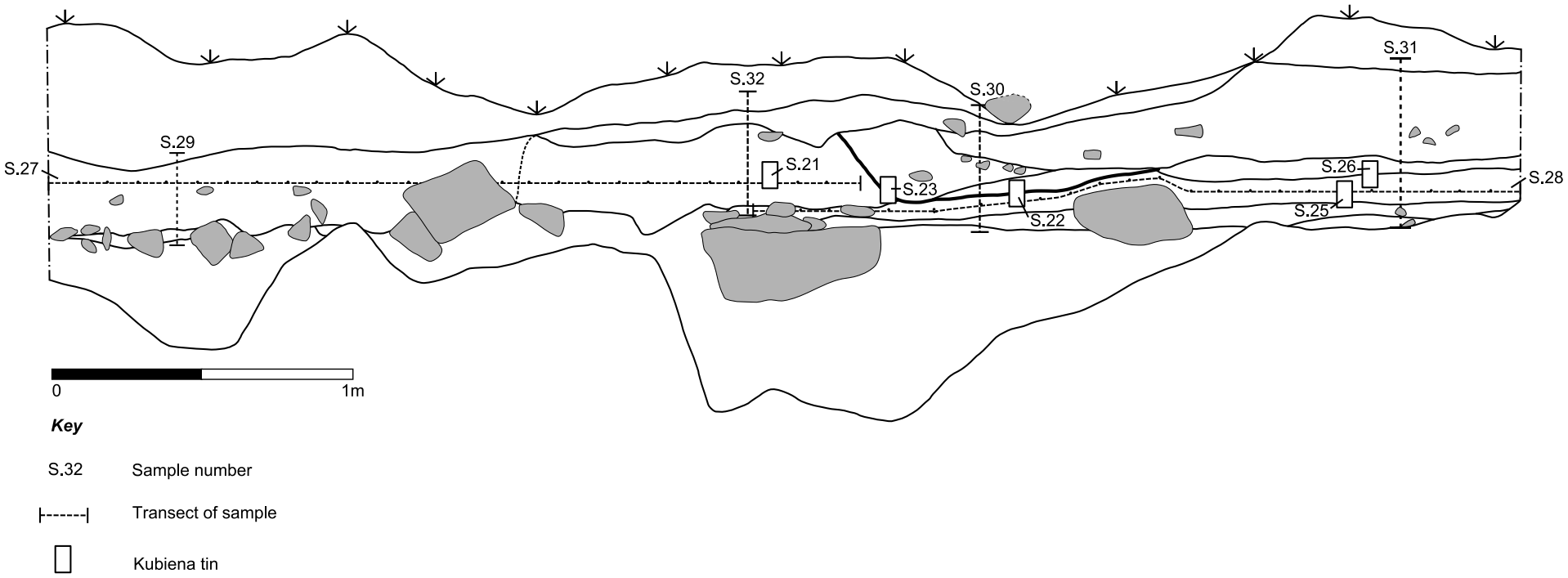

Figure 15 Tràigh an Teampuill section detailing sample locations

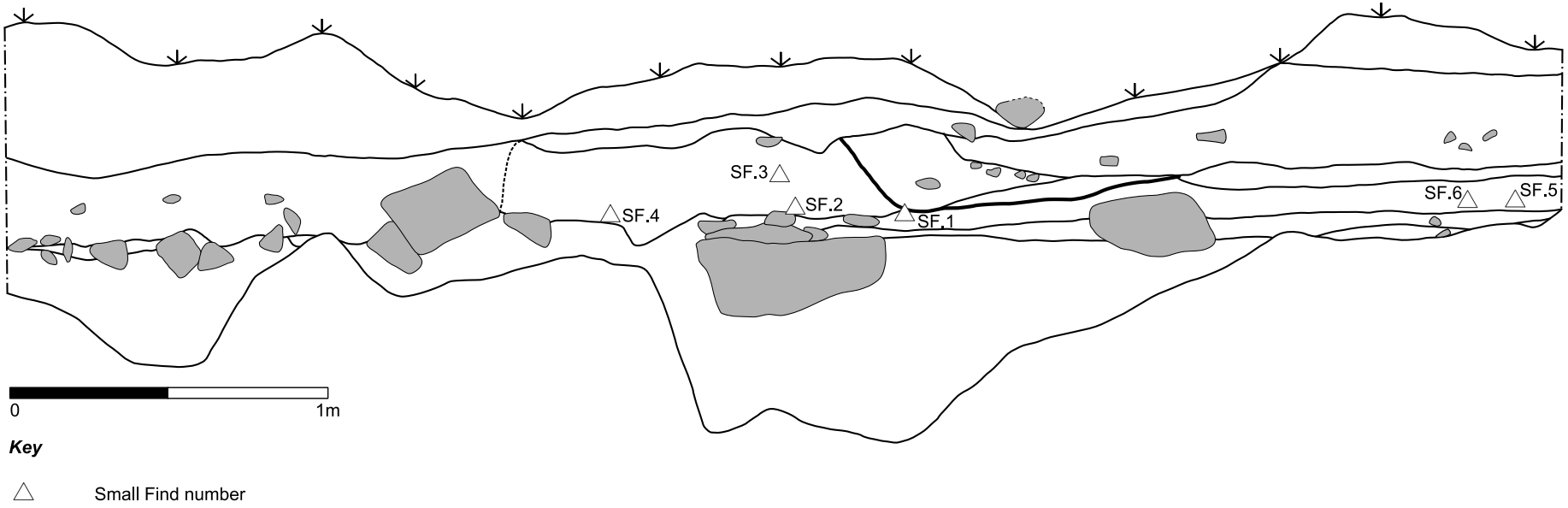

Figure 16 Tràigh an Teampuill section detailing small find locations

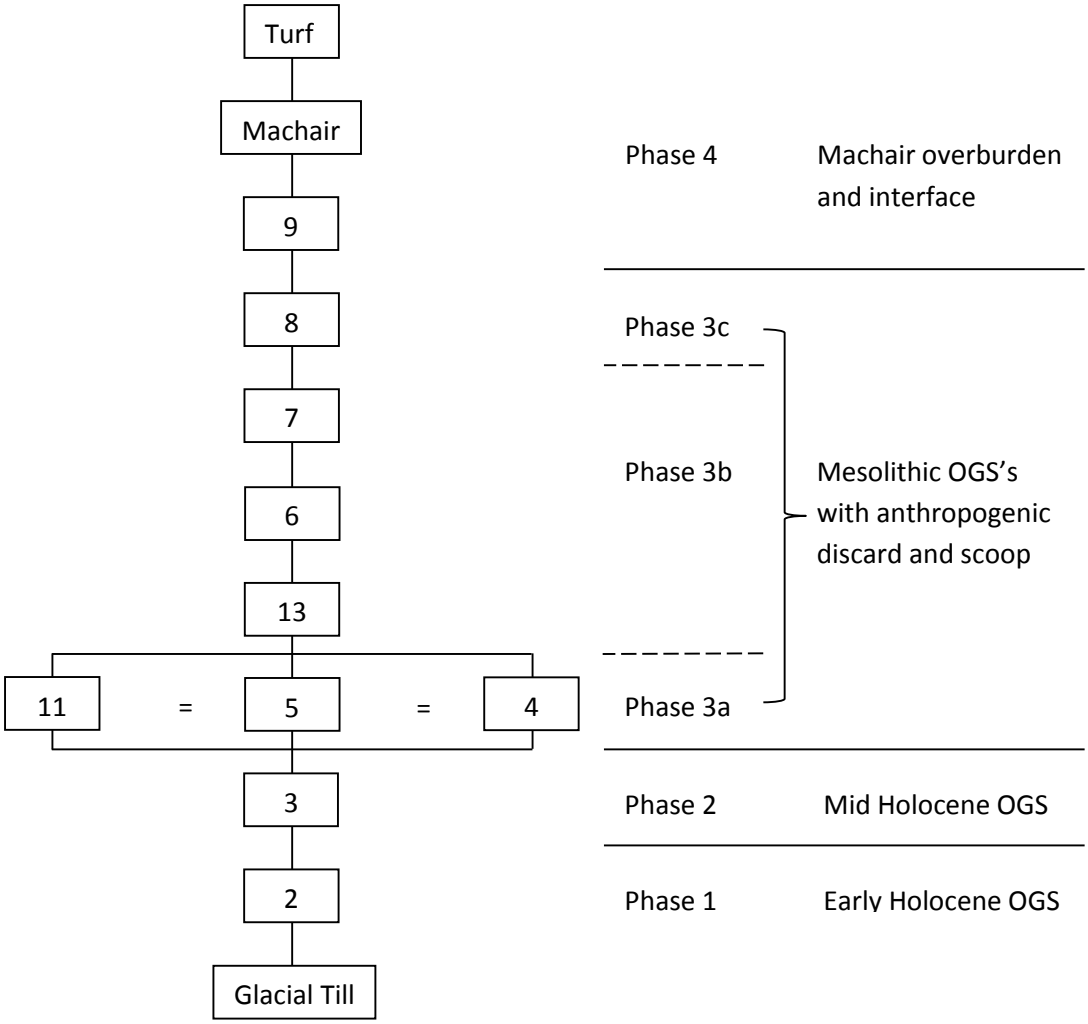

Figure 17 Tràigh an Teampuill Harris matrix

9.0 Tables

Context Number	Description
C001	Cleaning context for all contexts identified in the eroding section in 2011.
C002	Light grey-brown clayey silt with occasional inclusions of small angular/sub-angular stones, small gravel and charcoal flecks, grades in to C003 (overlying) and the underlying glacial till.
C003	Organic early- to mid-Holocene old ground surface comprised of a black sandy clayey silt with occasional inclusions of angular/sub-rounded stones (<10cm long) and anthropogenic material, such as fish and hare bone, carbonised hazel nutshells and charcoal. Radiocarbon dating of two carbonised hazel nut-shells has produced calibrated radiocarbon dates of 5715-5555 cal. BC. Underlying C004 and C005, and overlying C002.
C004	Dark grey-brown sandy clayey silty soil with occasional inclusions of angular/sub-rounded stones (<10cm long) and anthropogenic material such as animal bone and carbonised material, at east end of section. Old ground surface with evidence of anthropogenic discard. Underlying C006 and overlying C003. Same as C005.
C005	Dark grey-brown sandy clayey silt with occasional inclusions of angular/sub-rounded stone (<10cm long) and anthropogenic material, such as animal bone and carbonised material, at west end of section. Old ground surface with evidence of anthropogenic discard. Underlying C009 and overlying C003. Same as C004 and C011.
C006	Discrete, light grey, clayey, ashy silt with calcined bone and shell inclusions throughout its vertical and horizontal extent. Lower fill of scoop C013.
C007	Light brown, shell-supported, sandy silt, interpreted as a shell-rich dump which resulted from small-scale midden episode. Radiocarbon dating of two carbonised hazel nut-shells from this context has produced calibrated radiocarbon dates of 5714 to 5467 cal. BC. Upper fill of scoop C013.
C008	Dark brown sandy clayey silt with occasional inclusions of angular/sub-rounded stone (<15 cm long) and anthropogenic material such as animal bone and charcoal. Interpreted as an old ground surface with some evidence of anthropogenic discard, in the form of both food waste and fuel remnants. C008 overlies C007.
C009	Brown sandy silt which graded into a brown silty sand in its upper portion, with no inclusions. Interpreted as a natural interface soil, which graded into the machair overburden. Directly underneath machair overburden, overlying C008.
C010	Cleaning layer of all archaeological contexts (underlying C009 and overlying glacial till) prior to photographing and sampling in 2012.
C011	Extension of C005 in western extent of section. Dark grey-brown sandy, clayey silt with occasional inclusions of angular/sub-rounded stone (<10cm long). Less anthropogenic material noted than in C005. Old ground surface with evidence of anthropogenic discard. Underlying C009 and overlying C003. Same as C004 and C005.

C012	Cleaning layer of all archaeological contexts (underlying C009 and overlying glacial till) prior to section drawing and geoarchaeological sampling.
C013	Cut for scoop, filled by C006 and C007. Cuts C005 and C004.

Table 1 Tràigh an Teampuill 2011/2012 Context register

Digital Photo Number	Description
TB12 DP1-4	Pre-cleaning photo of east end of eroding section: south-facing section, looking north-east.
TB12 DP5-8	Pre-cleaning photo of middle area of eroding section: south-facing section, looking north-east.
TB12 DP9-11	Pre-cleaning photo of west end of eroding section: south-facing section, looking north-east.
TB12 DP12-17	Whole section following cleaning: south-facing section, looking north-east.
TB12 DP18-20	Detail of east end of cleaned eroding section: south-facing section, looking north-east.
TB12 DP21-23	Detail of middle area of cleaned eroding section: south-facing section, looking north-east.
TB12 DP24-26	Detail of west end of cleaned eroding section: south-facing section, looking north-east.
TB12 DP27-32	Whole cleaned eroding section after sampling: south-facing section, looking north-east.
TB12 DP33-35	Detail of east end of cleaned eroding section after sampling: south-facing section, looking north-east.
TB12 DP36-38	Detail of middle area of cleaned eroding section after sampling: south-facing section, looking north-east.
TB12 DP39-41	Detail of west end of cleaned eroding section after sampling: south-facing section, looking north-east.
TB12 DP42-44	Detail of scoop (C013) filled by C006 and C007: south-facing section, looking north-east.
TB12 DP45-47	Detail of Sample 21 *in situ*: south-facing section, looking north-east.
TB12 DP48-50	Detail of Sample 23 *in situ*: south-facing section, looking north-east.
TB12 DP51-53	Detail of Sample 22 *in situ*: south-facing section, looking north-east.
TB12 DP54-56	Detail of Samples 25 and 26 *in situ*: south-facing section, looking north-east.
TB12 DP57-62	Detail of middle area of eroding section after removal of Samples 33, 34, 35 and 36: south-facing section, looking north-east.
TB12 DP63-65	Reinstatement of the site following excavation: south-facing section, looking north-east.

Table 2 Tràigh an Teampuill 2012 Digital Photograph register

Drawing Number	Year	Section/Plan	Scale	Description
1	2011	Section	1:10	South-facing eroding section prior to sampling
2	2012	Section	1:10	South-facing eroding section following sampling

Table 3 Tràigh an Teampuill 2011/2012 Drawing register

Find Number	Year	Context Number	Description
SF.1	2011	C005	Red deer antler tine
SF.2	2011	C005	Worked flint lithic
SF.3	2012	C005	Worked flint lithic
SF.4	2012	C005	Worked quartz lithic
SF.5	2012	C003	Worked quartz lithic
SF.6	2012	C003	Worked quartz lithic

Table 4 Tràigh an Teampuill 2011/2012 Small Finds register

Sample Number	Year	Context Number	Sample Type	Volume (litres) measured at processing
S.1	2011	C001	Bulk Sample	4
S.2	2011	C005	Bulk Sample	10.5
S.3	2011	C007	Bulk Sample	5
S.4	2011	C006	Bulk Sample	1.5
S.5	2011	C003	Bulk Sample	5
S.6	2011	C002	Bulk Sample	1
S.7	2011	C004	Bulk Sample	7
S.8	2011	C008	Bulk Sample	7
S.9	2012	C010	Bulk Sample	15
S.10	2012	C011	Bulk Sample	9
S.11	2012	C009	Bulk Sample	4
S.12	2012	C008	Bulk Sample	16
S.13	2012	C005	Bulk Sample	17
S.14	2012	C006	Bulk Sample	2
S.15	2012	C004	Bulk Sample	3
S.16	2012	C002	Bulk Sample	0.4
S.17	2012	C003	Bulk Sample	19
S.18	2012	C007	Bulk Sample	3
S.19	2012	C002	Bulk Sample	17
S.20	2012	C012	Bulk Sample	3
S.21	2012	C005	Kubiena Tin	1 tin
S.22	2012	C003/006	Kubiena Tin	1 tin
S.23	2012	C005/007	Kubiena Tin	1 tin
S.24	2012	C005/007	Bulk Sample	0.4

S.25	2012	C002/003	Kubiena Tin	1 tin
S.26	2012	C003/004	Kubiena Tin	1 tin
S.27	2012	C005/011	Transect of horizontal spot samples	26 spot samples
S.28	2012	C003	Transect of horizontal spot samples	23 spot samples
S.29	2012	C002/011	Transect of vertical spot samples	7 spot samples
S.30	2012	C002/C003/C006/C007/C008/C009	Transect of vertical spot samples	9 spot samples
S.31	2012	C002/C003/C004/C008	Transect of vertical spot samples	12 spot samples
S.32	2012	C003/C005/C009	Transect of vertical spot samples	8 spot samples
S.33	2012	C007	Bulk Sample	7
S.34	2012	C005	Bulk Sample	11
S.35	2012	C006	Bulk Sample	4
S.36	2012	C003	Bulk Sample	4

Table 5 Tràigh an Teampuill 2011/2012 Sample register