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Scotland's First Settlers 2000

Data Structure Report

This document has been prepared in accordance with CFA standard operating procedures.

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1. SUMMARY

1.1 Background

1.1.1 This report presents the results of the excavation of the Sand shell midden, the coastal survey, the shovel pitting and test pitting programmes. The work was carried out in April - May 2000 as part of the University of Edinburgh's Scotland's First Settlers project.

1.1.2 The fieldwork was carried out as a result of the success of the 1999 trial season (Finlayson *et al.* 1999).

1.1.3 The project was based in Applecross, Wester Ross, after coastal survey and test pitting in August 1999 identified the great potential of the area for study on the Mesolithic

1.2 Objective

1.2.1 The aim of the project is to investigate the early settlement of the coast and islands in and around the Inner Sound.

1.3 Methods

1.3.1 Fieldwork in 2000 comprised three elements: survey; test pitting of surveyed sites; and excavation of one shell midden site, at Sand.

1.3.2 The coastal survey was designed to cover the entire modern coastline and visible raised beaches of the Applecross peninsula, and record all rockshelters and caves (both with and without obvious archaeological remains), lithic scatters and any identifiable open middens.

1.3.3 The test pitting programme was designed to sample all sites identified in the coastal survey during 1999 and 2000 both on the Applecross peninsula and on the Crowlin Islands with the aim of charaterising deposits and collecting samples for dating.

1.3.4 The excavation of the Mesolithic shell midden at Sand was designed to assess the size of the site, the character of the deposits both within and outwith the midden and to obtain archaeological and paleoenvironmental samples relating to the archaeological occupation of the site, for dating and analysis.

1.4 Results

1.4.1 The coastal survey identified and recorded a total of 66 previously unrecorded sites, 39 of which had archaeological remains.

1.4.2 Test pitting was undertaken at 39 sites, including all identified sites on the Crowlin Islands and 53% of sites on the Applecross peninsula.

1.4.3. A major excavation was carried out at the site of Sand during which two trenches (22m x 2m and 20m x 2m) were opened to expose the shell midden and areas to the north, south and east of it. Much artefactual material, including lithics, bone and antler tools, and worked shell was retrieved as well as large assemblages of animal bone, fish bone, shells and other environmental material.

1.5 Further work

1.5.1 A post excavation programme to include processing and analysing finds and the preparation of both academic and public reports on the 2000 season is recommended.

2. INTRODUCTION

2.1 General

2.1.1 This report presents the results of the excavation of the Sand shell midden, the coastal survey, the shovel pitting and test pitting programmes. The work was carried out in April - May 2000 as part of the University of Edinburgh's Scotland's First Settlers project.

2.2 Objectives

2.2.1. The primary aim of the SFS project is to examine the Mesolithic occupation of the seascape of the Inner Sound, which lies between Skye, and the mainland of Scotland. It forms an enclosed body of sea and islands. The SFS project also aims to address certain specific questions including:

1. The cultural relationships of Mesolithic shell middens both within the Mesolithic and with later periods;
2. The location of sites and the seasonal nature of their occupancy;
3. The dating of shell midden sites;
4. The seamanship of Mesolithic people;
5. The relationship of sites to the Mesolithic shorelines;
6. Whether the dynamic climatic change that took place at this time is reflected in the middens and how the human population adapted to this.

2.3 Background

2.3.1 In August 1999, a two week season was undertaken (Finlayson et al. 1999). Trial trenching took place on four known shell midden sites; the coastal survey started in three selected areas and preliminary post excavation was carried out on all finds.

2.3.2 Trial trenching of the four known sites produced a large amount of artefactual and ecofactual material. Radiocarbon dates on two of the sites, Loch a Sguirr, Rassay, and Sand at Applecross, identified them as Mesolithic. Loch a Sguirr produced a small lithic assemblage which contained no diagnostic pieces. It also produced one bevel ended bone tool. The deposits were not substantial and the rockshelter appeared to have been repeatedly scoured by water. Radiocarbon dates on the bevel ended tool and two pieces of charcoal produced two Mesolithic dates and one more recent. The site at Sand was shown to have deep stratification, a large lithic assemblage containing several microliths, a number of bevel ended bone tools and four Mesolithic dates. Radiocarbon dates of the other two tested sites, Ashaig and Crowlin 1 have shown them to be complex and multi period extending into more recent times (Table 1).

OxA no.	**Sample ref**	**Radiocarbon age (BP)**
Ashaig 1, NG 6866 2420		
OxA-9277	charcoal *(Betula)*	769 $\pm$ 36

OxA-9278	charcoal *(Corylus avellana)*	771±32
OxA-9279	charcoal *(Betula)*	723±33
Crowlin 1, NG 691 338		
OxA-9250	charcoal *(Betula)*	1296±39
OxA-9251	charcoal*(Betula)*	1799±37
OxA-9252	charcoal*(Betula)*	477±35
OxA-9253	bone, deer	316±39
Loch a Sguirr, NG 6084 5286		
OxA-9254	charcoal *(Betula)*	2055±39
OxA-9255	bone, deer	7245±55
OxA-9305	charcoal *(Betula)*	7620± 75
Sand NG 6841 4934		
OxA-9280	antler	7520±50
OxA-9281	bone, deer	7715±55
OxA-9282	bone, deer	7545±50
OxA-9343	charcoal *(Betula)*	7765±50

Table 1. Radiocarbon determinations from sites tested in 1999

2.3.3 In August 1999, coastal survey concentrated on Trotternish, NE Skye, the Crowlin Islands and the area around Toscaig, in the Applecross peninsula. Thirty two sites were found in all three areas, with a particularly large concentration around Toscaig.

2.3.4 Work for 2000 was concentrated in Applecross to complete the survey of this archaeologically rich area and excavate in more detail the midden at Sand. In addition, all sites on the Crowlin Islands and most sites on the Applecross peninsula were test pitted.

2.4. Method

2.4.1 The following methods were adopted:

1. Blanket coastal survey, with the objective of identifying all caves and rockshelters, as well as other potentially Mesolithic sites, such as lithic scatters;
2. Test pitting of all sites with the aim of assessing archaeological preservation and dating through the collection and recognition of artefact types and dating samples;
3. Shovel pitting certain areas of raised beach, to ascertain the presence of lithic material within the top soil;

4. Major excavation of one shell midden and adjacent areas to obtain Mesolithic cultural and environmental material and to assess the relationship of the midden to its immediate surroundings.

2.5. Discovery and Excavation in Scotland

2.5.1 A summary of the results of the project will be submitted to Discovery and Excavation in Scotland 2000.

2.6 Wider publication

2.6.1 An Interim report is planned for Glasgow Archaeological Journal. A comprehensive academic publication will be prepared once the post excavation work is complete. Specialist reports and publications will be produced as relevant. Final publication will also include dissemination of the information to the public.

2.6.2 The 1999 - 2000 interim results have been presented at the CSA *Archaeology in Progress* conference in Inverness, May 2000, and by poster in Edinburgh at the mesolithic conference of November 1999. A paper and a poster display was presented at the Meso 2000 conference in Stockholm in September 2000. Poster boards have been prepared and used for public information in several locations on Skye and in Applecross. Public lectures on the project include Edinburgh, Sleat, Applecross, Lochcarron, Portree, Oban, Aberdeen and the Moray Science Festival.

2.6.3 A successful Open Day was held on 13th May 2000 when visitors were able to see excavation work in progress at Sand and also observe post excavation work and a finds display in Applecross. This was a very successful Open Day and attracted visitors from as far afield as Inverness and Elgin. This was preceeded by an introductory talk in Applecross on 12th May.

2.6.4 A Newsletter summarizing the results of the 1999 season was widely distributed and a newsletter for 2000 is in preparation.

2.6.5 The 1999 Newsletter is available on the Internet (www.pabay.org) and a dedicated web page is currently being set up with the help of Moray College (www.).have emailed Howie a couple of times – no reply do you want to try?

2.7 Archiving and finds disposal

2.7.1 A copy of this report and all the site records will be deposited with the National Monuments Record of Scotland. Copies of the reproducible elements will be deposited with the Highland Council Sites and Monuments Record. Finds disposal will be conducted according to Historic Scotland policy. Electronic archiving will also take place according to AHDS guidelines.

2.8 Acknowledgements

2.8.1 The project directors would like to thank the following organisations and people for their help during the 2000 field season. The Applecross Estate, Applecross Post Office, Q Banting and colleagues from DERA BUTEC, Kyle of Lochalsh and RTB Applecross for general support. Brian Urquhart and members of the Works Services department SERCO, Kyle of Lochalsh for backfill operations. Alan Cairns and the crew of LENIE from the RMAS, Kyle of Lochalsh for boat operations. R.J. Macleod Ltd and Highland Council Roads Department for the provision of backfill materials. In addition specific help was given by the following people: Lorna Lumsden, Mike Summers, Donna Clark, Kath Small, Ivy Hancock, Kirsten Thompson, Hazel Macfarlane, John Patrick, Ann Wakeling, John Fulcher, John Tutt, Mike Chase, Fergus MacLeod, Richard Bourne, Shiela Duthie, Murdo Nicholson, Janice Adamson and Alison MacLeod.

3. COASTAL SURVEY (figure 1).

(with Martin Wildgoose)

3.1 Extent of surveyed area

3.1.1 A total of 135 Km was surveyed.

3.2 Location of surveyed areas.

1. The entire coastline of the Applecross peninsula, from Kishorn in the south to Shieldaig in the north. (65km.)
2. The remaining parts of the east coast of Skye. (55km.)
3. The island of Pabay and the west coast of Scalpay. (15km.)

3.3 Method

3.3.1 Prior to the survey, all visible raised beaches were identified and their locations marked on 1:25000 OS maps. Both the present shore level and fossilised shore levels were walked by a team of two surveyors.

3.3.2 All caves and rock shelters, with or without midden, were recorded and all erosions, animal rubs, ditches and mole hills were inspected for lithics and midden materials. A total of 65 new sites were recorded (Appendix 6).

Site types	Numbers of sites
caves or rockshelters with midden	23
caves or rockshelters, no visible midden	27
open middens	3
lithic scatters	9

single artefact find spots	3
Total	**65**

Table 2 New sites recorded on coastal survey

3.4 Distribution of sites

3.4.1 The distribution of new sites is shown in Table 3.

Location	**Number of sites**
Applecross peninsula	50
NE Skye	4
Raasay	2
Pabay	2
Ashaig	2
Scalpay	4
Redpoint headland	1
Total	**65**

Table 3. Distribution of sites found during coastal survey

3.5 Threats

3.5.1 Based on Historic Scotland's coastal survey threat categories (Ashmore 1994), the following results were recorded.

Condition of site	**Number of sites**
Accreting or eroding	7 sites
Definately eroding	20 sites
Eroding or stable	6 sites
Stable	32
Total	**65**

Table 4. Nature of threats to sites

3.5.2 The picture of threat from 2000 contrasts with the results of the 1999 survey, which found that most recorded sites in the area then under consideration were under threat. The main threats identified in 2000 were animals (24), deflation (14), cliff/slope failure (7), human impact (5), wave attack (3) and roof collapse (1). Several sites were under threat from more than one source.

3.5.3 The number and type of sites recorded by the end of the 2000 season can be found in Table 5.

Type of site	**No. of Sites.**
Rockshelter/cave	76
Lithic scatter	18

Open midden	7
Single find spot	3
Total	**104**

Table 5. Total number of sites recorded by the SFS project

4. SHOVEL PITTING

(with Martin Wildgoose)

4.1 Location of shovel pitting programmes (fig 2).

4.1.1 Four areas of raised beach were sampled by shovel pitting. Three lay round Applecross Bay, and the fourth lay at Uags:

1. Applecross Manse on the north side of the bay;
2. Spring field 400 metres inland and to the north-east of the Manse;
3. The Mains of Applecross on the south side of the bay;
4. Rubha na h-Uamha, within the abandoned settlement of Uags, 10km to the south of Applecross.

4.2 Method

4.2.1 A ten metre grid was laid out across the area to be tested (except at site 1 where a 5 metre grid was laid out) and shovel pits (250mm x 250mm) were dug down to the underlying beach at grid intersections. The entire contents of each shovel pit were dry-sieved through a 3mm wire sieve. Where lithics were recovered, the pit was recorded as a 'hit'. The location of the site and position of individual pits were recorded using a Wild RK 1 Self Reducing Alidade and Plane Table, at a scale of 1:1000. Of the 109 shovel pits dug only 12 had one or more lithics.

4.2.2 The shovel pitting was carried out by a team of three. One team member dug, and the spoil was tipped onto a plastic sheet so that the other two team members could sieve and back-fill. The team excavated and sieved up to 50 pits per day.

Applecross Manse	NG 7120 4580	20 shovel pits	10 hits
Spring field	NG 7155 4610	40 shovel pits	0 hits
Mains of Applecross	NG 7140 4455	21 shovel pits	2 hits
Uags	NG 7215 3505	28 shovel pits	0 hits

Table 5. Shovel pitting results

4.3. Shovel pitted sites

4.3.1 *Applecross Manse NG 7120 4580 20 pits 10 hits (fig.xx)*

4.3.1.1 A lithic scatter revealed by road excavations across the face of the 12m raised beach. (Applecross Local Datum). The shovel pitting was designed to locate both the extent of the scatter and its location. Shovel pit depth was 400-600mm through slope-wash down to a mixed sand and pebble beach deposit. The lithics were recovered from the interface of slope-wash and the beach deposit.

4.3.1.2 Result: A very compact lithic scatter confined to a small terrace (8 metres LD) below the lip of the 12 metre beach. The lithics were recovered from the interface of slope-wash and beach. The site has been almost totally destroyed by a forestry access road.

4.3.2 *Spring Field NG 7155 4610 40 pits 00 hits (fig. xx)*

4.3.2.1 A well defined raised beach (12 metres LD) with two strong springs issuing through the beach surface. Two transects of 20 pits were laid out to test the area around the springs for lithic scatters. Shovel pit depth was 400-550mm through a worm sorted plough soil, down to a compact pebble beach deposit.

4.3.2.2 Result: No lithics were recovered.

4.3.3 *Mains of Applecross NG 7140 4455 21 pits 2 hits (fig xx)*

4.3.3.1 A sharply defined raised beach (30 metres LD) with two deeply cut burns running SE-NW, down to the sea. Three transects of 7 pits were laid out to test the areas around the burns for lithic scatters. Shovel pit depth was 200mm through a worm sorted plough soil to a mixed pebble and sandy silt beach deposit.

4.3.3.2 Result: A discrete scatter (2 pits) of xxx nondiagnostic flakes recovered from the interface between the plough soil and the beach deposit.

4.3.4. *Uags NG 7215 3505 28 pits 00 hits (fig xx)*

4.3.4.1 A well defined raised beach (12 metres LD) across the mouth of the small bay containing the abandoned settlement of Uags. Two transects of 16 and 12 pits respectively were laid out across the entire width of the bay to test for lithic scatters. Shovel pit depth was 100-150mm through a worm sorted plough soil, revealing a well sorted beach pebble deposit.

4.3.4.2 Result: No lithics were recovered.

4.4 Conclusion

4.4.1 Shovel pitting is a fast and effective way to recover a snapshot of the archaeological potential of a given area.

4.4.2 Two sites were added to the archaeological record and two possible sites were proven to have no archaeological potential within the areas tested.

5. TEST PITTING OF SURVEY SITES
with M. Cressey and I. Suddaby.

5.1 Method

5.1.1 A total of 39 sites were test pitted. Test pits measured 1m x 500mm. Where possible two test pits were dug at each site, one inside the shelter or site and the other at the entrance, talus, or edge of the identified site.

5.2 SFS 38 Toscaig 6 Rock Shelter NG 7095 3925

5.2.1 **Site description.** A midden within a rockshelter with a large build up of roof fall. It contained a low wall (1.95m long, 0.35m high, aligned E-W), of at least four courses, constructed from roof fall material. Vestigial traces of another wall running at right-angles and comprising one course of stone were present.

5.2.2 **Test pit 1** (1m by 0.5m) was positioned 1.10m to the east of the N-S trending wall. At a depth of 1m large fragments of rock-fall prevented further work. Two contexts were identified:

Context 1001 Dark friable loam with abundant fragmented shell.
Context 1002. Dark friable loam. Dry sieving confirmed the presence of limpets and oyster shell but no flint or pottery .

5.2.3 Test pit 2 was positioned 11m to the east, still within the shelter. It had to be abandoned owing to the size of the rock fall. Fragmented marine shell was present within the humified surface soil. Dry sieving confirmed that no artefacts were present.

5.2.4 **Interpretation** The wall appears to represent the remains of a small shieling structure enclosing midden material. A limiting factor in establishing the true depth of the midden was the amount of rockfall. No dating material was recovered but in all probability the shieling structure is of recent historical age.

5.3 SFS 39 Toscaig 7 Rockshelter NG 7044 3975

5.3.1 **Site description** A small rock shelter containing midden material, located at approximately 3m OD, flanked by a large sandstone outcrop forming a cliff c. 4-5m high.

Test pit 1 (1m by 0.5m) positioned 0.40m from the rear wall of the shelter. Two contexts

were identified:

Context 1001 Bracken roots were present to a depth of 0.10m mixed within a layer of loose silty loam. Bedrock was visible near to the surface.
Context 1002 midden material confined to the fissures formed within the bedrock. The midden attained a maximum depth of 0.27m where this material could be excavated between the natural rock fisures. Dry sieving revealed no artefacts. Environmental samples were taken from the midden layer for routine analyses.

5.3.2 **Interpretation** This site is probably not Mesolithic owing to its proximity to present OD. It would have been inundated up to the culmination of the Holocene Marine Transgression which ceased around 5,500 BP in this area of Scotland.

5.4 SFS 58 Rubha Chuaig rockshelter. NG 6992 5839

5.4.1 **Site description** This site is situated at the head of Chuaig Bay. The shelter is estimated to be 5m above the present HWM. A large accumulation of talus slopes steeply to the shoreline. Vestigial traces of midden were identified to the rear of the shelter which is approximately 10m long with an oblique recess further back that is about 3m wide.

5.4.2 **Test Pit 1** (1m by 0.50m) was positioned over a flat area in the centre of the shelter where limpet shells and two sherds of pottery were visible. Two contexts were identified:

Context 1001 the upper layer of midden comprising loose friable soil with periwinkle and limpet present to a depth of 0.10m;
Context 1002 the lower layer of midden which attained a maximum depth of 0.30m;
Context 1003 Bedrock - *did we come on to bedrock here or just the angular boulders - either way they should be noted here?did he put bedrock? If he did then I assume we leave it or do you want me to try and pin him down -*

Towards the base of the midden angular boulders were intermixed with well preserved limpet shell and animal bone. Environmental sampling was undertaken to recover eco-facts. Dry sieving (c.97%) was undertaken and no lithics were recovered.

5.4.3 **Test Pit 2** (initially 1m by 0.5m eventually extended by 0.5m to avoid a large boulder that impeded access below a depth of 0.15m) was located at the eastern end of the shelter where limpet shells were exposed.

Context 2001 the surface layer of humic silt with bracken roots;
Context 2002 a midden which attained a maximum depth of 0.16m;
Context 2003 the basal layer of the midden which contained an assortment of shell and animal bone.
Context 2004 & 2005, natural sandstone.

5.4.3 **Interpretation** The position of the shelter suggests that Mesolithic occupation was unlikely as it would have been completely submerged during the Holocene Marine Transgression which culminated at around 5,500 BP in this part of Scotland. Pottery recovered from the midden at the site of Test Pit 1 will help establish when the site was occupied.

5.5 SFS 49 Cave Site Creag Na H-Uamha NG 7174 6092

5.5.1 **Site description** The cave is recorded on current Ordnance Survey maps. A recent, low, rubble-built wall stands to a height of 1.5m at the entrance of the cave. The cave entrance is approximately 3m wide and unroofed until 5m further into the interior where only 3m of the ceiling survives intact. The floor of the cave is littered with flotsam.

5.5.2 **Test pit 1** (1m by 0.5m) was placed behind the enclosure wall where midden was exposed at the surface.

Context 1001 a loose layer of midden which included modern pottery and an iron nail.
Context 1002 the basal layer of the midden. The maximum depth of the midden was established at 0.50m.
(If you dont put in the nature of the natural bottom of the trench when it occurs we are left in ignorance - was there bedrock here?)again – are you suggesting I contact him to clarify?

5.5.3 **Test Pit 2** (1m by 0.50m) was located close to the eastern wall of the cave approximately midway between the entrance and the rear of the cave. It was dug to a depth of 0.70m which proved to be the limit of hand excavation.

Context 2001 a humic plastic layer, rich in sheep excrement to a depth of 0.15m. Modern iron, glass and wood was recovered.
Context 2002 large angular boulders derived from roof fall.
Context 2003 Shell rich midden underlying the boulders with limpet and periwinkle shells and occasional fragments of animal bone.
Context 2004 a layer of sea-rounded cobbles at a depth of 0.35m.
Context 2005 midden intermixed with angular fractured stones.
Context 2006 loose stones increasing in frequency intermixed with soil rich in shell.
Context 2007 the basal layer of the cave.

5.5.4 **Interpretation** Marine inundation is evident at an unknown period during the Holocene, attested by the accumulation of sea worn cobbles (2004). Given the height of the cave floor (estimated at about 4m above the present sea-level) it is unlikely that the cave was used during the Mesolithic. The wall remains across the entrance of the cave shows that the site was used as a livestock enclosure in the recent past. Moreover, a hearth setting with fire darkened stones near the entrance suggests that the cave has been used as a camp site more recently.

5.6 SFS 19 Toscaig 1 Rockshelter NG 7168 3649

5.6.1 **Site description** The site is located within a cleft formed in a large outcrop of sandstone within a region of moorland approximately 0.8km from the coast. Two shieling huts both of which are marked on the current Ordnance Survey maps lie 300m to the north. A drystone wall blocks the entrance to the cleft providing shelter from the north. Previous field survey identified the presence of a hearth, cooking pot and vestigial remains of a midden.

5.6.2 **Test pit 1** (2m by 0.5m) was placed against the eastern side of the cleft wall.

Context 1001 organic peaty soil with bracken roots
Context 1002 a layer of angular stones derived from the side of the wall
Context 1003 an organic layer, interpreted as burnt peat with charcoal flecks
Context 1004 a midden deposit sealed by C1003. Within this layer, fragments of a cast iron cooking pot were found *in situ* alongside rim sherds of a bone china bowl. The midden comprised 95% limpet shell with occasional periwinkle and oyster shell and attained a depth of 0.27m resting on a layer of boulders measuring 0.50 in length by 020m wide. A small anti-chamber large enough to lie in had been formed below a large rock and it is not clear if boulders had been deliberately placed to form a level platform. Midden material was present within the fissures between the boulders that could not be removed.

5.6.3 **Interpretation** **T**he archaeological finds indicate that this site has been used as a summer shieling camp some time during the 18th century.

5.7 SFS 22, Crowlin 3 Sea Cave NG 6902 3415

5.7.1 **Site description** This site was first recognised during the 1999 coastal survey. The site, a former sea cave, which has collapsed to form a V-shaped cleft, is situated at the base of a cliff approximately 5m from the present HWM. About 3m from the rear of the cave, the collapsed remains of a dry stone wall were identified. A narrow entrance on the eastern side allowed access into the cave's interior. Sheep excrement inside the cave suggests it has been used to pen livestock. Traces of midden material were visible on the surface of the floor at the rear of the cave.

5.7.2 **Test Pit 1**(1m by 0.50m) was placed at the back of the cave and contained five contexts.

Context 3001 comprised a surface layer of decayed sheep excrement with varying amounts of flotsam and was 0.12m deep.
Context 3002 a blacker humified layer lying beneath a large stone measuring 0.42m by 0.40m. This layer was very wet and contained charcoal flecks, flint and quartz flakes and a copper-alloy shirt button.

Context 3003 a cream coloured layer at a depth of 0.25m, recognised as a layer of animal fat, with no finds.
Context 3004 a compacted deposit of charcoal rich soil containing occasional fragments of animal bone and limpet shell. Fragments of non carbonised wood were also present within this layer.
Context 3005 the basal sequence which attained a depth of 0.60m and was very waterlogged with fine laminations of the cream deposit identified in 3003.
Environmental samples were obtained from each of the contexts.
(No indication whether natural was reached here. Also - do we really have identical context numbers from diff test pits see nos below, this will be hell for the future if so) yes but only for Mike's sites – Ian's system makes every context anywhere exclusive – it's a good system I think and I would apply it in future.

5.7.3 **Test Pit 2** was placed outside the entrance approximately 6m outside the collapsed wall.

Context 3001 turf
Context 3002 a midden deposit with a maximum depth of 0.20m. Limpet shell dominated and dry sieving produced a possible worked flint. An iron nail was also recovered from this layer.
Context 3003 large angular blocks of talus material at a depth of 0.20m. The voids between the boulders were partially infilled by fractured shell. No work was undertaken beyond this depth.

5.7.4 **Interpretation** There is clear evidence of human activity at this site, but it is impossible to date it. The copper-alloy button suggests 19th century occupation, and though the presence of a flint flake raises the possibility of prehistoric activity, it is important to remember that flint flakes were also in use in more recent times, to which many isolated finds belong. Prolonged use of the site is suggested by the sequence of laminations interpreted as grease or animal fat. Much of the charcoal present may have been derived from the burning of flotsam. The site has been used as a sheep shelter at some point.

5.8.SFS 35 Toscaig 4 NG 7071 3759

5.8.1 **Site description.** This small rock-shelter occupies an east facing location at about 6m OD, with a sheltered inlet below. Surface shell midden is visible as are fire cracked stones and charcoal. A modern hearth and stone bench seat testify to recent visitors. Two test pits were opened.

5.8.2 **Test pit 1 (**1m x 0.5m) was aligned NE-SW and located over the area of exposed midden within the shelter.

Context 3511 surface shell and dry peat,
Context 3512 was similar to 3511 but firmer and damper.
Context 3513 a layer of gritty peat and large stones at the base of the test pit. Both the

lower contexts were sampled but no lithics were seen during excavation.

5.8.3 **Test pit 2. (**1m x 0.5m) was situated on the terrace outside the drip line and aligned N-S.

Context 3521 sterile peat and turf
Context 3522 angular cobbles with voids and a clay matrix.
Both contexts were free of artefacts, but they did contain flecks of charcoal.

5.8.4 **Interpretation.** This site offers no great shelter from the weather and contains no significant archaeological remains.

5.9 SFS 34, Toscaig 3 NG 7085 3772

5.9.1 **Site description.** This sheltered site at 6m OD is situated at the head of Loch Toscaig. The interior is low and rocky and contains modern debris of metal and glass with shell midden visible but this is difficult to access as it is at the rear of the cave. Only one test-pit was opened as the rocky external area precluded test pitting outside the shelter.

5.9.2 **Test pit 1. (**1m x 0.5m). This test pit was aligned ESE-WNW and lay inside the cave.

Context 3411 surface shells and modern rubbish.
Context 3412 a natural peaty cave earth with grit and occasional shells.
Context 3413 a layer of beach pebbles with a matrix of clean sand at the base was of the test pit. Bedrock was not reached in this test pit. All contexts were sampled.

5.9.3 **Interpretation.** No obvious ancient remains were encountered here. The low roof, cramped interior, lack of charcoal in the excavated trench and shallow anthropogenic deposits suggest recent occupation.

5.10. SFS 41 Toscaig 9 NG 7009 3896

5.10.1 **Site description.** This large airy rock-shelter faces west with good views to Raasay and Skye. A sheltered sandy beach lies nearby with protective rocky reefs just offshore. A modern hearth and camping remains are visible on the surface of patchy moss and grass as is an extensive midden of limpets and periwinkles. An irregular line of boulders runs roughly below the drip line at the edge of the overhang and may represent the remains of a sheltering wall. Like Toscaig 3 and 4 this site is situated at 6m OD.

5.10.2 **Test pit 1.** (1m x 0.5m). Aligned SSE-NNW within the shelter, this test pit contained deep stratigraphy and well preserved deposits.

Context 4111 peat and crushed shell.
Context 4112 a thick occupation layer of laminated or interleaved ash and charcoal rich

lenses with broken shell throughout.
Context 4113 well preserved shell midden of mainly limpets with infrequent fire cracked stones and charcoal.
Context 4114 Bedrock lay below these layers.
Parts of these deposits had been disturbed by root action. All contexts were sampled. No finds were recovered.

5.10.3 **Test pit 2.** (1m x 0.5m). This test pit was aligned SE-NW and was positioned on relatively level ground, outside the drip line and just outside the protective wall in an area of mosses and grasses.

Context 4121 topsoil and turf.
Context 4122 peat and angular tumbled stones.
Context 4123 A shell midden of periwinkles in a peaty matrix spread down the hill from the interior of the rock-shelter
Context 4134 angular natural tumbled stones.
Context 4125 black peaty soil and stone chips.
Context 4126 bedrock. The upper three contexts were sampled.

5.10.4 **Interpretation.** Extensive and well preserved archaeological deposits remain at this site though the height OD of 6m means that they are unlikely to predate the marine transgression, at about 5,500 BP. Nevertheless two distinct periods of occupation are suggested. One relates to the lenses in trench 1 (4112) and the periwinkle layer in trench 2 (4123): though these are not linked stratigraphically they are mirrored at several other sites and are probably fairly recent. The other phase of occupation relates to the shell midden in trench 1, (4113) which is presently undated. No lithics or finds were recovered.

5.11 SFS 20 Toscaig 2 NG 7010 3758

5.11.1 **Site description.** This deep and dry cave site is situated on a rough exposed rocky coast below cliffs at a height of at least 8m OD. An insubstantial wall curves across the mouth of the cave with no obvious entrance but it is tumbled by sheep in the centre. Hammer stones, possible bone tools and modern debris lie on the surface. Only occasional shells are visible and hard packed sheep droppings form the floor.

5.11.2 **Test pit 1. (**1m x 0.5m) aligned NE-SW, 2m inside the cave mouth and 1m from the wall of the cave. Deep and well preserved stratigraphy was encountered, up to 0.8m of deposits
Context 2011 sheep droppings.
Context 2012 a modern informal hearth or burnt area within 2011.
Context 2013 a mixed shell layer with abundant organic remains.

Context 2014 a series of interleaved occupation lenses, comprising ash, charcoal and crushed shell.
Context 2015 a further deposit of shell midden, fire cracked stones and organic remains
Context 2016 clean, voided, well preserved limpet midden.
Context 2017 a natural layer of gritty sand
Context 2018 bedrock.

All contexts were sampled except the surface sheep droppings and the bedrock.

5.11.3 **Test pit 2.** (1m x 0.5m) positioned 3m from the mouth of the cave but still under the rocky overhang. Again, deep stratigraphy was encountered with around 0.8m of deposits, as in trench 1. This test pit was aligned N-S.
Context 2021 surface vegetation of grass and bracken with loose stones.
Context 2022 a mixed shell midden with bones, organic lenses and modern finds (glass).
Context 2023 a layer of natural sand accretion following an episode of rapid slopewash and tumble with angular stones randomly lying in sand
Context 2024, 2025 gradual tumble and slopewash with the stones being deposited in a more level fashion.
Context 2026 bones and fragmentary shell remains in a matrix of stony slopewash.
Context 2027 large angular rocks which precluded further excavation at a depth of just over 0.8m.

5.11.4 **Interpretation.** A very interesting cave site. The stratigraphy broadly mirrors that found elsewhere with intense laminated occupation deposits in the cave itself appearing to equate with loose periwinkle and limpet rich midden in a black peaty matrix outside the site. The underlying layers of midden within the cave do not have corresponding midden outside. This site has had an unstable history outside and around it, contrasting with the stability within. Episodes of slopewash and rockfall dominate the external stratigraphy in trench 2 with only the upper contexts being stable. Inside, the occupation layers continue, uninterrupted by abandonment or rockfall until very recent times. No chipped stone was recovered from the test pits but several hammerstones came from trench 1 and others were found on the floor of the cave. The bone tools on the floor of the cave include possibly bevel-ended examples.

5.12 SFS 57 Rubha a Ghair NG 7230 6121

5.12.1 **Site description.** This low, damp rock-shelter faces roughly north across Loch Torridon towards Craig and Redpoint. It lies at about 5m OD, in the eastern end of an old sea cliff that trails westwards down to the water. There is a very small deposit of midden at the rear of the cave, but no walls or other occupation traces are apparent on the surface. Only one test pit was excavated because the midden is relatively inaccessible.

5.12.2 **Test pit 1** (1m x 0.5m). Aligned N-S in the nearest accessible point to the midden.

Context 5711 grass and thin topsoil.
Context 5712 a firmer black peat with many charcoal fragments.
Context 5713 a firmly packed angular stones in a gritty sand matrix, almost certainly natural.

Lithics were found in both the upper layers (5711, 5712) with sandstone lumps and flakes from the roof. Context 5712 was sampled. This trench was only 0.3m deep in total.

5.12.3 **Interpretation.** The existing shells in the rock-shelter could have arrived naturally by wind or birds. The stratigraphy in the test pit indicates a slow build up of deposits within a stable environment with some human activity of unknown antiquity, as witnessed by the lithics and charcoal. Occasional occupation only.

5.13 SFS 88, Kishorn 4 NG 7974 3865

5.13.1 **Site Description.** A small, shallow, well sheltered rock-shelter. Very good views across Loch Kishorn and Loch Carron. It is situated at the base of an old sea cliff only 3-4m above present sea level. A modern but not recently used hearth and surface shell midden with a few bones occupy most of the interior. Only one test pit was dug as rocks and trees preclude digging outside the shelter itself.

5.13.2 **Test pit 1.** (1m x 0.5m) aligned N-S within the midden in the south west of the interior.

Context 8810 a thin spread of loose surface shells from a mixed shell midden overlying large tumbled rocks.
Context 8811 more shells in a peaty matrix, a total of only 0.14m at most.
Context 8812 large rocks with voids between them.

5.13.3 **Interpretation. A**lthough the site is attractive, there were no significant archaeological deposits here. It lies too low in terms of height OD for any pre Marine Transgression occupation.

5.14 SFS 59 Ob Chuaig NG 7066 5972

5.14.1 **Site description.** A large and airy cave, inaccessible except at low tide and only a couple of meters above HWM. This cave is presently used as an occasional sheep shelter and a few limpets are spread around on the surface.

5.14.2 **Test pit 1.** (1m x 0.5m). This trench was aligned N-S in the southern part of the cave. Context 5911 very hard sheep droppings.

Context 5912 natural lenses of sand and a type of flowstone.
Context 5913 shells and a few bones within a granular matrix of flowstone type material. This coats the walls of the cave and flakes off onto the floor.
Context 5914 a very hard natural Iron and Manganese concretion
Context 5915 Bedrock, partially uncovered below this.
No lithics or other finds were made, but context 5913 was sampled.

5.14.3 **Interpretation.** The deposits suggest that occupation at this site is unlikely, the shells and bones appear to be natural. There was no charcoal or signs of a hearth, but the site is remote and easily bypassed by coastal travellers.

5.15 SFS 62 NG 6934 5554

5.15.1 **Site description.** This an easily found but small rock-shelter on an exposed and rough westerly facing coast. The interior slopes steeply towards the sea and has a rough drystone wall across the mouth. No archaeological remains are visible but some modern rubbish occupies the interior. No test pits were dug at this site. The rock shelter is around 2.5m in height and 3m in depth. *Height OD?will need to look in Ian's day book next week*

5.15.2 **Interpretation.** This site is too small and exposed for occupation and the bedrock floor slopes steeply, making even standing inside difficult.

5.16 SFS 63, NG 6935 5520

5.16.1 **Site description.** An easily found and sheltered site in an otherwise exposed coast. This is a small cave in the base of an old sea cliff at about 10m OD. A waterfall splashes down the cliff outside the cave and the cave floor is wet and covered with Liverwort and other mosses. An old fridge occupies part of the interior and a modern drystone wall has been erected outside the cave, well beyond the drip line.

5.16.2 **Test pit 1.** (1m x 0.5m) aligned NE-SW inside the cave, with a depth of almost 0.7m.
Context 6311 a homogeneous charcoal rich surface soil.
Context 6312 an area of good flat paving which appeared to run around the periphery of the cave.
Contexts 6313, 6314, 6315, 6316 a series of natural layers of silty sands and gravels.
Context 6317 Bedrock.
No samples were taken.

5.16.3 **Interpretation.** The only activity revealed in the cave was associated with the paved area, 6312 and this surface midden layer contained modern pottery. It is possible that the

paving represents a corn drying kiln or an agricultural processing area with peripheral paving and a machine or implement in the centre. There were no other archaeological or prehistoric remains.

5.17 SFS 64 Uamh Mhor NG 6844 5265

5.17.1 **Site Description.** A small rock-shelter, about 6m OD, this site offers little protection from the elements. Nevertheless the site contains modern debris in the shape of many shoes and a few glass shards. This site has a rocky floor without midden, no trench was dug.

5.17.2 **Interpretation.** Hardly any overhang at this rock-shelter and consequently little protection from the elements. Not a serious candidate for prehistoric occupation.

5.18 SFS 65 Ard Clais Salacher 1 NG 6837 5134

5.18.1 **Site description.** An easily found cave at 3-4m OD which looks attractive from a distance. Unfortunately the interior is very wet with running water and iron staining everywhere. The interior is also at an angle of almost 30°, sloping towards the exterior. No test pits were dug here.

5.18.2 **Interpretation.** No occupation remains were visible and conditions inside the cave make any such occupation highly unlikely.

5.19 SFS 66 Ard Clais Shalacher 2 NG 6829 5123

5.19.1 **Site description.** This interesting rock-shelter may be too low in terms of OD (3-4m) to have any pre 5,500 BP occupation. It is situated in the sheltered base of an old sea cliff and a small waterfall tumbles down the cliff outside. A storm beach lies between the site and the sea: many of the rocks near the shelter are moss and heather covered and have dangerous voids between them. Some recent rockfall from the cliff face is also visible though the undulating interior, deepest in the north is dry and stable. A substantial drystone wall, quite unlike that found at any other site runs under the drip-line and shell midden material is eroding out of it, indicating either that the midden has been used as a packing or insulation in the wall core or that it has been thrown up against the wall. The wall is of massive construction, built of large angular stones with a distinct and narrow entrance towards its southern end and has traces of circular remains on the outside, these may be natural voids. Inside it has drystone piers, not buttresses, forming rough cubicles. At least two recent hearths are visible inside the cave with shell and animal remains scattered around. Only one test pit was dug on this site as no excavations were possible on the rocky exterior.

5.19.2 **Test pit 1.** (1m x 0.5m) aligned NE-SW in the northern interior, around the lowest part.

Context 6611 a mixed shell midden comprising c.20% mixed limpets and periwinkles in a black, rich, peaty matrix. Glass was found in this layer.
Context 6612 midden with a much greater shell content than 6611.
Context 6613, within 6612, a lens of creamy yellow peat ash overflowing from one of the visible hearths.
Context 6614 a further shell midden layer containing charcoal and a few lithics. This extended beyond the limit of excavation. It comprised mainly limpets and included hammer stones and fire cracked rocks in a sparse brown matrix.
All of the contexts thinned out away from the hearth and may be associated with it. All were sampled. Neither the base of the midden or any sign of bedrock were seen.

5.19.3 **Interpretation.** Although probably too low in terms of height OD for early occupation this site is interesting with an unusual wall that would not be out of place in the Iron Age and deep, well preserved archaeological deposits. Some lithics were recovered along with pottery and glass. The finding of glass in the upper periwinkle layer has implications for the dating of other sites. Bone and coarse stone artefacts were also found.

5.20 SFS 68 NG 6828 5037

5.20.1 **Site Description.** This site occupies an extensive area of sandstone gullies, platforms and rock-shelters at a height of at least 30m OD. It is situated just over 1km north of Sand. A minimum of 5 small shelters have been recorded, with varied aspects but spatially close together and at a similar height OD. Shell midden and lithics were visible on the surface at 3 of the shelters. Three test pits were excavated here in two overhangs and on an open terrace. The shell middens within the test pits at this site were 100% sampled due to the potential for Mesolithic occupation. Several lithics, coarse stone tools, a bone tool and a fragment of copper alloy were found at this site.

5.20.2 **Test pit 1.** (1m x 0.5m). This (E-W) test pit was excavated on top of a possible platform formed by an arc of grass covered stones outside a north facing rock-shelter. The shelter itself is 1.5m high, 2m wide and 1.5m deep. (*Do each of the shelters not have sep numbers - suddenly recording seems to have lost a bit of detail here I think there should be a sep list of shelters with numbers and locations above I would change rockshelter to overhang – tthey were areas of overhanging bits of rock within one large space*).
Crushed shells were visible on the grass and clover surface surface prior to excavation.

Context 6811 daisies and grass.
Context 6812 broken shells in a black peaty matrix.
Context 6813 as 6812 with a mid brown matrix.

Context 6814 periwinkles in a black peaty matrix.
Context 6815 Laminated ash lenses within 6814.
The four above contexts can be considered as an occupation zone comprising shells, crushed shells, ash lenses and periwinkles in variations of peaty matrix. A fine bone point was found in this context along with a lump of iron.
Context 6816 a thick layer of brown silty sand and cobbles, possibly a made up layer associated with the platform construction. A chalcedony scraper was found in this context.
Bedrock was not reached in this trench due to large stones impeding progress.

5.20.2 **Test pit 2.** (1m x 0.5m), positioned in another rock-shelter some 15m to the west of and facing the first. The shelter faces east and is of a similar size to that on the site of test pit 1. The test pit was aligned WNW-ESE.

Context 6821 turf. A fragment of copper alloy was recovered here.
Context 6822 a thin shell midden of periwinkles and limpets from which lithics were recovered.
Context 6823 a layer of black silty sand and angular cobbles.
Context 6824 clean sand and cobbles.
Context 6825 Bedrock.
(Context numbering has gone - we have duplicate layers with above here)have changed them to 2 as I aam sure this is a typo

5.20.3 **Test pit 3.** (1m x 0.5m), excavated on an open west facing slope between a small rock-shelter and an area of surface shells some 10m to the south of test pit 1 but separated from it by a ridge of sandstone bedrock and jumbled slabs.

Context 6831 turf and jumbled surface cobbles containing hammer stones and lithics.
Context 6832 a series of turf-lines and occasional stones indicating gradual accumulation of material.
Context 6833 a layer of natural sand, probably beach derived.
Context 6834 Bedrock.

No shell midden or occupational remains were recorded in trench 3 but activity in the vicinity has been shown by the lithics and hammerstones on the surface.

5.20.4 **Interpretation.** Though it is not yet possible to date these sites (I would still call it one big site with specific sub areas) the test pits did provide ample evidence for human activity. The finds include both prehistoric and more recent artefacts, and shell midden material is present in several places. Site 68.1 comprises an apparently artificial platform, underlying midden material, and other rock shelters remain to be investigated in this area. It is, of course, possible that several separate periods of occupation may be present, but it seems likely that some prehistoric activity, at least, may be represented. The local topography means that this area affords considerable protection from the elements and this is likely to have been so in early as well as in more recent times.

5.21 SFS 23 Crowlin 4 NG 6909 3496

5.21.1 **Site description. A** small rock-shelter some 200m from the sea c.30m OD. It has a southerly aspect and contains modern bottles on ledges at the rear of the shelter. There is no visible shell midden in or outside the shelter.

5.21.2 **Test pit 1.** (1m x 0.5m). The test pit was aligned NW-SE and attained a depth of 0.6m. No occupational remains were found apart from charcoal flecks. The dark brown silty peat contained few stones. No samples were taken.

Context C231 Damp, gritty peat with bracken roots.
Context C232 Damp, black silty peat with charcoal flecks and a granular feel. Possibly Manganese deposits.
Context C233 Sticky mid-brown silty clay with charcoal flecks
(What was natural? - we dont know if they reached it or not, if they never mention it)again we can only look in his day book

(Why are the context numbers suddenly prefixed with C - lack of uniformity is bad presumably C is for Crowlin – suggst we remove it

5.21.3 **Interpretation.** No occupation can be demonstrated at this site. The bottles probably relate to recent visits by fishermen or peat cutters and the charcoal could easily have arrived by natural processes, indeed the heather on the island has very recently been burnt. It is however possible that earlier deposits lie below those excavated in trench 1 as large rock slabs impeded further progress. *(The rock slabs are not mentioned above in context list!!) day book*

5.22 SFS 24 Crowlin 5 NG 6899 3535

5.22.1 **Site description.** This large rock-shelter lies at the foot of a high sea cliff, c.5m OD. Although it is damp inside, there is a walled area to the south which remains dry and contains a small shell midden.

5.22.2 **Test pit 1.** (1m x 0.5m), excavated in the walled area.

Context 2411 surface sheep droppings.
Context 2412 a dark brown peaty soil without artefacts or shell remains
Context 2413 light brown sand containing occasional charcoal, again without artefacts or shell.
Context 2414 Bedrock.

5.22.3 **Test pit 2.** (1m x 0.5m) excavated outside beyond the drip line.

This trench contained a natural soil profile of sphagnum moss overlying a mass of roots with bedrock below. There was no archaeological content.

5.22.4 **Interpretation.** No significant archaeological remains survive on this site. One interesting feature was present, however: a series of branches hammered into cracks and fissures in the roof of the shelter and projecting outwards. These may have supported a screen against the weather. They were not recorded on other sites, but it may be that the remoteness of this shelter has saved them from extraction.

5.23 SFS 26 Crowlin 7 NG 6840 3500

5.23.1 **Site description.** A large, open rockshelter offering a degree of protection from the elements. To the rear of the shelter there are a series of blocked tunnels in which otters live. These may have formed a sheltered small cave or secondary rockshelter at some time in the past. *(I still think this is odd as they would have had to be pretty big - or is it "otter gigantisimus"*?) do you want to change it then? The site is situated at about 6m OD and extends for some 25m at right angles to the sea. Two trenches were excavated here in the most likely points within the extensive shelter, trench 1 within the small area of visible midden and trench 2 adjacent to the otters habitation.

5.23.2 **Test pit 1.** (1m x 0.5m), aligned NW-SE within the small visible shell midden.

Context 2611 a thick surface layer of loose sand and occasional shells.
Context 2612 sand and peat lenses which contained shells as well as fish and animal bones.
Context 2613 in the NW of the trench only, an organic rich lens of shell, bone and charcoal in a burnt looking matrix, the burning was reflected on the bedrock it abutted.
Context 2614 an orangy perhaps heat affected sand underlying context 2612 on the SE.
Context 2615 A bedrock pillar occupying the central part of the trench.

Apart from the bedrock pillar which divided the trench no certain natural layer was reached. Context 2613 was sampled.

5.23.3 **Test pit 2.** (1m x 0.5m) Aligned N S outside the otters tunnels in the highest part of the shelter.

Context 2620 loose sand and angular rock-fall.
Context 2621 a thin lens of shells, bones and charcoal in a brown matrix.
Contexts 2622, 2623 a rapid accumulation of random angular roof-fall with voids and no occupational remains.
Context 2621 was sampled. The test pit reached a depth of 0.7m.

5.23.4 **Interpretation.** The archaeological remains at this site remain undated and they are not extensive. The height OD suggests that they are later than the Marine Transgression at around 5,500 BP, at least in the lower part of the shelter. Neither trench reached horizontal bedrock. No finds were made.

5.24 SFS 71 Sand 5 NG 6833 4873

5.24.1 **Site description.** This is a moderately sized rock-shelter alongside the beach at Sand and close to the dune sites (SFS 96). It is situated at 5m OD and has good views of the main Sand site as well as of Raasay, but is exposed to the north and north-west. The site is currently used for barbecues and beach activities and no archaeological remains are visible.

5.24.2 **Test pit 1.** (1m x 0.5m). Aligned NE-SW in the central part of the interior.

Context 7111 surface vegetation of grass and herbs giving way to layer of modern fairly clean sand containing bottle glass.
Context 7112 a series of thin occupation lenses containing degraded charcoal, pot-boilers and greasy lenses.
Context 7113 a thick layer of intense occupation remains, a black, greasy silty sand with lots of pot-boilers and charcoal in poor condition. In places this merged with the overlying layer, context 7112.
Context 7114 Fractured bedrock, at a depth of 0.8m.

No bone or pottery was recovered. Both 7112 and 7113 were sampled.

5.24.3 **Interpretation.** This rock-shelter is in a prime location for occupation and it contains considerable but poorly preserved evidence for that. Almost 0.6m of intense, then sporadic occupational debris remains *in-situ* but it would be hard to place any of it earlier than the Iron Age without firm dating evidence especially due to the low height OD. No lithics were seen and organic preservation was poor, though quantities of charcoal survive.

5.25 SFS 96 Meallabhan NG 6848 4878

5.25.1 **Site description.** This site is eroding out of the dunes c.50m to the east and slightly above site 71. A scatter of shells, bones, pot-boilers and occasional lithics denote an eroding lens of occupational material from a presumably buried site below the cliffs.

5.25.2 **Test pit 1.** (1m x 0.5m). Aligned NW SE within the eroding occupational layer.

Context 9611 surface midden.
Context 9612 a deep and sterile light yellow sand, homogeneous and without finds.
Context 9613 an old ground surface, (OGS), consisting of a mid brown silty sand.
Context 9614 a sterile clayey mustard-brown medium gravel.
A knoll of bedrock restricted access to the lower levels of this trench.

5.25.3 **Interpretation.** The initial interpretation of the site as a buried midden appears to be correct and no archaeological remains lie below the surface midden. Recent finds of copper alloy and pottery on this site indicate a date no earlier than the Bronze Age and possibly much more recent.

(Is this not where the pin comes from - it is a very bronze-age type of pin and should, be mentioned here - and below in bronze bit - it is a specific type -).yes problem is that the pin was found by Martin on his picnic last year if you remember – what do you suggest – we could make a mention that it had been a surface find when the site was first recrded in 1999.

5.26 SFS 73 An Cruinn Leum 1 NG 6845 4856

5.26.1 **Site Description.** A wet cave situated at the base of a steep slope below the road just south of the Sand car park. This site appears to have been partly formed by the dumping of stones down slope from the road to form a cave (in the 1970s). Wet clay overlies bedrock on the surface and the low roof allows no easy movement inside. The sterile clay floor was briefly examined but no test pit was dug.

5.26.2 **Interpretation.** No archaeological remains were found at this site.

5.27 SFS 72 An Cruinn Leum 2 NG 6845 4856

5.27.1 **Site description.** An insignificant rock-shelter with no useful height or depth that affords very little shelter but with good views to the west across the Inner Sound. Bedrock appears on and just below the surface meaning no test pit could be dug. A few shells were seen between large stones in the interior.

5.27.2 **Interpretation.** There is no space or flat area in this rock-shelter for human occupation.

5.28 SFS 78 Camasteel 3 NG 7041 4264

5.28.1 **Site description.** A small rock-shelter which provides some protection from the elements in spite of an open westerly aspect. It is situated in the base of an old sea cliff about 5m OD. Two ruinous walls and a patchy surface shell midden are present.

5.28.2 **Test pit 1.** (1m x 0.5m), aligned NE SW and set across one of the ruinous walls inside the shelter.

Context 7811 surface midden which contained mainly limpets in good condition.
Context 7812 a thin layer of limpets and abundant fish bones.
Context 7813 bedrock
Both midden contexts were sampled.

5.28.3 **Interpretation.** The remains here do not appear to be of any great age. The low height OD and small size of the shelter itself make early or extensive occupation unlikely though the excavated material is still to be dated. The visible wall proved to be insubstantial and without obvious foundations. This is clearly a boulder wall for shelter, possibly in conjunction with a protective screen, rather than a substantial, load bearing wall.

5.29 SFS 77 Camusteel 2 NG 7050 4217 confusion here – it is Camusteel – don't know where the a crept it.

5.30

5.29.1 **Site description.** A small cave on the west side of Camusteel bay. The cave lies in an unusual position, halfway down the cliff-face which is about 8m high. The cave itself lies at about 8m OD. It has an open southerly aspect but is sheltered and reached from above by a narrow and difficult path and from below by a steep slope to the beach. Surface shell midden and lithics were visible on the surface before excavation. A second, smaller and bramble infested shelter lies below, but was not investigated.

5.29.2 **Test pit 1.** (1m x 0.5m) aligned E W at the western side of the shelter, well within the drip line.

Contexts 7711 surface shells which produced modern glass and pottery.
Context 7712 a similar layer in terms of content, but without the modern finds.
Context 7713 loose rounded and sub-angular cobbles and shells with a few lumps of charcoal. A fragment of probably Viking age bone comb was found here.
Context 7714 similar to context 7713.
Context 7715 a layer of unusual small shells forming a possible floor.
Context 7716 a series of ash and charcoal lenses.
Context 7717 a small area of a larger context, comprising mainly limpets, exposed at the base of the section.
A deep fissure in the bedrock ran obliquely across the trench making excavation and interpretation of the layers difficult. All contexts were sampled. This test pit produced almost 0.5m of deposits.

5.29.3 **Interpretation.** The natural fissure in the bedrock within the trench has caused all the

layers under 7712 to slump downwards making both interpretation and allocation of finds difficult. The boundary between 7714 and 7715 could easily be seen as a cut, were it not for the bedrock cleft below and finds from 7713 or 7714 could have come from any of the underlying contexts. The upper contexts 7711, 7712 seem likely both to be modern or at least post medieval. Contexts 7713, 7714 would appear to be Viking or later in date, subject to the provisos above. Context 7715, the layer of shells is very interesting and could be seen as a sealing or levelling event overlying the charcoal lenses and shell midden layers below. This site has the potential for early occupation.

5.30 SFS 76 Camusteel 1 NG 7077 4207

5.30.1 **Site description.** This site is situated on the east of Camusteel bay close to SFS77 at a height of 2mOD. Small, open and exposed, this site has a considerably overhanging roof, but little in the way of walls or side protection. An old mattress lies inside the shelter and netting is visible at the rear.

5.30.2 **Test pit 1.** (1m x 0.5m) aligned E-W under the overhang but without side protection.

Context 7610 a thin turf of grass
Context 7611 a band of limpets and shattered stone with a few modern finds.
Context 7612 bedrock at a depth of 0.28m at most.
(The context numbering system seems to be different here from the site below)agree but it will add to confusion to change it now I think don't you?

5.30.3 **Interpretation.** This site is too small for substantial occupation. The height OD rules out early activity and this is confirmed by the finds which indicate a 19th century date.

5.31 SFS 80 Fearnmore 2 NG 7258 6077

5.31.1 **Site description.** This rock-shelter has very little protection from the elements and the mossy surface outside is wet but without standing water. Access is restricted by a low roof and the shelter is no more than 0.5m high and occurs in a raised old sea cliff at 4m OD. A sparse shell midden is visible at the rear but cannot be reached for sampling due to very wet ground and the low roof. A second possible shelter lies about 25m to the north and was not test pitted.

5.31.2 **Test pit 1.** (1m x 0.5m), aligned E-W and excavated just outside the low overhang on a surface of mosses and bracken.

Context 8001 bracken, moss and patchy grass.
Context 8002 a thin silty sand with charcoal flecks and heavily rooted peat.
Context 8003 bedrock.

There were no finds, and no samples were taken here.
(Karen, no archaeological remains = no archaeological contexts - I presume that is an Ian comment. What!! - we should be recording whatever we get whether or not it has archaeological remains as it is all of interest - what about soil and geomorph processes which are v. imp to a study of early holocene - I cant really believe I have seen someone write that) yes don't know the site – suggest we change it to something like , This site had no clear evidence of past human occupation.

5.31.3 **Interpretation.** The difficulty of access means that the shells are likely to have blown into the shelter but could have been thrown in from outside. Once inside movement would be restricted to lying down. No human activity can be demonstrated on this site at present. Don't understand this as he makes no mention of shells in the context list – I think another look at the day book here is necessary.

5.32 SFS 104 Fearnmore 1 NG 7247 6081

5.32.1 **Site description.** Fearnmore is on the south side of Loch Torridon and has good views to the N across the water to Craig and Redpoint. This open site comprises an lithic scatter which appears to be centred on an isolated knoll to the north of a sheltered bay, inland and to the west of the present HWM at a minimum of 10m OD. A modern cruck-framed house stands on the summit of the knoll and 6 test pits were located to the south of it.

5.32.2 **Test pits 1, 2, 3.** (All 1m x 0.5m). These three test pits were situated on a sloping terrace that would have run down to the water when the sea level was higher.
The test pits were positioned in bracken and grass and all contained a homogeneous old plough soil overlying bedrock, contexts 10411, 10421, 10431. Lithics were recovered from all locations.
Test pit 1 aligned E-W.
Test pit 2 aligned NE-SW.
Test pit 3 aligned NW-SE.
(*this is not satisfactory recording for what may be one of our most important sites - there should be three contexts for each TP: turf; plough soil; bedrock. And a list thereof. Can you just confirm numbers I think it should be 10410, 10411, 10412; 10420, 10421, 10422; 10430, 10431, 10432. A plan of this site would be good for dsr with tps marked) fine if you want to wait another 6 months for the dsr – we have to make do with what we've got for the moment.* If you provide time to survey or plan these sites properly I would love to do it, even over a forthcoming weekend when I don't have to be paid. So far there has been no such time. *Do we not make sketch plans or something of test pit locations - how will we manage should we wish to return - we should not be test pitting sites where we do not have time to record them adequately - we do need to ensure minimum standards next year is that Ians comment re planning the site – good idea – in the meantime we're stuck with it as it is I think - he must have made some record of where he made the tp's – I'll try and find out I am now confused – here bedrock has been given a context no but not elsewhere – this is now lacking in consistency*

5.32.3 **Test pit 4.** (1m x 0.5m) positioned in a shallow gully that runs erratically down the terrace and below a giant boulder on the lip of the plateau above.

Context 10440 Surface grass and reeds.
Context 10441 A deeper homogeneous topsoil.
Context 10442 a granular peaty lens.
Context 10443 stained but clean sand
Context 10444 bedrock.
Large numbers of lithics were recovered from this trench.

5.32.4 **Test pit 5.** (1m x 0.5m), just below the edge of the upper terrace, close to the giant boulder.

Context 10450 surface grass and bracken
Context 10451 a deep ploughsoil, homogeneous and heavily rooted.
Context 10452 an older ploughsoil.
Context 10453 bedrock.
Some lithics were recovered but fewer than in test pit 4. About 50% of contexts 10451 and 10452 were wet sieved on site with a 2mm mesh.
(*There is no consistency - sometimes turf is given a number sometimes not, ditto bedrock. Good archaeological practice would assign numbers to both and I would rather try and look as if that is what we did).* Note At no point in my lists have I given bedrock a context, it is not either an archaeological layer or an archaeological event and therefore does not by right deserve a context. This site and site 105 are the only ones where I have not given the uppermost layer (be it turf, sheep shit or shell midden) a context, sorry about that. Ian. *(As you can guess I am pretty horrified by this, I was always taught that everything counted - you cannot make snap judgemental decisions in the field - and in the meso it is particularly important - what about the tsunami layer on E coast for example - would that just be ignored, and what about ploughsoil and turf - or slopewash - why do they count as more important as what underlies a site)think that for the sake of the dsr we simply have to delete all these comments and get on with what we've got*

5.32.5 **Test pit 6.** (1m x 0.5m), on the lip of the upper terrace to ascertain the quantities of lithics here. A similar number to those found in test pit 5 were found, again in ploughsoil overlying bedrock.
Context 10460 grass and bracken.
Context 10461 homogeneous mid brown ploughsoil.
Context 10462 bedrock

Context 10461 was also 50% sampled in the field by wet sieving with a 2mm mesh.

5.32.6 **Interpretation.** The lithic scatter provided considerable evidence at Fearnmore for prehistoric activity. It is widely spread but appears to be concentrated around the boulder

and in the gully or ditch running down the terrace. Few finds seem to be *in situ*, due to considerable slopewash and the action of ploughing, the more recent finds could have come from manuring or from the house on the hill.

5.33 SFS114 Fergus's shelter NG 7571 3714

5.33.1 **Site description.** A series of conjoined, north-east facing rock-shelters with much repaired walls along their perimeters, below the drip lines. Only the lowest shelter was test pitted. A large number of small circular and sub-circular structures of various types can be found outside and below the shelters. This site lies c1.5 miles from the sea but it contains a large shell midden. No other sites were recorded in the area.

5.33.2 **Test pit 1.** (1m x 0.5m), aligned NW-SE on a north-west facing slope within the lowest rock shelter.

Context 11411 Dry surface peat, shell and fish bones.
Context 11412 Peat, shell and ash lenses, an occupation zone.
Context 11413 Irregular stones with a matrix of peat and degraded shells. Possible floor layer.
The above contexts can be taken as one occupation horizon.
Context 11414 a separate layer of limpet shells.
Context 11415 a deep layer of angular sharp stone chips in a sandy matrix at a depth of 0.6m. This can be interpreted as natural roof failure and it precluded excavation to bedrock.
All the upper four contexts were sampled. The lithics came from the postulated floor layer, context 11413.

5.33.3 **Interpretation.** The stratigraphic similarities with other (coastal) sites lead one to the conclusion that the upper layers at least are fairly recent. Comparable contexts at other sites have produced fairly modern glass.. The predominance of peat, with little charcoal would tend to support that hypothesis, as would the spatial association with shielings. Small quantities of lithics were recovered

5.34 SFS 100 Fraser's Croft, Toscaig NG 7126 3863

5.34.1 **Site description.** A patch of broken shells exposed by chickens scratching on the east side of a low and probably plough damaged cairn which lies on an old raised beach *Height OD day book*. A silage clamp has been built into the western end of this cairn. This site stands in what is now good and sheltered grazing land.

5.34.2 **Test pit 1.** (1m x 0.5m) aligned NW-SE within the eroded shells.

Context 10011 a thin turf layer.
Context 10012 thin layer of whole and broken shells.
Context 10013 the cairn material into which some shells from context 10012 had fallen.
Context 10014 an OGS under the cairn. This was sterile.
Context 10015 natural rounded beach gravels at the base of the section.
The test pit reached a total depth of 0.5m. Mixed shells were present and a sherd of modern pottery was also found.

5.34.3 **Interpretation.** Daisies on the surface seem to be a good indication of alkaline soils below and if they represent the extent of the site it measures 8m x 7m. It seems likely that this is a recent shell deposit, possibly a midden or the result of shell dumping prior to liming the fields.

5.35 SFS 99 Clachan Church NG 7137 4576

(This is not the molehill which is a sep site) unfortunately no survey form was filled in for the molehill so have no info eg NG's etc – will be difficultto assign a new site no without knowing where it is. I wasn't aware that this was a different site.

5.35.1 **Site description.** This site lies in an area of recently cut conifer trees just south of the church. Cutting the trees has disturbed the ground and several patches of shells are visible. The church site has early Christian origins and the midden may relate to that.

5.35.2 **Test pit 1.** (1m x 0.5m). aligned NW-SE about 12m from the southern graveyard wall.

Context 9911 a thick shell midden, disturbed by the planting of the trees.
Context 9912 undisturbed shell midden lying below contexts 9911, 9913 and 9916. This contained many oysters, periwinkles and a few limpets, all firmly packed.
Context 9913 a thin lens of accumulated silt on either side of context 9911, relating to the furrow between the rows of trees.
Context 9914 an OGS of brown sand and degraded charcoal, below context 9912. This contained early, perhaps prehistoric, pottery.
Context 9915, natural sand and gravel which lay at the base of the section,
Context 9916 a cut, below context 9913, no doubt created by the planting of the trees.
Root damage was much less than expected and all context boundaries were fairly clear.
Excavation proceeded to a depth of 0.7m. The shell midden and the OGS were sampled.

5.35.3 **Interpretation.** This site has been severely damaged by the forestry operations but remains interesting. The lack of finds, low height OD, association with the church and composition of the midden suggest that it is Early Christian or more recent. The position, close to the supposed perimeter ditch of the church enclosure would support this assumption. Around 0.2m of shell midden remains undisturbed below the forestry cut and the pottery within the sealed OGS (9914) should provide a useful date for the midden if it can be identified. As clean sands lie below it is unlikely that deeper material is

present.

5.36 SFS 105 Uags 1 NG 7266 3482

5.36.1 **Site description.** A fairly dry cave near the south-west corner of the Applecross peninsula. The site faces south-west and is situated at about 8m OD with easy access from the abandoned settlement of Uags. An extensive shell midden is visible inside the cave, and this extends outside the drip line. A large lump of iron slag was found just outside the cave. Three test pits were excavated, two outside the cave and one inside.

5.36.2 **Test pit 1.** (1m x 0.5m) excavated in the centre of the cave where deep stratigraphy seemed to be most likely. Aligned NE-SW.

Context 10511 sheep droppings and fragmentary shells: an abandonment layer.
Context 10512 an occupation zone of ash and shell lenses with peat and charcoal fragments. This contained a bone tool of unknown function.
Context 10513 angular stones in a peaty matrix at a depth of 0.7m. The water table was reached at this point, in spite of the dry weather. This indicates a wet cave environment and may explain why no earlier deposits are apparent.

5.36.3 **Test pits 2,3.** (1m x 0.5m) two test pits outside the cave, beyond the drip line and away from the apparent spread of midden (*plan*?). Sketch plan in day book. .Ian *Brilliant - we should be getting some of these drawn up for inclusion - say two or three sites are you suggesting that we ask Kevin to draw this up to go into dsr?*

Context 10520 grass and wild flowers
Context 10521 a rich organic soil overlying bedrock in test pit 2.
Context 10530 grass and bracken.
Context 10531 a rich organic soil overlying bedrock in test pit 3.
Neither test pit contained finds or material worth sampling.

5.36.4 **Interpretation.** The coast here is exposed and rocky with little water or agricultural land. Archaeological material was only found in one test pit and these remains are of a recent date, probably post medieval, on comparison with other sites with similar stratigraphy.

5.37 SFS 89a Coire Sgamhadail 1 NG 7906 3826

5.37.1 **Site description.** This substantial cave is one of several caves and rock-shelters in the area. It faces roughly south and lies at least 10m above OD The cave is sheltered to the east and is largely dry except for a pool of stagnant water at the rear of the cave. A drystone wall, almost complete, runs in an arc across the entrance. A rich soil with

occasional periwinkles on the surface occupies the slope between the cave and the sea.

5.37.2 **Test pit 1.** (1m x 0.5m) inside the cave at a central point in the cave near to its mouth.

Context 8911 modern and ancient sheep droppings.
Context 8912 modern and ancient sheep droppings.
Context 8913 an occupation zone of the usual crushed shell and ash lenses, almost 0.5m deep. This contained iron slag.
Context 8914 a layer of whole and well preserved limpet shells.
Context 8915 was at the base of the section and comprised large natural angular roof fall which prevented further progress.

5.37.3 **Test pit 2.** (1m x 0.5m) outside the cave, on the slope midway (c.15m) to the sea.

Context 8920 surface vegetation of herbs.
Context 8921 a rich peaty soil with abundant periwinkles and occasional bones and charcoal.
Context 8922 natural tumble and rock fall.

5.37.4 **Interpretation.** The sequence here is similar to that on several other sites, and all remain to be dated. The lack of finds makes it difficult to date this site with any certainty. Intense, mixed occupation lenses characterised by crushed shells with peat, ash and charcoal lenses inside the cave at the top of the sequence seem to relate to the periwinkles and black earth outside with the limpets (8914) as a separate and earlier horizon, a sequence mirrored at several other sites.

5 38 SFS 90 Coire Sgamhadail 2 NG 7906 3826 big problem here – sg 1-3 was given one cxt no by Martin (89) and 3-6 another cxt no (90). Somehow these have got confused either by Ian or by??? – I had understood from Martins description – and I remember I questioned him quite closely, that they were two large areas of adjoined shelters that really were only two sites. This site CS2 should therefore be still sfs89 but somehow its been called 90 with all the tp cxts now muddled up. Having seen the report my inclination would be to call theem 89a and 89b or continue with the numbering and call this next tp 893 etc – am worried that changing the numbering will cause serious confusion in the future

5.38.1 **Site description.** This small cave has no obvious midden and the interior is on two levels, only a couple of meters above the sea, which is rocky coast at this point. The roof is high and the site is exposed to the west. It is situated 15m south, downhill and towards the sea from SFS 89.

5.38.2 **Test pit 1.** (1m x 0.5m) aligned E-W on the upper level within the cave.

Context 9010 loose surface sheep droppings.
Context 9011 a sticky zone of ash, shell and shattered stone, not unlike context 8913 in the cave above (SFS 89).
Context 9012 heated and shattered bedrock.

5.38.3 **Interpretation.** Human activity involving burning has clearly taken place here and the stratigraphy shows similarities with context 8913 in the cave above. (SFS 89). It is relatively modern in comparison with other sites. The deposits may be truncated on this site but the height OD (*not proximity to sea*) indicates no great age for these deposits.

5.39 SFS 90Coire Sgamhadail 3-6 NG 7880 3820 (*Uh-o - sfs numbers have got in a muddle here I think - I am confused with my 89s and 90s and as ref is made to individual sites it is important to sort them out - we need an indiv sfs no for each site and the context numbers need to match there are two sfs 90s*) **see my note above – don't know what the best thing to do is**

5.39.1 **Site description.** A series of prominent conjoined rock-shelters c.10m OD and containing several areas of shell midden. These sites have a bright southerly aspect and overlook a shingle beach. but no deep deposits were found.

5.39.2 **Test pit 1.** (1m x 0.5m). (*where*?)

Context CS11 dispersed and degraded mixed shells, winkle, oyster and limpet.
Context CS12 dispersed and degraded mixed shells, winkle, oyster and limpet.
Context CS13 dispersed and degraded mixed shells, winkle, oyster and limpet.
Context CS14 Rock-fall and wind blown sand. Bedrock was not reached.

5.39.3 **Test pit 2.** (1m x 0.5m). *where*

Context CS21 dispersed and degraded mixed shells, winkle, oyster and limpet.
Context CS22 dispersed and degraded mixed shells, winkle, oyster and limpet.
Context CS23 black loamy soil giving way to light brown soil.
Context CS24. angular rock-fall and sterile sandy soil.
No bedrock was seen and root action was intense in this trench.

5.39.4 **Test pit 3.** (1m x 0.5m). *where*

Context CS31 crumbly brown soil
Context CS32
Context CS33 angular blocks of sandstone
Bedrock was not reached but further deposits are unlikely to lie below those excavated

5.39.5 **Interpretation**

The soil sequences in all three caves appear to be natural with little indication of human activity. The midden also appears to be natural.

5.40 REDPOINT???

(yes put it in, IS should have record of TPs and we can mention Steven's finds)why has Ian not put this in?? I have no record of it anywhere – will try to get in touch with him – think hes on holiday

5.41 Conclusion

(numbering has dissap here - need to insert it, and check that each para only deals with one point I will leave you to do that at end)

Of the 37 test pitted sites, six contained no midden nor any trace of human occupation. (*Say here how many had apparently "natural" midden deposits like the ones above - then say how many confirmed as of archaeological interest and of these how many were in rockshelters etc…)* Thirty two sites were in rockshelters or caves and five were open sites, four of these were open middens and one was a lithic scatter. Twenty sites were excavated to bedrock or natural beach pebbles. Of the remainder, nine sites had roof fall which concealed often visible (*ummm… can we say "which made access to lower shell midden deposits impossible*" *if it is concealed how do we know it is visible?*)remains of shell midden below them. The other sites were not excavated to bedrock either because it became impossible to do so, the test pits becoming too deep,progress was obstructed by large stones or because an apparent natural layer was reached and further excavation was considered unnecessary (*I would just say mainly because they had got too deep - apparently natural layers have been the downfall of many meso sites*).

(*numbers gen you would spell to ten and then write - whatever we need to be consistent*)

The assessment for the potential for Mesolithic remains in these sites looked at a combination of the relative height of the sites in relation to the mean high water mark (MHWM) (*can we be consistent between HWM and OD - OD is more accurate and correct*?), the presence of roof fall concealing remains and the presence of lithic artefacts. (*rather than being negative I would be positive here and say how many sites were confirmed as of potential Mesolithic interest and then how many recent. There are lots of numbers given in this and the above para and it is v. difficult to make sense of*) Twenty three sites were excavated to bedrock with no trace of Mesolithic remains and/or were found to be below 5m OD which means they are likely to have been inundated during the Holocene Marine Transgression (5500BC). Of the remaining 14 sites, seven produced no lithics but contained roof fall which precluded examination of possible midden below and eight sites had lithics and/or roof fall.

	Reached bedrock or beach pebbles	Below 5m OD	Lithics	Roof fall
No of sites	20	14	8	9

Table xxx Assessment of test pits.

(*would not above 5mOD ie liklely to have surviving meso remains be more useful in this table?)*

While examination of the deposits below the roof fall is not practical for most of these sites, the potential for survival of earlier deposits must remain open. *(I am a bit worried about this - we cannot write off any sites if so - and I think this section could be consid simplified by saying 8 sites def had lithics - of which x had meso indicators. 9 sites had possible early????? deposits obscured by roof fall. 14 sites were in such a topographic sit that they were unlikely to be early. 20 sites reached bedrock or pebbles with no visible archaeol deposits. We also need to say how many sites had indic of more recent material - and age groups if poss)*

Three of these sites (SFS 68, SFS96 and SFS 104) are considered as being of particular interest in relation to the aims of the Scotland's First Settlers Project, all three produced lithics and lie at a height above present sea level which indicate a possible relationship with earlier shorelines; SFS 104 is a large lithic scatter at Fearnmore on the northern tip of the Applecross peninsula, SFS 96 is a site buried under dunes (*I dont think we can add that site just on the basis that there may be something older buried there but invisible- all finds point to BA, pottery and bronze pin etc I would miss it out*?) and SFS 68 contains several rocky overhangs within a short distance of each other, lying at approximately 30m OD on an old shoreline. One site (SFS 74) which was shovel pitted, not test pitted, produced definite evidence of Mesolithic occupation in the form of a single microlith. At present, the lithic artefacts from most of the test pitted sites remain to be assessed. *(Is it right that only 8 had lithics- I seem to have cat lithics from at least 15 test pit sites and also some more from An Corran sites)*

On the basis of the finds made, an initial assessment was made of the possible age of the sites.

Relative age	Medieval or modern	Viking	Prehistoric	Unclear	Nothing datable
No. of sites	12	1	9	4	12

Table xxx Finds from test pitted sites.
(does last category = no finds? , why is it diff from unclear otherwise? Or is it Natural?)
(norse comb not mentioned above??? Which site was it related to - should mention that in disc too)

6. EXCAVATION AT SAND ROCK SHELTER

6.1 Introduction

6.1.1 An open area excavation was undertaken in front of the rock shelter at Sand 1, a shallow but wide overhang with a large terrace in front. The excavation covered not only the midden but also an adjacent area of terrace to the north and east. Turf was stripped in two large L-shaped trenches (Trench A and Trench B) giving complete sections in two directions across the site. The site was excavated mainly in spits, but stratigraphic recording was used where appropriate to determine how the midden accumulated,

whether there were any internal structures and to record any visible sequences of deposition. An area beyond the midden was also examined, to place the midden within its wider site context.

6.2 Methods

6.2.1 All work was conducted with regard to the Code of Conduct and Standards established by the Institute of Field Archaeologists.

6.2.2 Excavation proceeded according to standard archaeological principles. Recording was conducted according to established CFA methods and included the use of CFA record forms, drawing in plan and section, and photography. Registers of all finds, drawings and photographs are included as appendices to this report.

6.2.3 Two conjoining trenches centred on the presumed location of the midden were excavated, providing a total coverage of c.90 m^2. A metre grid was laid out over both trenches and each grid square was given a unique identifier pinpointing its position within trench A or trench B. During excavation, squares were subsequently subdivided into quadrants (NW, NE, SW, SE). A 100% sampling strategy was adopted for all deposits of archaeological interest. All finds and samples were recorded by grid square, quadrant and spit or context.

6.2.4 Turf was stripped from the trenches across the entire midden area and beyond to allow the determination of its full extent and form. After removal of turf and upper layers of topsoil over the entire trench area, four specific areas of grid squares were selected for further investigation (areas A, B1, B2, B3). Excavation proceeded in the main by the removal of arbitrary spits 5cm deep. In area B3 the clarity between some contexts was such that stratigraphic excavation was temporarily adopted.

6.2.5 On completion of excavation the trenches were lined with heavy-duty plastic, backfilled and returfed in order to stabilise the remaining deposits.

6.2.6 In the following descriptions numbers in bold in brackets refer to contexts listed in Appendix xx. Trench positions are annotated on Fig. Xx.

6.3 Results

6.3.1 *Trench A* This trench consisted of 41 grid squares (A1a-A21a, A1b-A20b) and extended southwards along the terrace terminating at a substantial rockfall and eastwards down to the edge of the sloping terrace. Bedrock and subsoil were located at a depth of 0.3-0.4m at the south and east extremes of the trench. The topsoil in the western half of the trench contained large quantities of fragmented shell. Animal burrows were noted throughout the topsoil.

6.3.1.1 Area A Six grid squares (A1b-A6b) positioned close to the edge of the shell midden and stretching for six metres downhill away from the midden were fully excavated to bedrock. Mesolithic deposits were visible to a depth of almost 1metre throughout the area.

6.3.1.2 The excavation identified a wedge-shaped deposit of shell midden material (**028**) which appeared to represent tip from the sloping front edge of the midden. The shell deposits extended for over one metre into the trench and had a maximum depth of 0.4m. Several different episodes of tipping could be witnessed within the midden deposits. One of these episodes was clearly related to a single large stone slab which had fallen from the rock shelter area onto the top of the midden, though the mechanics of the movement of this slab remain unclear (see below discussion xx).

6.3.1.3 The shell midden deposits overlay earlier organic-rich deposits (**022**) and stony slumping (**027**). Significantly, context 022 contained large quantities of bone and antler material and has been interpreted as an earlier, shell-free, midden deposit. This deposit immediately overlay a sterile palaeosol layer. This deposit had a length within the trench of 1.35m and a maximum depth of 0.25m. *(Please note that context 022 has been missed off the section ill and it is important to add it on).*

6.3.1.4 Overlying the midden deposits were two layers of sandy soils containing a high percentage of small and fragmented stones (**029**, **017**), many of which showed signs of having been exposed to extreme heat. The stony layers were interpreted as slopewash and extended for c.2.5m down slope where the heat-affected stones had built-up against a number of large fallen boulders (**019**, **003**\4) which had acted as a dam to further slopewash. (*Odd that context 8 not mentioned here though this is what is recorded on axe - were all contexts re-numbered after excavation, we need to resolve this - can be forgotten for dsr however.)any luck with Kirsty re context nos?*

6.3.1.5 To the east of the fallen boulders, no archaeological deposits were identified.

6.3.2 *Trench B* This trench consisted of 51 grid squares (B1a-B25a, B1b-B26b) and extended from the rock shelter platform eastwards down the steeply sloping talus and northwards across the width of a bracken-free terrace. Three blocks of grid squares were excavated in greater detail (*fig xx - details*). Fragmented shells were prevalent throughout the topsoil in the southern part of the trench overlying the midden area. Molehills had been noted within and immediately adjacent to the trench area and excavation was hampered by severe animal disturbance within the shell midden deposits.

6.3.2.1 Area B1
This area consisted of seven grid squares (B22b-B26b, B22a-B25a) forming the west arm of the Trench B and extending to the edge of the rock shelter platform.

6.3.2.2 At the edge of the rock platform bedrock lay at a depth of 0.6m below current ground level and it then sloped down to the east for a distance of 0.xm to a depth of almost 1m below ground level. A series of sterile natural layers (**020**, **021)** lay above bedrock, and above these was a considerable deposit of angular stone slabs (**009**) which had eroded from the roof of the rock shelter and formed a layer of rock and sandy matrix (**010**) of depth 0.25m. The voiding between many of the stones suggests that this layer was formed relatively quickly.

6.3.2.3 The shell midden deposits (**006**) had accumulated directly on top of the fallen rock. Excavation here exposed the western edge of the midden where it had formed against the rock shelter. The deposits had a maximum depth of c.0.6m and there was little stratigraphical variation. The bulk of the midden deposits consisted of a dense mass of unconsolidated shell (**013**), which appeared to consist mainly of intact limpet shells. Large fragments of bone and antler lay in the lower levels of this horizon. The shells became more degraded towards the top of the midden where a clear band of crushed shell (**012**) 0.05m deep, was visible in section running along the top of the midden deposits, in particular at the extreme western edge of the midden. This context presumably relates to a deposit affected by stabilisation and post depositional pressures. Towards the south-eastern part of the area a darker grey and ashy layer of shells (**011**) was identified as the only evidence of stratigraphical variation within this part of the shell midden. Occasional fallen rock slabs (**009**) were visible within the shell midden but there was no pattern to these and they are likely to relate to natural roof fall.

6.3.2.4 All of these deposits were overlain by a layer of shell-rich topsoil (**001\2**) of 0.15-0.2m depth and substantial bracken root mat.

6.3.2.5 Area B2
This block was made up of four squares at the centre of the trench (B1b, B2b, B1a, B2a), where it was presumed to overlie the midden. The area was excavated to a depth of 0.35m, in a series of 4 spits, after initial cleaning of topsoil.

6.3.2.6 The excavation revealed the surface of the midden (**013**) which sloped gently down to the east. Overlying this was a layer of mixed fragmented and intact shell (**024**) which had tipped or washed down the front face of the midden.

6.3.2.7 These deposits were overlain by shell-rich topsoil (**001**\2) and a thin layer of cropped grass turf (**001**\1).

6.3.2.8 Area B3
This area linked area B2 with the bedrock visible to the north and consisted of 7 grid squares (B3b-B8b, B8a). The current ground surface is almost level, bedrock was identified at a depth of c.0.2m to the north and c.0.7m to the south.

6.3.2.9 An organic-rich palaeo-channel (**005**) was identified at the base of the trench, aligned north-west to south-east across the bedrock. Beneath the palaeo-channel deposits bedrock was very degraded and fragments were found within the overlying deposits (**003\2**). In some places wash from the bedrock had formed pockets of compacted fine sand (**014**), the surface of which contained many tiny lithic chips. Above the palaeo-channel lay a thin layer of brown sandy-silt (**008**) which contained numerous small stones of varying geological origin (**007**) and has been interpreted as slopewash.

6.3.2.10 Shell midden was only identified in the south-western corner of the area. Large parts of this trench had been disturbed by mole activity (**023**) to a depth of 0.4-0.5m below current ground surface so that intact, undisturbed midden was only identified within square B3b. Above the midden a shell-rich mixed topsoil (**001**\2, **001**\3) extended a further metre to the north beyond square B4b. Undisturbed shell midden deposits (**013**) were preserved beneath the animal disturbance and these sloped gently down to the south in a layer of 0.35m maximum depth. A layer of tipped shells (**024**) was visible to the east of 013 though the relationship between the two had been obscured in this area by animal disturbance.

6.3.2.11 The shell midden and related tipped deposits partially overlay a thin layer of brown sandy-silt (**008**) which contained numerous small stones of varying geological origin (**007**) and has been interpreted as slopewash. The stones were mostly small, some angular and some smoothed beach pebbles. This layer stretched for over 4m to the north of the area, away from the midden area, overlying the palaeo-channel **(005).** It had a maximum depth of 0.22m. Significant quantities of degraded bone survived within the soil matrix despite the fact that there was no shell present within this layer.

6.3.2.12 Underlying all of the deposits in the southern metre square of the area was a layer of dark silt containing large quantities of bone and antler fragments and stones (**022**): the shell-free midden, as seen in area A. This layer lay directly on bedrock which dipped sharply to the south. Between the two middens (shell midden 006/013 and shell-free midden 022) several angular rock fall slabs (**009**) were identified.

Karen - you need to make sure that there is no mention anywhere of the possible hearth as it was decided to be natural .who decided? I remember only that Mike took away a sample for analysis in order to d ecide – has he analysed it?

6.4 Discussion

6.4.1 The excavation at Sand has achieved the aim of obtaining information regarding the composition, complexity and chronological phasing of the Mesolithic deposits. The excavated areas clipped the edge of the shell midden on three sides and uncovered enough information to suggest the original shape of the midden. Layers of tipped deposits indicate that there was a heaped mound of shell which has since been truncated by a variety of processes. On the uphill side, the shell seems to have built up against the edge of the rock platform and come to rest at a natural angle of tip within 7m of the rock

shelter. No evidence for a retaining or revetting wall for the front (downhill) face of the midden was identified. Fragmented shell towards the top of the midden reflects various crushing processes but a thin depressed band of crushed shell around the edge of the rock platform seems to represents a path over the shells. However it should be noted that this process could have occurred at any time following the deposition of the midden.

6.4.2 The lack of stratigraphy within the shell midden is interesting. There was no indication of seasonal soil build-up nor of vegetation regeneration within the midden despite the great quantity of shell.

6.4.3 The shell midden was situated on top of an already existing site. The excavation identified the presence of earlier midden material which did not contain shellfish waste. The exact area and size of the early midden remain imprecise, it did not appear to extend as far towards the rock shelter as the shell midden did, but both appeared to terminate at the same point downslope. This lower midden seems to lie within a hollow in the bedrock but whether this is natural or not remains uncertain.

6.4.4 No structural evidence was identified within the midden as excavated. The excavation also examined the areas around the midden to search for related features. The artefact-rich deposits 007 and 008 had the superficial appearance of an *in situ* cobbled layer, but the distribution of small stones throughout the deposits, and the sloping angle surface of the deposit seem to indicate that this material comprises slopewash derived from an area upslope, between the trench and the rock shelter. At the midden edge, the relationship between this material and the midden was unclear, there was much disturbance from animals here, but it is likely that both were accumulating at the same time. Fallen slabs of rock from the roof of the rock shelter were identified both within the shell midden and below it, between the shell and shell-free middens. As rockfall is unlikely to have continued once the midden had started to form it is likely that slabs like these had either slipped, or been pushed (or laid) from the areas of loose slabs around the rock shelter. Not surprisingly, the slabs indicate that material was constantly moving in a downslope direction and this makes the preservation of in situ archaeological remains outside of the midden very unlikely.

6.4.5 The abundance of fire-cracked stones is noteworthy. They seem to have built-up against the lower face of the midden during both stages (shell and shell-free). As this implies an up-hill movement some human action may be inferred here, possibly indicating an activity area to the north or east of the excavation trenches.

7. SMALL FINDS

7.1 Flaked Lithic Artefacts

7.1.1 During fieldwork in 2000, over 8000 lithics were collected, of which 1409 were catalogued to provide some basic information on materials and typology. 1095 of the catalogued material came from the main excavation site at Sand, and the rest came from various test pits and material collected during survey work (table 9).

SFS No.	Site Name	Quantity
SFS 95	**Achnahannait Bay**	3
SFS 60	**Allt-na-h-Eirigh**	1
SFS 29	**An Corran B**	4
SFS 30	**An Corran C**	3
SFS 31	**An Corran D**	9
SFS 101	**An Corran E**	27
SFS 92	**Ashaig 3**	8
SFS 93	**Ashaig 4**	3
SFS 41	**Beach at Toscaig 9**	1
SFS 77	**Camusteel 2**	2
SFS 99	**Clachan Church**	1
	Clachan Church Molehill	2
SFS 22	**Crowlin 3**	6
SFS 117	**Dun Hasan 2**	3
SFS 104	**Fearnmore**	111
SFS 75	**Applecross Manse**	69
SFS 96	**Meallabhan**	12
SFS 94	**Port Earlish 1**	6
SFS 4	**Sand**	1095
SFS 57	**Rubha a Ghair**	1
SFS 66	**Ard Clais Salacher 2**	7
SFS 68	**Allt na Criche**	8
SFS 34	**Toscaig 3**	5
SFS 39	**Toscaig 6**	4
SFS 41	**Toscaig 9**	18

Table 9: Lithic material catalogued during fieldwork in 2000.

7.1.2 The lithics from Sand are made of various raw materials (table 10) all of which are available locally except for the Baked mudstone, Bloodstone and Chalcedonic silica (Finlayson *et al* 1999). The presence of these "exotic" stones at Sand has important implications for the connections and movements of the Mesolithic population of the Inner Sound which should be developed by post-excavation analysis.

Material	Quantity

Agate	3
Baked mudstone	395
Bloodstone	57
Chalcedonic silica	206
Chert	2
Flint	1
Quartz	418
Quartzite	5
Rock crystal	1
Sandstone	4
Unknown	3

Table 10: Sand: raw materials

7.1.3 Most of the catalogued material from Sand is debitage, though there are many flakes as well as some blades and a few retouched pieces (table 11). The retouched pieces are mainly narrow blade microliths, with some scrapers and other pieces.

Type	Quantity
Blades	15
Chunks and chips	216
Cores	17
Debitage Flakes	427
Regular Flakes	387
Pebbles	19
Retouched Blades	8
Retouched Chunks	1
Retouched Flakes	5

Table 11: Sand: basic lithic typology

7.1.4 This assemblage comes from both within the midden as well as from the layers below it and the layers of slopewash around it. The cursory, initial, inspection did not reveal great differences between the midden material and the rest, though this is something that would repay further examination. There has been little work on lithic assemblages from in and around midden contexts. In this respect the presence of narrow blade microliths, in association with a shell midden containing bone tools is of great interest as shell middens have often been assumed to be archaeologically differentiated from narrow blade lithic sites.

7.1.5 In addition to the lithics that were catalogued from Sand, over 5200 lithics were recovered but not catalogued. A very brief general inspection suggests that these follow the same general patterns as the catalogued material and they include some microliths. These lithics were derived from the hand excavation and small sample of the sieved residues that has been sorted. Several thousand more must be expected from the residues that have still to be sieved.

7.1.6 The rest of the catalogued material comes from the sites that were test pitted, from the shovel pitting and from surface collection during the survey work. In most cases only a few pieces were uncovered, though one or two sites yielded more: notably Fearnmore (test pitted, open air scatter) and Clachan Manse (shovel pitted, open air site). The raw materials from these sites reflect the general materials available around the Inner Sound, as at Sand (table 10). Most of this material comprises debitage together with some regular flakes, but there are a few retouched pieces. The site at Clachan Manse yielded one crescentic, narrow blade, microlith.

7.1.7 There were, in addition, over 1500 un-catalogued lithics from survey and test pitted sites. This included both material that had been collected by hand and lithics recovered during the sorting of residues. Many more lithics must await recovery as the rest of the residues are sorted.

7.1.8 The full catalogues of the material examined during excavation are given below in Appendices 15 (lithics) and 17 (non lithics).

7.1.9 Un-catalogued lithic material is listed by site and context in Appendix 16.

7.2 Coarse Stone Artefacts

Finds of coarse stone artefacts were abundant from both the main excavations at Sand and many of the test pitted sites. An initial attempt was made to catalogue these as they were recovered, but in the event it was not possible with the result that over 50% think that is being optimistic if you look at my list of the finds of coarse stone were not examined in detail: these are stored alongside the catalogued material in the Department of Archaeology, for future analysis.

Despite this failure failure is a bad word to use I think – suggest - despite not completing the catalogue or something to produce basic information for much of the assemblage the material that has been examined represents a sample of the collection as a whole and as such some interesting points may be commented on.

A total of 141 artefacts of coarse stone were catalogued, from nine sites (table 12).

Site	Quantity of Coarse Stone
Camusteel 2	2
Sand	96
SFS 42b	1
SFS 58	2
SFS 66	10
SFS 68	7
Toscaig 1	1

Toscaig 2	20
Toscaig 9	2

Table 12: Coarse Stone Artefacts by Site.

Pot boilers and fragments thereof formed by far the largest category of coarse stone tool (table 13). These were particularly abundant at Sand. They were found throughout the midden, but were particularly concentrated in the contexts that lay immediately downhill of the midden in area A. During excavation it appeared that the pot boilers had been thrown up against the midden as it accumulated, suggesting an activity area close by. Pot boilers were also found on several of the test pitted sites (table 13). They are not an artefact type that can be ascribed with any precision to a specific period, but it is assumed that they were associated with the processing of the limpets and other food stuffs, presumably by heat.

Site	Artefact Type	Quantity
Camusteel 2	Pot boilers	2
Sand	Pot boilers	67
Sand	Hammerstones	6
Sand	Anvil stones	4
Sand	Flakes and fragments	4
Sand	Miscellaneous manuports	15
SFS 42b	Hammerstone	1
SFS 58	Miscellaneous	2
SFS 66	Pot boiler	1
SFS 66	Hammerstone	1
SFS 66	Miscellaneous manuports	7
SFS 66	Flake	1
SFS 68	Pot boiler	1
SFS 68	Faceted hammerstone	1
SFS 68	Miscellaneous manuports	3
SFS 68	Flakes	2
Toscaig 1	Manuport	1
Toscaig 2	Pot boilers	8
Toscaig 2	Rounded hammerstone	1
Toscaig 2	Bevel ended tool	1
Toscaig 2	Manuports	10
Toscaig 9	Bevel ended tool	1
Toscaig 9	Miscellaneous	1

Table 13: Types of coarse stone tool.

Hammerstones of various types were also a common find (table 13). Most of these are ubiquitous types, found in many periods, but it is worth noting the two bevel ended tools found at the Toscaig sites, and the faceted hammerstone from SFS 68. These types of hammerstone are more commonly associated with the Mesolithic.

There were four anvil stones from Sand. These are commonly associated with the bipolar knapping of pebbles to make flaked tools, but they may also be associated with the production of tools in other materials such as bone and antler. The catalogued anvils all came from fairly high up in the midden (Appendix X), but towards the end of the excavation others were recovered from the contexts that underlay the midden and they are a reminder that activities here were not restricted to the processing of shell fish alone.

The remaining coarse stone tools comprise a variety of flakes, fragments manuports and miscellaneous pieces that will repay more detailed examination once the whole assemblage has been catalogued (Appendix 18).

7.3. Worked Bone

7.3.1 37 bone artefacts have been identified so far, the majority coming from Sand. With the exception of two pieces all are either bevel ended or points. One piece, a fragment of comb believed to be Viking (N??)don't have no. you must have it in yr catalogue was found in a rockshelter site at Camusteel (SFS 77). This piece clearly broke during manufacture. The other piece is a fragment of harpoon (N90) which was found at Sand, in the midden.

Cat no	Type	Size (LxW mm)	Site	Trench/square	Spit/ context
	Wide point	97 x 27	SFS 89	891	8914
	Fine point	42 x 14	SFS 105	1051	10512
N 47	Antler tine	43 x 16	Sand	B1A	2
	Fine point	27 x 19	Sand	B5B SW	3
	Bevel ended	108 x 20	SFS 68	2	6821
	Fine point	49 x 5	SFS 68	1	6814
	Wide point	63 x 23	Sand	B4B SW	4
N 45	Bevel ended	25 x 13	Sand	B25A	2
	Bevel ended	22 x 12	Sand	A1B NE	9
N 50	Wide point	38 x 11	Sand	B24B	2
N 81	Fine point	26 x 9	Sand	B5B SE	3
	Bevel ended	30 x 13	Sand	B2A	2
N 40	Fine point	26 x 16	SFS 20	202	2023
	Bevel ended/ point	48 x 14	Sand	A2B NW	9
N 53	Bevel ended	64 x 19	Sand	B24A SE	7
N 41	Bevel ended	42 x 17	Sand	B2A	1
	Bevel ended	37 x 12	Sand	A2B SW	10
N 60	Bevel ended/point	131 x 14	Sand	B24B NE	7
	Bevel	60 x 12	Sand	B25A NW	4

	ended/point				
	Bevel ended	55 x 15	Sand	A2B NE	5
	Bevel ended	78 x 10	Sand	A2B NE	5
N 70	Wide point	34 x 11	Sand	B4B NE	4
	Bevel ended	27 x 20	Sand	B4B NE	3
	Fine point	38 x 11	Sand	A2B SW	8
	Wide point	59 x 20	Sand	A1B SE	8
	Fragment of harpoon		Sand		
N 90	Fragment of comb		SFS 77	771	7713

Table 14. Bone tools. The N numbers refer to catalogue entries for those tools that have been catalogued, see appendix 17.

7.4 POTTERY

7.4.1 174 sherds of pottery were recovered. Some are very fragmentary. Most are prehistoric, though some are modern and a few medieval pieces were noted (table 13).

Site/context	**No of pieces**	**Prehistoric/modern**
Sand (surface)	1	Modern
Sand (Spit 1)	1	Prehistoric
SFS 19	4	Modern
SFS 22	6	Modern
SFS 58	3	Prehistoric
SFS 58	3	Medieval
SFS 66	4	Prehistoric
SFS 66	2	Medieval
SFS 66	1	Modern
SFS 76	20	Modern
SFS 77	6	Modern
SFS 96	94	Prehistoric
SFS 97	2	Prehistoric
SFS 99	3	Medieval
SFS 100	1	Modern
SFS 104	21	Modern
Dun Hasan	2	Prehistoric

Table 15: Pottery finds

7.5 GLASS

7.5.1 There were 40 pieces of glass, all looking quite modern. All came from surface or near surface contexts.

Site	Context	No of pieces
SFS 4 (Sand)	turf	2
SFS 4 (Sand)	A5B Spit 1	2
SFS 4 (Sand)	A6B spit 1	1
SFS 4 (Sand)	A6B spit 2	2
SFS 4 (Sand)	B25B Spit 1	1
SFS 20		1
SFS 22		4
SFS 41		1
SFS 66		1
SFS 76		9
SFS 77		12
SFS 99		1
SFS 104		3

Table 16: Finds of Glass

7.6 COPPER / BRONZE

7.6.1 A few pieces of cuprous metal were found (table 15). Most are of uncertain date, but one, the xx pin from SFS 96 is of a specific bronze age type….. (*expand*?)are you suggesting going to see Trevor – would put simply is a bronze age pin..

Site	Context	Description
SFS 4 (Sand)	A2B NE Spit 6	Possible fragment of copper
SFS 9		5 pieces of concretion
SFS 68	turf	Fragment of copper alloy
SFS 96		Fragment of hook
SFS 96		Pin

Table 17: Copper and bronze finds. (*Contexts?) yes to do*

7.7 IRON

7.7.1 Most of the finds of iron appear to relate to relatively recent activity.

Site / context		No of pieces / description
SFS 4 (Sand)	**A3B NE spit 2**	1 piece of concretion
SFS 4 (Sand)	**A3B NW spit 2**	7 pieces of concretion
SFS 4 (Sand)	**A3B NW spit 3**	5 pieces of concretion
SFS 4 (Sand)	**A6B NE spit?**	1 nail fragment

SFS 4 (Sand)	**B4B spit 1**	2 nail fragments
SFS 4 (Sand)	**B24A spit 2**	1 piece of concretion
SFS 4 (Sand)	**B 24 B spit 2**	3 pieces of concretion
SFS 9		5 fragments
SFS 22		15 nail fragments and flat fragments
SFS 41		Iron ring
SFS 41		33 sheet fragments
SFS 41		7 nail fragments
SFS 49		1 nail
SFS 57		1 fragment
SFS 58		1 nail fragment, 1 concretion, 1 sheet fragment
SFS 68		1 fragment
SFS 76		1 fragment
SFS 96		Nails, hooks, sheet, concretion
SFS 104		1 sheet fragement

Table 18: Ferrous finds.

7.8 MISCELLANEOUS

7.8.1 Miscellaneous finds are all relatively modern.

Site/context	Contexts	Item	Age
SFS 22		1 button (broken)	Modern
SFS 22		1 musket ball (lead)	Modern
SFS 96		1 human tooth	

Table 19: Miscellaneous finds.

9. GEOMORPHOLOGICAL RECONNAISSANCE AT SAND BAY

M Cressey

9.1 Introduction

9.1.1 Evidence for former high sea-levels in relation to land takes various forms including remnants of old sea-cliffs now some distance inland or high above present sea-level, raised shore platforms cut in solid rock or in glacial till, river terraces graded to heights above present sea-level, and raised estuarine, beach or other coastal sediments. The aim of this study was to determine the relative position of former sea-levels in relation to the Sand rock shelter site at approximately 7,500 years BP. The results gained from this investigation will also provide essential environmental information such as geological setting, land form character, local hydrology, soil and vegetation cover all of which are important in understanding the local site formation dynamics of the Sand rock shelter. A great deal of work on relative sea-level change during the Glacial, Late Glacial and Holocene periods has been undertaken in the past 50 years in the region. Most, if not all of this work has been undertaken by geographers engaged primarily in establishing land form processes in relation to relative sea-level changes (McCann 1966, Robinson 1977 and Sissons and Dawson 1981). The most detailed work in the area has been undertaken by Robinson 1977 on the Applecross Peninsula. Her altitude data obtained on lateglacial and postglacial features such as high rock platforms and post glacial features such as raised beaches and marine terraces are highly relevant to this study.

9.2 Methods

9.2.1 The methodology followed routine geomorphological procedures and include the following techniques:

- The creation of a base map based on 1:10, 000 Ordnance survey map sheet;
- Extrapolation of geological information gleaned from 1:50,000 geology map; sheets and from earlier editions housed at British Geological Survey Edinburgh;
- Extrapolation of data from vertical aerial photographs at 1:10,000 scale;
- A walk-over survey and base map annotation;
- Photographic recording of relevant features;
- Altitude measurement of palaeoshoreline features using an EDM;
- Correction of altitude data to average mean sea-level (AMSL).

9.3 Results

9.3.1 In the absence of a suitable Ordnance Survey benchmark all altitude values cited below (Table 20) are based on corrected levels obtained from sighting onto a permanent geodetic station located at the Sand Naval Base. This station has a geodetic value of 13.4m AMSL. In order to take into account the irregular nature of a given feature such as a storm beach or wave cut platform four levels were obtained from their crests and the mean height above AMSL has been calculated respectively.

9.3.1 **Geological setting** (Figure*)

The dominant geology within the study area and further south through the Applecross Peninsula consists of Torridonian Sandstone of Precambrian age. An NE-SW trending fault line has uplifted the sandstone into an extensive cliff that rises to over 300m and overlooks the Sand rock shelter site. Towards the coast the main lithology is marine alluvium and glacial till which is in turn covered by Holocene peat that varies in depth according to local topography. Within Sand Bay, a spectacular migrating dune system rises against the sandstone cliff. East of the Sand rock shelter, a small stream cuts through fluvioglacial till where poorly sorted glacial sand, clay and gravels are extensive. Tertiary activity is represented by a series of E-W trending basalt dykes which are well exposed within the cliff overlooking the rock shelter.

9.3.2 **Geomorphological results** (Figure x)

Within the locality of the Sand site four relict shoreline features have been identified. For descriptive purposes these are now referred to as Shorelines A-D (see Figure *).

9.3.2.1 Shoreline A

A marine deposit was identified at NG 6820 4975. Here a well defined wave cut terrace is topped by an extensive cover of large unsorted marine derived boulders which are covered by a mantle of peat to a depth of c.1m. The terrace can be traced to a length of approximately 50m and a level of 14.6m ± 0.50m above AMSL (allowing for 0.50m of peat cover) was obtained from its crest. Erosion of the sea facing cliff shows that glacial till is the dominant geology at this location. The cliff overlooks a beach with a series of very distinct cuspate storm ridges consisting of well sorted boulders that display great uniformity in size, these are at present about 30m east of the present HWM and represent historic storm activity.

9.3.2.2 Shoreline B

At Grid Reference NG 6800 4940 a cuspate storm ridge comprising of boulders is well defined standing to a height of about 1m. This feature lies at 8.8m AMSL.

9.3.2.3 Shoreline C

On the northern side of Sand Bay a relict marine feature survives as a shingle ridge at (NG 6820 4883). This feature has a mean crest height of 6.8m above AMSL and runs for about 80m where it curves northwards to merge with a cliff fronting .

9.3.2.4 Shoreline D

Situated towards the head of the bay at NG 685 488 a poorly preserved relict shoreline which has been masked in part by Holocene blown sand and in places affected by the construction of the coastal road. A platform c.3m wide trends roughly north south for about 50m. This feature attained an average height of 12m above AMSL.

9.4 Interpretation

9.4.1 Evidence of a lateglacial marine limit exists further north along the coast in the form of occasional platform beaches and large raised deltas formed by high sea-level. The best-

developed high shoreline fragments are on the west coast of the Applecross peninsula, between Lonbain and Cuaig. Robinson (1977) recorded an altitude of between 27.3-30.7m OD (n=17 levels) on the high raised shoreline. This feature was taken to represent the late glacial marine limit and is significantly higher than any of the relict shoreline features recorded at Sand, therefore it is assumed that none of the features recorded at Sand are associated with those recorded by Robinson 1977.

9.4.2 The 'fossil' beach fragments recorded at Shorelines A, B, and C represent post glacial marine features and in all probability relate to the maximum local limit of the Main Holocene Marine Transgression which occurred between c.9000-7500 BP an event that finally culminated around 5000 years BP. Shoreline feature D is slightly more complicated owing to the vestigial nature of its remains which to some extent may have been artificially heightened by the dune system formed within the bay. The relative position of Shoreline D at the head of the bay suggests that it is coincident with the maximum limit of the Main Holocene Marine Transgression. The 1913 6" to the mile drift map depicts the shoreline as the old 25ft raised beach which approximates to just over 8m. The feature is shown as an interpolated feature running northwards on the revised 1985 1:50,000 drift map. Attempts to locate this feature immediately to north and west of the Sand rock shelter site proved to be unsuccessful owing to its poor state of preservation. However, the feature was identified to the north of Sand at NG 6820 5010 where a distinct high raised platform is well preserved.

9.5 Conclusions

9.5.1 On the basis of the geomorphological study undertaken around the Sand rockshelter site the following conclusions can be made

1) On the basis of the radiocarbon dates obtained on environmental remains from the shell midden at Sand which produced a radiocarbon date ranging between 7,715-7,765 ± 50 years BP, sea-levels at this particular time would have been significantly higher than at present.

2) Within the limitations of this study it is not possible to model with any accuracy where the HWM would have been precisely at the time of occupation.

3) At 27.7m above AMSL (site benchmark value), the Sand rock shelter site is well above maximum limit reached by the Holocene marine transgression which is estimated to have risen no more than c.10m according to the altitude of the shoreline features already described. However if we accept a tidal range similar to that of present which is estimated at somewhere in the region of -2m below HWMS then its seems probable that a large area of the bay would have been exposed as is the case today. Geology, it seems likely that a rock pool environment might have existed within the head of the bay, such features must now lie beneath the sand dunes. The margins of this former shoreline would certainly have provided sufficient depth for limpet colonisation and exploitation during the occupation of the Sand rock shelter site.

No	Feature	Altitude
1	Sand Naval Base Geodetic station	13.4m AMSL
2	Sand TBM	27.75m
3	Sand rock shelter roof (highest outside point)	36.25m
4	House beach shoreline feature	9m
5	House 2 beach	15.2m
6	Back of Sand Bay	14m
7	Shoreline A	14.6m
8	Shoreline B	8.7m
9	Shoreline C	6.86m
10	Shoreline D	13.3m

Table 20 Altitude readings of features recorded during the geomorphology survey. All values are corrected to 13.4 height above AMSL. Shoreline A-D values are the mean of four readings.

10. SOIL ANALYSIS

M Cressey

10.1 Soil Transect and Sampling Data

10.1.1 Introduction

Soil samples were taken for future routine analyses to determine their physical properties such as pH, loss on ignition (percent organic carbon), magnetic susceptibility (degree of in situ burning) and phosphate content (nutrient status). Soil sample transect A-B was 50m long and ran up-slope E-W *(Karen can you check this - I think upslope is E-W???)* will check with Mike exactly what he means from the base of the rock shelter to an area covered by *Calluna vulgaris*. Transect C-D ran N-S alongside the excavation trench section. The samples were taken at 2m intervals at a depth of between 0.10-0.20m according to the nature of root impact across the site. The maximum depth within the hand dug test pits was recorded. The soil sample descriptions for each transect are recorded in Appendix 20.

10.1.2 General observations

10.1.2.1 Cultivation has affected the topography of cover soils on site with the formation of N-S (*check dir of rig*) trending rig and furrow resulting in homogeneity of the soil. Previously the site was covered with dense stands of *Pteridium aquilinum* with *Calluna vulgaris* well established on the low cliff overlooking the valley.

10.1.2.2 Prior to taking the samples a walk-over survey was undertaken to identify any features relating to recent land use. Run rig clearly survives within an earthwork enclosure forming an agricultural holding. This will affect any phosphate analyses as it is likely that recent agriculture will have led to an increase in the nutrient budget across the transect area. It seems likely that pH values will increase the nearer one gets to the midden owing to the local presence and dissolution of calcium carbonate. The previous recognition of land snails within the midden deposits suggests carbonate enrichment in an otherwise very acidic environment. It is also seems likely that pH values may be elevated downslope as a result of anthropogenic activity, 19th century cultivation and natural soil creep. It should also be noted that the soil is free draining being derived from weathered Torridonian sandstone with an element of wind blown sand. More detailed analyses will be required to confirm this. Soils up slope towards the dense heather sward in the region of sample area1/50 to 8/36 Transect A-B are in theory likely to exhibit a lower pH according to the nature of *Calluna vulgaris* which thrives on free draining acidic soils.

11 THE ENVIRONMENT OF THE WEST COAST OF THE APPLECROSS PENINSULA

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11.1 Introduction

11.1.1 This preliminary report details evidence gathered as a result of fieldwork in the area between 28 April and 1 May 2000. As such, the level of detail is limited and the conclusions need validation by further fieldwork.

11.1.2 The method used was to search printed sources for information on the geology and soils of the area and to confirm these by field observation. The fieldwork comprised observations along a selected number of transects, mostly perpendicular to the coast, for changes in the soil vegetation and topography. The transects were selected to be representative of the major areas of less steeply sloping land, and where possible they included sandy beaches. All of the main geological facies along the coast were examined between Toscaig and Fearnbeg. The area between Fearnmore and Shieldaig was examined visually but no field walking or sampling was undertaken. The detailed observations from this fieldwork are included in Appendix X.

11.2 Geology

11.2.1 The Applecross peninsula consists of a massive exposure of Torridonian Sandstone, which extends both to North and South towards Gairloch and Skye respectively but is cut off from them by Loch Torridon and Loch Carron. The sandstones were laid down about 770 Ma ago as erosion occurred from a large landmass in the position of modern north Skye and Lewis and Harris (Johnstone & Mykura, 1989). The rock is an arkose and was laid down under fluvial conditions. It contains strong current bedding and a great deal of local variation. From Applecross southwards the rock is Altbea formation, while to the North it is Applecross formation. Both are described as fine to medium grained pale red sandstones. The cementing agents and mineral composition of these particular rocks is not as yet known, though examination of caves suggested that calcium carbonate may be present in some of the deposits as it was present on cave walls as flowstone. Phemister (1960) does recognise the presence of calcareous material in the Altbea and Diabaig formations. Around Applecross village and in the Applecross valley there are small outcrops of Triassic and Jurassic rocks. These include limestones and further reddened sandstones. None of these rocks have been subject to major earthmoving forces and consequently they retain their original near-level stratification. The whole area has been exposed to glacial processes, which have deposited a thin and patchy till; this outcrops mostly to the North of Applecross (Geological Survey, 1954). Over much of the rest of the area there is either sandstone exposed at the surface or a covering of moraine. The moraine fields vary greatly in stoniness and have a very uneven surface of small rounded knolls. Much of the area is covered in postglacial peat, though this is thin outside depressions and mostly would class as a humose layer at lower elevations. The massif to the east prevented movement of ice from other regions across the peninsula so that most of the till and moraines are of local origin from the Torridonian series. One glacier did come down the Applecross valley and may have spread some of the carbonate-rich

sediments across the land between Applecross and Sand. The main glacial flow was from south west to north east (Anderson & Denham, 1966).

11.3 Soils

11.3.1 The typical soil to be expected on sandstone is a podsol, though in such a wet climate (2 m annual rainfall) then peat would be expected in depressions (Glentworth & Dion, 1950). However, it has already been noted that many of the sandstones appear to be fine textured and there is thin boulder clay over part of the area, hence a wider range of soils typical of upland conditions (Askew et al., 1985) might be found. On flat areas, blanket peat would form and in depressions, a basin peat. On other less well drained areas a humic stagnogley and in areas of pan formation, humic stagnopodsols would also be found. Thus a varied suite of soils is to be expected. The soils of the area have been mapped at 1:250 000 scale (xxxxx) but this only shows a low resolution and the published maps are of soil associations rather than series.

11.4 Interpretation

11.4.1 The most striking feature of this whole area is the lack of peat and the presence both of rock and soil close to or at the surface and of a flora which is typical of soils which are drier and less acid than might otherwise be expected. This is not to say that there are not areas of peat; most of the hollows and flat areas are filled with peat to 1m or more depth, but elsewhere mineral material is found usually within about .5m. This indicates that, in the past, the environment, which can have been no worse than today as there has been little to ameliorate the conditions (*delete?)* (*doubtful in meso - and better to rely on pollen???),* would have been able to support a wide flora and fauna, and would have been relatively productive, given the long growing season at low elevations. In what follows, the acidity, wetness, soil development, flora and the environment for human occupants and for the preservation of artefacts are considered.

11.4.2 **Soil Acidity**. As it is near to the coast the area already receives two main inputs of base-rich material, sea spray and shell fragments. In an area as windy as this there is a considerable carry of sodium, potassium, magnesium and calcium inland on the spray. These conditions commonly maintain the flora associated with a eutrophic environment, as is found around coasts, but here the extent of this aeolian effect may be more pronounced. There is also considerable exposure in bays of shell sand. This sand is less mobile than the spray but certainly will have an impact on low-lying areas around inlets for perhaps as much as 50-100m. In addition to these sources, it does seem that the sandstone contains an unusually large amount of bases, and the three factors taken together may have been responsible for maintaining the pHs noted in Appendix 1 below. Such an environment may also be maintained if the vegetation is active and transpires large amounts of water to take up base nutrients from depth. The factors discussed below certainly suggest that until relatively recently the vegetation may have maintained a rather better suite of soils than is now visible, which even today are relatively good for the location.

11.4.3 **Wetness**. The immediate post-glacial rainfall is usually considered to be somewhat lower than that today, though from the beginning of the Atlantic period about 5300 BC rainfall increased to at least as much as present. The lower rainfall coupled with the suggested deciduous woodland vegetation discussed below would have provided a much drier environment; even today the planting of coniferous vegetation is leading to substantial drying of the soil. For as long as the deciduous woodland persisted, the soils and environment would therefore have been drier, and there would also have been collateral benefits from better shelter and fuel supply.

11.4.4 **Soil development**. The lack of widespread podsolisation on a sandstone under high rainfall was initially surprising, but in view of the higher pH and presence of deciduous trees even today on areas where grazing animals are restricted it is suggested that the soil would have probably been an acid brown earth on slopes for much of the postglacial period. In flat areas and hollows gley and peats would have developed from an early date, though much of the gleying could post-date woodland clearance. As acid brown earths, probably with some gleying, the soils would have had a thick humus mat under woodland conditions, on clearing this would rapidly transform into an incipient humose horizon or thin peat as seen today.

11.4.5 **Flora**. The presence of many understory plants usually associated with deciduous woodland, and the presence of a wide range of natural scrub of deciduous species indicates that at low level the flora in the past would seem to have consisted of oak woodland with a rich understory. Such an environment is a rich source of foodstuffs for a human population; it also provides a habitat for a range of mammals and birds that can be hunted. Without pollen evidence it is difficult to define the extent and date of such woodland.

11.4.6 **Human environment**. It has already been suggested that the original woodland along the coast would have been a resource-rich habitat with fuel, seasonal plant products and a range of animals. Shelter would also be available and the extra evaporation from the trees would render the whole environment drier than today.

11.4.7 **Artefact preservation**. Although some artefacts are well preserved under wet and acid conditions, materials such as bone and shell require a relatively high pH before they can survive. In effect, the survival of various shell middens in the area indicates the generally eutrophic nature of the surroundings. From this we can deduce that outside the depressions, organics are unlikely to have survived. The survival of so much shell does suggest that if bone were originally present it too should have survived. However this assumes that animals were processed near to the shell deposits.

11.4.8 **Further work**. As indicated earlier his report is preliminary. Much more measurement on pH and on the petrology of the local rocks is needed. Pollen analysis and examination of peat in depressions may also be valuable to throw more light on the vegetation and on the use of other resources. (Remove??)

(this latter sentence is a little bit facile - it sounds as if he has not done much work on archaeol projects like this - omit?)

12. PALEOENVIRONMENTAL ASSESSMENT

12.1 Fish, mollusca and crustacean remains

Ruby Cerón-Carrasco

12.1.1 Sand.

12.1.2 Twenty-seven contexts with fish remains were examined; in all the remains are identifiable to species or family group. The species noticed during scanning of these samples included Gadidae species such as saithe (Pollachius virens), pollack (Pollachius pollachius), cod (Gadus morhua), haddock (Melanogrammus aeglefinnus) and whiting (Merlangius merlangus). Species from other groups were also noticed, these included wrasse (Labridae family), mackerel (Scomber scombrux), herring (Clupea harengus) and flatfishes. A small amount of Salmonids (salmon/trout) were also noticed.

12.1.3 A few of the fish remains were burnt white and black or partially burnt which would indicate burning at high temperature possibly as a result of domestic rubbish disposal.

12.1.4 Three contexts contained crustacean remains, most were burnt.

12.1.5 Thirty-five contexts were examined with marine shell and these contain the remains of edible species such as limpets, periwinkles, mussel, cockles, clams, oyster, razor shell and scallops. Remains of non-edible species were also noticed, these included dog whelk and flat periwinkles.

12.1.6 Test Pits

12.1.7 SFS 22 (Crowlin 3)

12.1.8 Two contexts with fish remains were scanned. The Gadidae species noticed included saithe (*Pollachius virens*), pollack (*Pollachius pollachius*), cod (*Gadus morhua*) and haddock (*Melanogramus aeglefinnus*), it is possible that other Gadidae may be found in a more thorough examination of these remains. Species from other family groups include cartilaginous fish (either skate or shark).

12.1.9 Some of the fish remains were burnt white, grey and black indicating domestic rubbish burning.

12.1.10 Crustacean remains were also oticed in one context, all were burnt, and are identifiable to species.

12.1.11 One context also was scanned for marine shells, these were rather fragmentary but limpets, periwinkles and mussel were present, and many of the fragments were burnt black.

12.1.12 SFS ??Toscaig ?? note there are 9 toscaig sites all with their own numbers

12.1.13Twenty-one contexts were examined which contained fish remains. These consisted mainly of saithe, cod, haddock and whiting. Gurnard (Triglidae family) was also present.

12.1.14Thirteen contexts were examined containing marine shell remains, these consisted mainly of limpets, periwinkles, mussel, clams, and non-edible dog-whelk.

12.1.15Three contexts containing crustacean remains were also examined; these fragments were all burnt.

12.1.16SFS 89, or 90?? Coire Sghamadail there are two bay of cave sites each with their own number

12.1.17Two contexts were examined which had marine shell; these were mainly limpets, periwinkle, cockles and oyster shell.

12.1.18SFS58 (Rubha Chuaig)

12.1.19One context was examined with marine shell, these were mainly limpets and non-edible dog whelk.

12.1.20Discussion

12.1.21The preservation of the fish bone is excellent and it is clear that a variety of marine habitats were exploited.

12.1.22The marine molluscan remains, including crustacea, are also in excellent condition. They are all easily identifiable. Most samples examined contained burnt fragments of marine shell indicating the domestic nature of these resources. It is clear that they would have formed a substantial part of the diet.

12.1.23Recommendations

12.1.24It is recommended that all the fish remains are analysed. Analysis promises to supply a range of information with respect to environmental and site economy interpretations. It would also help to establish modes of exploitation and seasonality.

12.1.25In addition it is recommended that analysis and evaluation of the marine molluscan remains, including crustacea, be done in order to provide a rounded picture of all the marine resources exploited.

12.1.26Conclusion

12.1.27The site at Sand and many of the other sites provide excellent preservation conditions for bone and shell. They thus have great potential for both environmental and economic information, data that is so far lacking in the archaeological record for the area and periods represented.

12.2 Assessment of the mammal and bird remains from S.F.S. excavations, summer 2000

Jennifer Thoms

12.2.1 Three boxes of animal bones were submitted for assessment.

12.2.2 Aims. The aim was to determine their suitability for future analysis, to assess their general preservation condition and summarise the archaeological potential of the finds. The finds came from several test pits, which have been assessed together (*can we sep these to indiv test pits and list them as Ruby did*?), and also from Sand.

12.2.3 Methodology. The material was scanned briefly by eye, and identifiable mammal and bird bone was noted. Any fish bone and shell present in the bags were noted also. All bags in Box 9 were examined as this material appeared more variable than that in the other two boxes. Due to constraints of time boxes 1 & 2 were sampled and 50% of the bags were scanned. ***(If we are going to write like that we need to give list of three boxes and where they came from as that is not a helpful statement if not)***

12.2.4 Results

12.2.4.1Sand. Ninety samples were scanned of which 51 contained identifiable bone fragments. Most were bird bone and no attempt was made to identify them to species or genus. The mammal bone included fragments from pig (*Sus* sp) and red deer (*Cervus elaphus*). There was no human bone.

12.2.4.2In general the bone was in good condition with only 10% of the samples containing friable, fragile bone fragments. Thirty seven samples contained bone fragments which had been burnt or charred.

12.2.4.3Four of the samples contained bone which had been worked or modified.

12.2.4.4Test pits. *Twenty-eight samples were scanned and eighteen found to contain identifiable bone fragments. A metapodial fragment revealed the definite presence of red deer (*Cervus elaphus*) but no further identification was undertaken at this stage. No human bone was present.*
(does this mean identification was more difficult than at Sand - I think we should say so if so - or did she just run out of time if so re-phrase)

12.2.4.5The material was well preserved and no friable, crumbling bone was noted in this initial examination. Seventeen samples contained burnt bone, a higher percentage than observed in the samples from Sand.

12.2.4.6Six samples contained worked bone.

12.2.5 Conclusion

12.2.5.1The presence of burnt and worked bone confirms the domestic nature of the contexts sampled.

12.2.5.2The good condition of the bone fragments means that further analysis will provide valuable information on the economy and environment of the study period.

12.2.6 Recommendations for further work

12.2.6.1These samples should be analysed further in order to determine species and to look for age at death information and for butchery marks. This data will provide information on food procurement, seasonality and general animal exploitation.

12.2.6.2The worked bone should also be examined and catalogued.

13 DISCUSSION

13.1 Excavation at Sand

13.1.1 Detailed excavation work at Sand has shown the existence of a shell midden dating to the early eighth millennium BP composed mainly of limpets but with the remains of other shell fish as well as fish and animal bone and artefacts of stone, bone and shell. This midden overlies further archaeological remains in the form of bone and antler waste as well as lithic material. Though detailed post-excavation work has yet to be carried out it is clear that this site has much to offer research into the Mesolithic. The preliminary points offered below all shed light on matters which have long been the subject of debate in Mesolithic studies.

13.1.2 The shell midden was a loose unconsolidated midden with no visible stabilisation layers, accumulations of non-midden material or other unconformities. It is therefore likely that at this particular site it has accumulated within a short space of time.

13.1.3 The midden deposits suggest that for a time at least the main activity at the Sand rockshelter comprised the collection and processing of limpets. The processing clearly involved the use of heat, from the abundance of shattered "pot boilers", both within and outside of the midden, and it is likely that the bevel ended bone tools were involved. The relative lack of fish bones suggests that the limpets were directly consumed by the human population of the rockshelter and not used for bait.

13.1.4 Despite the predominance of limpets it is clear that other shell fish and crustacea were also exploited and that the available food resources included both deep sea and coastal fish, as well as red deer and wild pig.

13.1.5 Food processing was clearly a dominant activity at the site, but there is evidence for other activities including the manufacture of tools of stone, bone and antler as well as jewelry manufacture from shells. In addition the presence of non-edible dog whelk shells in the midden raises the possibility that some shells were being collected for other reasons such as the extraction of dyes. The existence of non-midden material below the midden reinforces the argument that activities on site were more complex than food collection alone. Although the precise relation of this material to the midden has yet to be determined the type of finds present suggest that it is directly related to, and immediately precedes, the midden.

13.1.6 The lithic material associated with the midden includes a number of narrow blade microliths of various forms. It is clear that the microlith-rich sites of the Scottish mesolithic can have a direct relationship with the non-microlithic midden-rich sites, though more study is needed.

13.1.7 The effect of gravity on the steep slope of the site meant that no in-situ features were preserved outside of the shell midden (which had itself started to tip downslope).

13.1.8 Both the midden and surrounding area have demonstrated very great potential for the provision of both economic and technological as well as environmental information relating to the wider Mesolithic. Much relevant data has now been collected and awaits analysis.

13.2 Survey and test pitting

13.2.1 Survey work has demonstrated the survival of a considerable number of archaeological sites along the Applecross coastal strip and in many other area around the Inner Sound. Many of these sites contain visible midden, though test pits were found to be of limited value in assessing the degree of preservation, quantity and age of the archaeological remains at individual sites.

13.2.2 Dating of the sites largely awaits the analysis of radiocarbon determinations. In a few cases artefactual material relevant to date was obtained and this has shown a very great range of sites in the Applecross peninsula from the Mesolithic to recent times and including at least one probable Norse site.

13.2.3 The test pits did yield midden material from several sites (26) and this awaits analysis. When combined with radiocarbon determinations a good picture of generalised economic and environmental development in Applecross through the ages should be provided.

13.3 General

13.3.1 When added to previous material collected as a part of the Scotland's First Settlers project the current work will form an important part in achieving the original aims, namely: the broadscale investigation of the economic and environmental basis of the Mesolithic exploitation of the Inner Sound.

13.3.2 It is already clear that detail previously unavailable to Mesolithic studies in the west of Scotland is being revealed, such as the implications of lithic raw material use for an interpretation of population movement.

14. POST EXCAVATION STRATEGY

14.1 Post-excavation work comprises five phases, the first two of which are currently in action.

1. Initial sorting and processing of sieved residues from the excavation and test pits. This is currently being carried out using Department of Archaeology students.wonder if we should miss out this sentence?
2. Preparation of a project plan for detailed post excavation analysis. Specialists have been identified so that the nature of their contribution can be discussed and estimates of time and cost prepared.
3. The implementation of specialist work, to include analysis of all finds, both eco and artefactual. Completion date of this phase is subject to the necessary funding.
4. Preparation of reports. Both individual specialist reports and a final comprehensive report will be prepared for publication as relevant. This work includes illustration and editing as well as writing. Material will also be prepared for a public audience.
5. Archiving. All artefactual and ecofactual material and all paper and electronic records will be archived and placed in the appropriate institutions. This will include the preparation of material for disposal to a museum as directed by the Finds Disposal Panel, as well as paper records for the National Monuments Record of Scotland and electronic records in accordance with AHDS directives. Where possible archives are created and maintained as work progresses.

14. BIBLIOGRAPHY

(I haven't check refs in doc yet) – still to do (tomorrow)

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