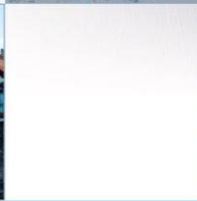


White Loch of Myrton, Wigtownshire: Trial Excavation, Data Structure Report

OASIS ID: aocarcha1-253344

AOC 60080

May 2016



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White Loch of Myrton, Wigtownshire

Data Structure Report

On Behalf of:	Celtic Crannogs Project
National Grid Reference (NGR):	NX 3585 4328
AOC Project No:	60080
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Date of Excavation:	2nd-3rd April 2016
Date of Report:	30.05.16

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

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Abstract

As part of the Celtic Crannogs Project, a small trial trench was excavated on the surface of White Loch of Myrton crannog in April 2016 in order to assess the character of surviving archaeological deposits and to provide context for a programme of lake sediment coring undertaken in the loch. The remains of a possible ruinous wall were encountered in the upper deposits of the trench, beneath which was an ashy, charcoal rich occupation deposit containing animal bone fragments. A surface of flat slabs, probably paving, was encountered at c. 1m below the surface of the crannog, approximately at the water table, which prevented further investigation. Environmental samples from the occupation deposit and organic-rich deposits below the paving produced a limited cereal assemblage including hulled barley (*Hordeum Vulgare* L), barley (*Hordeum* sp), emmer/spelt (*Triticum dicoccum/Spelta* sp) and a wheat (*Triticum* sp) caryopsis. Animal bone including a cattle molar and a small quantity of daub was recovered from the samples. Coring of the crannog mound identified six layers of non-oak timber interspersed with peaty soils beneath the paved surface identified in the trench.

White Loch of Myrton, Wigtownshire: Trial Excavation, Data Structure Report

Background

White Loch of Myrton is typical of the lochs of Wigtownshire, a relatively shallow, eutrophic body of water about 20 Ha in area and 12m in maximum depth (Figures 1 and 2). The presence of a crannog site in the loch has been known since the 19th century, and was included by Munro in his compilation of the evidence for crannogs in Ayrshire and Galloway in 1885, where he cites this report, provided to him by Dr Stuart:

"In the White Loch of Mertoun (a name which reminds us of the Cluainfin Lough in Roscommon, which is said to mean "the enclosure of the White Lake"), about three miles westward from Dowalton, there was formerly a stockaded island. The discovery of the islands in Dowalton Loch brought to the recollection of an old man in the service of Sir William Maxwell that, when the loch was partially drained by Sir William's grandfather, he had seen a small island in it with timbers, piles and flat stones on its surface. This led to an examination of the island, from which it appeared that it was surrounded by piles and was constructed, like those at Dowalton, of layers of furze, faggots and brushwood, layers of fern, etc. This island, prior to the lowering of the loch, had been covered by eight feet of water."

Munro (1885:92)

The island was not then inspected until 2002, when it was included in the South West Crannog Survey (Henderson *et al* 2003). The island was surveyed on 13th July 2002; extremely poor visibility in the loch meant that observations made by the dive team were based on 'feel' alone, but the surveyors noted that there was a dense concentration of small piles immediately N of the visible island, extending up to c.30m from the dry area. Two small ash piles were extracted from the submerged area on the N side of the island, one of which was subsequently radiocarbon dated, returning a date of 2080 ± 50 b.p (GU-10921), calibrating at 350 BC to AD 30 (Henderson *et al* 2003: 93).

Above water, the island is tree-covered and stony; reeds and lillies grow in the shallow waters. It is difficult to discern any built structure on the surface of the island, but it is possible that a low stone bank on the NE, N and W sides of the site are the remains of a wall, or perhaps more likely a form of revetment.

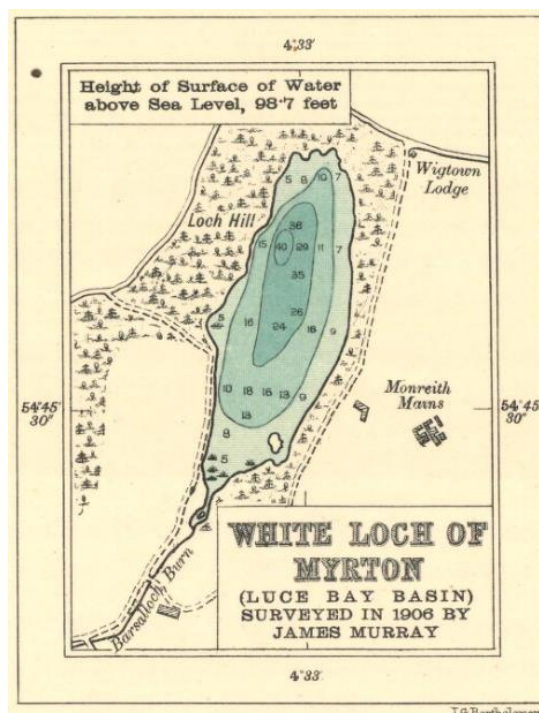


Figure 2: Survey of the loch by Murray and Pullar (surv. 1906).

Trial Excavation: aims and methodology

As part of the *Celtic Crannogs Project*, a series of lake sediment cores were retrieved from the White Loch in order to provide samples for multi-proxy indicators of archaeological activity on and around the loch in antiquity. As a means of providing archaeological context for the environmental analysis, a small trial trench was excavated on the surface of the island. The aim of the excavation was to establish the character of any surviving archaeological deposits on the surface of the crannog, and to collect samples for dating and archaeological/environmental analysis that might be correlated with the results of the analysis of the cores.

A trench measuring 2m by 1m was excavated by hand on the W side of the island, in an area that was as clear of tree roots and vegetation as possible. The excavation was carried out by hand; weather during the excavation was overcast with frequent heavy rain showers.

Results

A loose, very wet topsoil (100) containing living tree and plant roots was removed from the trench, within which, at the W end of the trench, was a rough linear arrangement of rounded stones [101], averaging 0.4m across and 0.15m thick (see Figure 3). These stones were very loosely arranged and it was difficult to be confident in their interpretation given the small area exposed, but it is possible that this formed part of a ruinous low wall. Directly beneath [101], a loose, peaty deposit (102) was encountered, containing a high proportion of heat-shattered angular stones, ashy, orange silts, charcoal and burnt bone. (102) was approximately 0.3m in depth, and directly overlay a series of flat, slab like stones [103], averaging 0.5m across. These slabs were arranged as a level surface across the trench and appeared to continue to the E, but may have ended close to the W extent of the trench. Flooding prevented detailed investigation of the levels below [103], but a very organic, peaty layer containing woodchips, charcoal and burnt bone (104) was bulk sampled from beneath one of the slabs. A monolith sample (M1) was also collected from deposit (102) in order to provide samples for the assessment of insect remains.

On-site coring

Once excavation had been abandoned due to flooding, a core was taken from the crannog mound beneath the paved surface [103]. This core showed that the deposits making up the body of the crannog were almost 4m thick, and encountered six levels of non-oak timber (*Fraxinus* and *Alnus*) laid horizontally. Fragments of charcoal were visible in the peaty deposits separating the timber layers, and natural glacial clay was encountered at a depth of 4.55m. The core was retained and taken to the University of Southampton.

The stratigraphic sequence of the core was as follows:

Depth (cm, starts at base of trial trench, i.e. 90cm)	Description
90-180	coarse organic debris with monocot, wood (twigs and a 3cm-diameter branch at 48-52cm), hazelnuts, peaty matrix
180-187	timber 7
187-190	coarse organic debris in peaty matrix, some silt
190-203	timber 6 (Ash, <i>Fraxinus</i>)
200-114	timber 5
211-216	organic debris
216-226	timber 4
226-230	Broken-off piece of timber
230-234	coarse organic debris in peaty matrix, some silt
234-240	timber 3
240-254	coarse organic debris, 3cm-diameter wood, in peaty matrix
255-263	Timber 2 (Alder, <i>Alnus</i>)
263-295	Gap
295-300	Timber 1
300-320	coarse organic debris with 2-3cm diameter wood
320-340	felted peat with trace of silt
340-355	gap

355-379	felted peat with sharp angular stone at 270cm
379-355	(1cm transition) medium olive-grey organic marly silt (343-354 has more precipitated marl)

Macroplant and burnt bone analysis

Jackaline Robertson

Factual data

Two waterlogged bulk samples were submitted for environmental analysis from the excavation undertaken at White Loch of Myrton. The samples were collected from deposits (102) and (104), described above. The main objective of this assessment was to determine the archaeobotanical potential of both samples and to recover material suitable for dating.

Methodology

A subsample of 2.5 kg from each bulk sample was gently disaggregated in water by hand to ensure the survival of any fragile ecofacts (cf. Kenward *et al.* 1980). The sediment was composed of a silty/clay that did not require any pre-treatment. The retent (residue) fractions consisting of the inorganic remains were collected and slowly air dried before being stack sieved using 4, 2, 1 and 0.3mm sieves. The washovers (flots) were examined at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases stored at AOC Archaeology Group Edinburgh (Cappers *et al* 2006; Jacomet 2006).

Results

The results are presented in Tables 1 - 4. Nomenclature for plants follows Stace (2010).

The waterlogged macroplant assemblage

The waterlogged plant assemblage was dominated by weed taxa which were recovered alongside smaller quantities of woodland material and *sphagnum* moss. Preservation of these remains ranged from good to excellent. The weed taxa were recovered in larger and more diverse numbers from (104) with only a smaller number present in (102). This could be because the anaerobic conditions in (104) were noticeably better than those observed in (102). Some of the plant material in (102), such as the alder leaf and moss, display little evidence of decay which suggests that they are intrusive. The plant remains from (104) appear to be more archaeologically secure and offer the best opportunity for understanding the taphonomic deposition of these contexts and the surrounding habitat.

The carbonised macroplant assemblage

The charred macroplant assemblage was small and preservation ranged from poor to good. A total of six cereal caryopses were recovered alongside two weed seeds. The cereal species consisted of one hulled barley (*Hordeum Vulgare* L), one barley (*Hordeum* sp), one emmer/spelt (*T dicoccum/Spelta* sp) and one wheat (*Triticum* sp) caryopsis. The remaining two cereal caryopses could not be identified further due to poor preservation. The weed seeds were a single fat hen (*Chenopodium album* L) seed and sedge (*Carex* sp) nutlet. These remains came mainly from (102) as the only find from (104) was a single poorly preserved cereal caryopsis

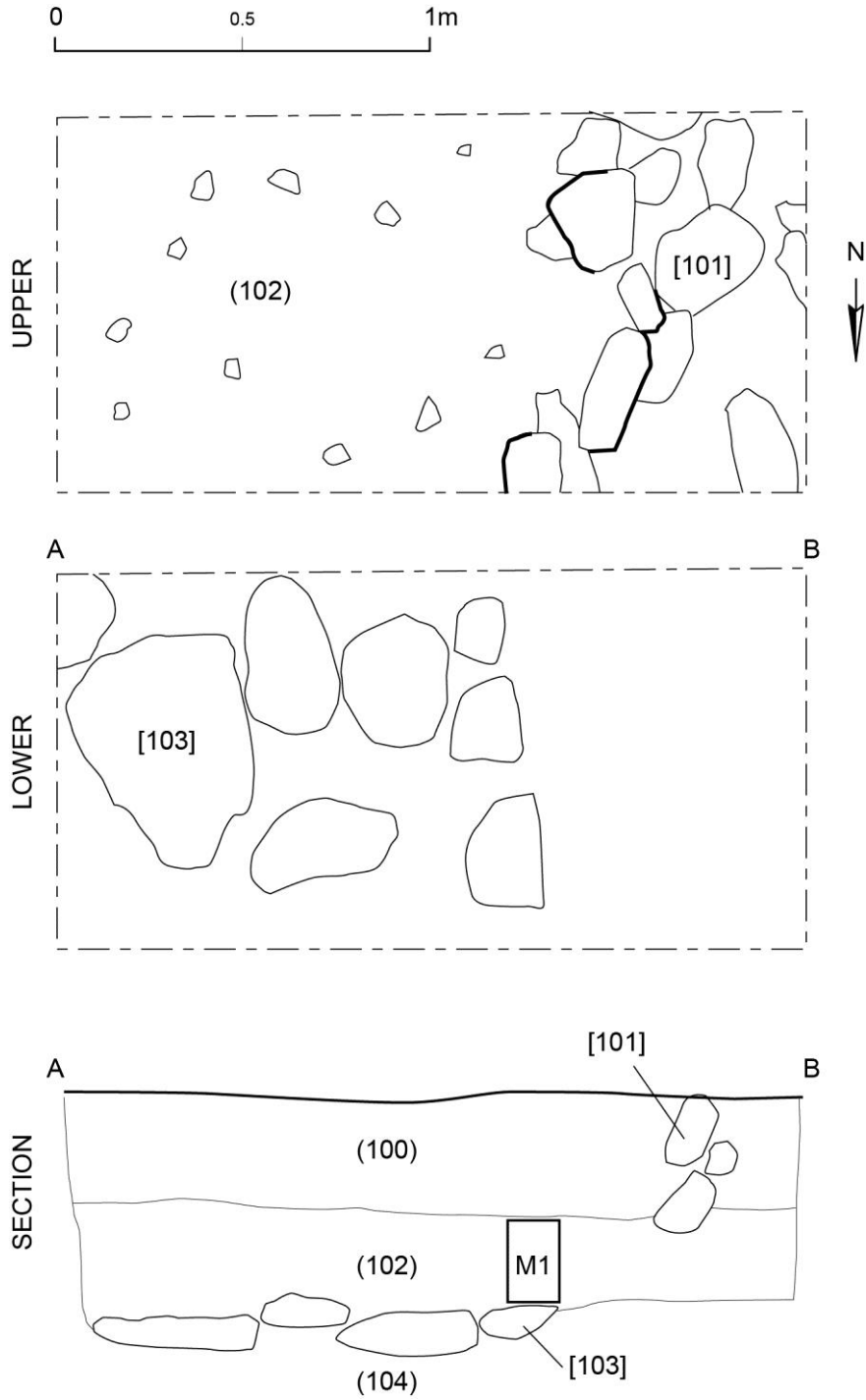


Figure 3: Plan of upper levels (above), lower level (middle) and section through deposits in trial trench.

The charcoal

The charcoal assemblage was concentrated in (102) which produced 14.6g compared to (104) which had 0.3g. Fourteen fragments were selected for species identification and alder (*Alnus glutinosa* L), hazel (*Corylus avellana* L) and oak (*Quercus* sp) were present. Two roundwood hazel fragments were noted. The alder fragments from (104) were partly vitrified.

The burnt bone

The burnt bone assemblage was small and totalled 4.0 g. Preservation was poor and most fragments were completely calcified and smaller than 10 mm. Only a single fragment of a cattle molar remained identifiable but this too was poorly preserved and fragile. These remains may have derived from cooking and cleaning refuse.

Other finds

The only other finds of possible archaeological interest was a small quantity of daub in (102) and quartz and burnt peat in (104). Small quantities of earth worm capsules, fly pupae, mites and beetles were noted in both samples but they were mainly concentrated in (104).

Discussion

The cereal species recovered from White Loch of Myrton are typical finds from this part of Scotland from the Iron Age onwards. The weed assemblage was composed of a mix of agricultural contaminants, invasive waste ground weeds and plants which favour damp habitats. The presence of raspberry (*Rubus idaeus* L) suggests that wild foods were exploited, but the absence of hazel is of note. This could be due to the size of the sub-sample, as normally hazelnut shells are overrepresented within the archaeobotanical record. The agricultural and waste ground species included fat hen, red orach (*Atriplex hortensis* L), chickweed (*Stellaria media* L) pale persicaria (*P. lapathifolium* L), redshank (*P. maculosa* L.), blackbindweed (*Bilderdykia convolvulus* L), sheep's sorrel (*Rumex acetosella* L) corncockle (*Agrostemma githago* L) and elderberry (*Sambucus nigra* L). Some of these species including fat hen and chickweed have been deliberately gathered to supplement both human and animal diet especially in times of famine. There is however no evidence that any of these weed species had such an economic role at this site. Corncockle is a poisonous plant to both humans and animals and if consumed would have had a detrimental effect on the individuals health. The rush (*Juncus* sp) and sedge species favour damp ground and it is likely these plants were growing nearby, or they could have been collected for use as a floor or building material. However, not enough evidence is available to confirm this.

The small charcoal assemblage is likely representative of fuel debris. The wood species used for fuel at White Loch is common for the SW of Scotland.

Macroplant and burnt bone: conclusion

The ecofacts and artefacts recovered from White Loch are indicative of a domestic site which had access to a range of both cultivated and wild resources. The macroplant, charcoal and burnt bone assemblage are similar to other finds from wetland sites in SW Scotland including Cults Loch and Black Loch of Myrton (Robertson forthcoming a; unpubl).

Artefacts

Dawn McLaren

A small group of ten water-rounded pebbles (SF 1) of various sizes and lithologies were collected during trial trenching from context 102. Only one has signs of being used as a tool; it is a flat oval fine-grained stone with a smooth, dished and polished face, wear which is consistent with use as a whetstone for sharpening

metal blades. Two further pebbles of similar shape but different sizes display no evidence of wear. A number of smaller egg-shaped pebbles, all of which are quartz or quartz-rich rock, and three palm-sized ovoid stones are naturally smoothed and rounded as the result of water action and are not deliberately shaped or modified.

CATALOGUE

Elongated, flat, ovoid, fine-grained cobble, water rounded but heavily weathered surfaces. The original surface of the stone survives only on one face and in small patches on the edges. This face is dished and smoothed and the facet is associated with a well-developed sheen consistent with use as a whetstone for sharpening metal blades. L 132.5 W 50.5 T 17-20 mm. Context 102.

Discussion

The deposits encountered in the White Loch crannog trial trench can be considered fairly typical of the Iron Age crannogs of South West Scotland; the heat-shattered stone, burnt bone and charcoal-rich deposits are similar to deposits encountered on other excavated sites, such as Whitefield Loch (Cavers *et al* 2011), Cults Loch (Cavers and Crone *in press*) and Loch Arthur (Henderson and Cavers 2011). The presence of large quantities of stone in the upper layers draws parallels with Whitefield Loch; Roman glass from the upper deposits at that site suggested occupation in the early centuries AD, though radiocarbon and dendro dating of timbers used in the construction indicated a much earlier construction date, in the final quarter of the 1st millennium BC. It is difficult to determine from this small excavation whether buildings on the White Loch crannog had a significant stone component, but stone superstructures are known on crannogs of middle Iron Age date in the area. The possible walling recorded at White Loch [101] is separated from the paving [103] by occupation deposit (102) and could feasibly relate to a relatively late use of the site.

The depth of deposit beneath the paving [103] is, again, fairly typical for a crannog in Wigtownshire. The presence of charcoal in the peat deposits between layers of timber might indicate that earlier phases of occupation are present on the site, overlain by refurbishment of the crannog mound for secondary re-occupation, but this remains speculation at this stage and will be tested by radiocarbon dating.

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Plate 1: General view of the crannog from the W shore, with the core sampling boat immediately in front of the island.



Plate 2: General view of the trench, facing SE.



Plate 3: Possible walling [101], during excavation.



Plate 4: Flat slabs [103], close to the water table, at the base of the trench.

APPENDIX 1: CONTEXTS

APPENDIX 2: DRAWING

Appendix 1: Contexts

Context	Type	Over	Cuts	Fill Of	Under	Cut By	Filled By	Same as	Within	Encloses	Description	Interpretation	Drawing	Photo No.s
Area: 1														
100	Deposit	101,									Topsoil over trench			
101	Structure	102							100		Linear arrangement of stones averaging 0.4m across, roughly placed, with topsoil in the interstices. Blocks are rounded, mostly in the region of 0.15m thick.	Possible ruinous walling.		
102	Deposit	103			101, 100						A loose wet soil deposit, very mixed but containing ashy orange silt, a high proportion of cracked, angular stone, charcoal and burnt bone. Deposit is 0.3m deep, overlying stones [103] and underlying possible wall [102].			
103	Deposit										A layer of flat slabs, up to 0.5m across and averaging 0.15m thick. Arranged as a level surface across the base of the trench. Appears to continue to the E, but may finish close to W end of trench.	Paving.		
104	Deposit				103						An organic, mixed deposit containing woodchips, charcoal and burnt bone. Only glimpsed in waterlogged levels below slabs [103]. A bulk sample was taken, but flooding prevented excavation.	Possible occupation earlier deposit or make-up of crannog mound.		

Drawings

Drawing Register

Drawing No.	Area	F.No.	Details	Scale	Drawn By	Date
1	1	1	Plan of upper levels of trench	1:20	GC	02/04/2016
2	1	1	Plan of lower level of trench	1:20	GC	03/04/2016
3	1	1	N-facing section of trial trench	1:20	GC	03/04/2016

Table 1. The waterlogged macroplant assemblage

Context			102	104
Sample Vol (Kg)			2.5	2.5
Flot Vol (l)			0.5	2
Retent Vol (l)			0.3	0.05
% Sorted			100	100
Vernacular name	Common name	Plant part		
Wild Food				
<i>Rubus idaeus</i> L.	Raspberry	Seed(s)		**
Woodland				
<i>Pteridium aquilinum</i> (L.)	Bracken	Pinnule/Fronds frg(s)		**
<i>Alnus glutinosa</i> L.	Alder	Leaf modern	*M	
Bark			*	***
Wood			*	****
Weed Taxa				
<i>Persicaria lapathifolium</i> L.	Pale Persicaria	Fruit(s)	*	**
<i>Persicaria maculosa</i> L.	Redshank	Fruit(s)		*
<i>Bilderdykia convolvulus</i> L.	Black bindweed	Fruit(s)		*
<i>Rumex acetosella</i> L.	Sheep's sorrel	Fruit(s)		*
<i>Chenopodiaceae</i> sp.	Goosefoot	Seed(s)		**
<i>Chenopodium album</i> L.	Fat hen	Seed(s)	*	*
<i>Sambucus nigra</i> L.	Elderberry	Seed(s)	*	
<i>Agrostemma githago</i> L.	Corncockle	seed frg(s)		*
<i>Atriplex</i> sp.	Oraches	Seed(s)	**	
<i>Atriplex hortensis</i> L.	Red orach	Seed(s)	***	**
<i>Stellaria media</i> L.	Common chickweed	Seed(s)	*	*
<i>Stellaria</i> sp.	Chickweed	Seed(s)	*	
<i>Ranunculus</i> sp.	meadow/creeping/bulbous buttercup	Fruit(s)		**
<i>Aphanes arvensis</i> L.	Slender parsley piert	Achene(s)		*
<i>Juncus inflexus/effusus/conglomeratus</i>	Hard/soft/compact rush	Seed(s)		*
<i>Juncus</i> sp	Rushes	Seed(s)		**
<i>Carex curta</i> L.	White sedge	Nutlet(s)		*
<i>Carex</i> sp.	Sedges	Nutlet(s)		**
<i>Carex/juncus</i> sp.	Sedge/rush	Stems		*
Midden type material				***
Roots			***M	**M
spore			*	
Indet	Indet	Fruit/seeds/buds		*
Moss				
<i>Sphagnum</i> sp.		leaves/stems		*M
Moss	Modern	Loose leaves	***M(some still growing on bark)	*M
Key:* infrequent, ** occasional, *** frequent, **** abundant, M=modern				

Table 2. The charred macroplant assemblage

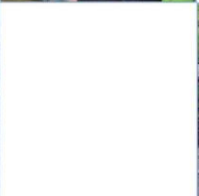
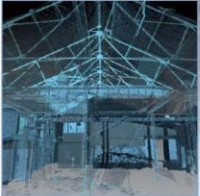
Context			102	104
Sample Vol (Kg)			2.5	2.5
Flot Vol (l)			0.5	2
Retent Vol (l)			0.3	0.05
% Sorted			100	100
Vernacular name	Common name	Plant part		
Cultivated Food				
<i>Hordeum vulgare</i> L.	Hulled barley	Caryopsis/es	1	
<i>Hordeum</i> sp.	Barley	Caryopsis/es	1	
<i>T dicoccum/Spelta</i> sp.	Emmer/spelt	Caryopsis/es	1	
<i>Triticum</i> sp.	Wheat	Caryopsis/es	1	
<i>Cerealia</i> indet	Cereal	Caryopsis/es	1	1
Weed seeds				
<i>Carex</i> sp.	Sedge	Nutlet	1	
<i>Chenopodium album</i> L.	Fat hen	Seed	1	
Key: * infrequent, ** occasional, *** frequent, **** abundant				

Table 3. Charcoal species

Context	Species	Name	No	Weight	Comment
102	<i>Alnus glutinosa</i> L	Alder	4		
102	<i>Corylus avellana</i> L	Hazel	4		2 rw frags both ringcount of 3
102	<i>Quercus</i> sp	Oak	2	14.6	
104	<i>Alnus glutinosa</i> L	Alder	2		part vitrified
104	<i>Corylus avellana</i> L	Hazel	2	0.3	

Table 4. Other finds

Context	102	104
Sample Vol (Kg)	2.5	2.5
Flot Vol (l)	0.5	2
Retent Vol (l)	0.3	0.5
% Sorted	100	100
Vernacular name		
Other Finds		
Burnt bone	**	*
Burnt peat		*
Charcoal	****(14.6g)	*(0.3g)
Daub	**	
Peat		*
Quartz		*
Insects		
Mite		*
Earth worm capsule	*	*
Beetle	*	**
Fly pupae		**
Key: * infrequent, ** occasional, *** frequent, **** abundant		



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