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Summary

A large multi-period site at Easton Lane (SU 495304) situated on the middle chalk to the east of Winchester and adjacent to Winnall Down was excavated by P.Fasham and D.Whinney for the Trust For Wessex Archaeology and the Winchester Archaeological Office respectively.
This report deals with terrestrial molluscan asembelages from a Late Noelithic pit (F1017) which has allowed the interpretation of intermitantly shadey/ woodland environmental conditions to be made. This complements molluscan analysis from Bronze Age to Medieval contexts previously reported upon (Allen 1985 - A.M.L. Report No. 4626).

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LAND MOLLUSCA FROM THE LATE NEOLITHIC/EARLY BRONZE AGE PIT (F 1017) AT EASTON LANE (W29) HAMPSHIRE, 1982-3.

M.J. Allen, B.Sc., AIFA.

The large multiperiod site at Easton Lane (SU 495 304) adjacent to Winnall Down (Fasham 1982) is situated on the Middle Chalk Downland block to the east of Winchester. The area was threatened by roadworks and was investigated during 1982-3 by P. Fasham and D. Whinney for the Trust for Wessex Archaeology and Winchester Archaeology Office respectively.

The site consisted of a plethera of archaeological features; ditches, pits and postholes. This report deals with 14 samples from a later Neolithic (Phase 2) pit F 1017 which were analysed for terrestrial mollusca. The samples represent contexts through the later Neolithic pit and early Bronze Age fills and thus augement the results of molluscan analysis from Middle Bronze Age and Iron Age ditches previously submitted (Allen 1985). These results combined with other local palaeoenvironmental evidence allow the complete landscape evolution of Easton Lane and its environs to be evaluated (Allen 1986).

Methodology

The methods of extraction and identification of Mollusca follow Evans (1972, 40-45): 1000g or 2000g of air-dried soil (as appropriate) were dissagregated in water and hydrogen peroxide (H_2O_2) and washed through a nest of sieves of 5.6mm, 2mm, 1mm and 0.5mm mesh aperature. Apical mollusc fragments were extracted, identified and quantified using a x10 - x30 stereobinocular microscope. The residues were then weighed and the fractions calculated as a percentage of the initial sample weight (see table 2 and fig. 4).

The nomenclature for the mollusca follow Waldén (1976) and the sediment descriptions provided by the excavator were augmented by the author's quantative descriptions which follow Hodgson (1976).

The results of mollusc analysis are presented in table 1 and graphically as histograms of relative abundance in figure 3. The sieved fractions were grouped into particles larger than 5.6mm, those between 5.6mm and 0.5mm and those smaller than 0.5mm and plotted graphically in figure 4. This data provides a crude index to the extent of weathering and rate of sedimentation and thus allows some evaluation of the suitability of conditions for mollusc life at the time.

Later Neolithic Pit F 1017

The Neolithic pit considered here is situated on the western edge of the site (fig. 1) over the brow of the hill and is in excess of 2m deep and c. 3m in diameter. At its base it contained a fine calcareous mud which was

was overlain by coarse vacuous rubbley primary fills into which was cut a Beaker burial. The tertiary deposits overlying the burial are much finer and probably indicative of ploughwash.

Sediment descriptions

10 - 35cm (Context 1018) Samples 119 & 120	Mid brown silty loam with common rounded small and medium chalk pieces, rare medium flints.
35 - 66cm (Context 1019) Samples 121, 122, 123	Mid brown calcareous loam with common rounded medium chalk piecies and medium - large flints.
66 - 79cm (Context 1042) Sample 125	Abundant medium - large sub-rounded chalk pieces and rare medium - large fints in a mid brown loam.
138 - 148cm (Context 3233) Sample 444	Light/mid brown silty loam with common small and medium rounded chalk pieces.
148 - 205cm (Context 2763) Samples 445, 446, 447, 448 & 449	Medium - large sub-angular and sub-rounded chalk lumps with rare large flint nodules in a mid grey calcareous matrix.
205 - 214cm (Context 2798) Sample 450	Calcareous silty clay chalk mud with common medium chalk pieces.
214 - 221cm (Context 3231) Sample 451	Calcareous mid brown silty clay loam with rare small and medium chalk pieces.

Molluscs from pits often produce problems of interpretation as the pit may have been used for a variety of purposes, but more significantly may contain relict faunas which were enjoying the pit micro-habitat or eroded from ancient soils through which the pit was cut (Discussed in Thomas 1977 and Shackley 1976). Nevertheless, here the deposits seem quite unmixed and molluscan preservation uniform within each context.

Mollusca

The basal deposit contained very high mollusc numbers (437) and this assemblage is dominated by shade-loving species characterised by an abundance of Carychium tridentatum associated with high proportions of the predatory Zonitids, Discus rotundatus, Punctum pygmaeum and the rupestral species Acanthinula aculeata. Trichia hispida, Vertigo pygmaea and Vallonia costata are also present, the former in comparatively high numbers. The high mollusc numbers and large number of taxa present in the basal fills may indicate a brief episode of stability immediately prior to the primary fill. This mollusc assemblage is likely to represent, essentailly, the pre-pit environment. Carychium tridentatum, Discus rotundatus and the predatory Zonitids are commonly associated with decaying plant material under leaf-litter on a a deciduous woodland floor and thus may be used to infer broadleafed deciduous woodland. Furthermore it is interesting to note the presence of Ena montana. This species is today one of old woodland, however Kerney (1968) has suggested that it is surprisingly common in Neolithic and Bronze Age contexts in the Wiltshire area where much human interference was clearly already present. Thus we cannot be sure if the woodland represented by this assemblage is a primary woodland. The presence of Trichia hispida is unusual, but is recorded in the pre-henge environment at Durrington Walls (Evans 1971). This, with the presence of Vallonia costata, may suggest a slightly open woodland.

The overlying layer displays a similar assemblage but a significant increase in Pomatias elegans is noted accompanied by a decline in Trichia hispida possibly reflecting clearance.

The coarse vacuous rubbley primary fills overlying tha basal deposits contained very few molluscs (never exceeding 8 per sample) probably due to the rapid sedimentation regime of this unit. Furthermore the molluscs present were probably weathered from pit sides and are of little use for palaeoenvironmental interpretation.

The finer secondary fill at 138 - 148cm contained an assemblage dominated by Trichia hispida, but otherwise not dissimilar from that of the basal fills. The absence of many rupestral species, e.g. Clausilids, suggest slightly more open conditions, whilst the lack of Helicellids, Vallonias, Pupilla muscorum and Vertigo pygmaea indicate a high degree of shade. The reduction in numbers of Carychium tridentatum may be taken to indicate the reduction of the leaf-litter habitat. It is possible that this assemblage partially reflects the surrounding environs but also the pit micro-climate. This assemblage immediately underlies the Beaker burial. Unfortunately no

samples were analysed from the grave fill, though samples from the post-burial tertiary fills were analysed.

A series of samples sequentially through the tertiary fills show a gradual increase in open conditions, with the uppermost fill being quite markedly open. The lower tertiary fill (66 - 79cm) shows a shade-loving assemblage not dominated by Evans and Jones' (1973) troglophile species suggesting that the assemblage does not represent the rock rubble component of the fill. Above this the overall decrease in shade-loving species (Evans 1972, 195) is not due to an actual reduction in shade-loving species, but to an increase in open country species and individuals such as Pupilla muscorum, Vallonia costata and Helicella itala. Here we can see two factors contributing to this trend. Firstly the increasing effect of the open country habitat to the fauna and secondly the infilling of the pit reducing the shadey micro-habitat of the pit.

The uppermost deposits however contain very few shade-loving species and is dominated by an open country assemblage (Pupilla muscorum, Vallonias and Helicellids). This assemblage is typical of those seen in Middle Bronze Age contexts onwards at Easton Lane (Allen 1985). The Introduced Helicellids; Candidula intersecta and Cernuella virgata, indicate the onset of Kerneys (1977) mollusc biozone 'f' i.e. Medieval. This assemblage is consistent with open dry calcareous grassland in an arable/pastural regime as discussed in Allen (1985)

Discussion

The environmental interpretation presented is probably made more complex by the pit micro-habitat contributing to the mollusc faunas present. However, it is clear that a deciduous woodland was probably cleared for the pit, though there is no evidence to suggest that this clearance was permanent. The palaeoenvironmental reconstruction shows a much more complex local landscape history than that that can be recognised from Watons (1982) pollen diagram from Winnal Moors. Waton shows a typical Boreal and Atlantic woodland with dramatic clearance occuring very early at 3680 b.c. This corresponds not only with an increase in Graminaea but also in cereal-type pollen. Such early clearance is not seen at Easton Lane. Furthermore, Watons pollen record indicated continual open conditions, again from Easton Lane the pit mollusca indicates that this feature was inserted into recently cleared woodland which soon regenerated. Open conditions do not seem to prevail until much later.

Acknowledgements

I would like to thank G.J. Oulton for extracting the mollusca.

Summary of Environments by Phase

1	NEOLITHIC	-
2	LATER NEOLITHIC	Deciduous woodland, cleared locally
3	EARLY BRONZE AGE	Open woodland
4	MIDDLE BRONZE AGE	Very open xerophilic conditions, much arable/pasture.
5	LATE BRONZE AGE	
6	EARLY IRON AGE	
7	EARLY MIDDLE IRON AGE	
8	MIDDLE IRON AGE	
9	LATE IRON AGE/EARLY ROMAN	
10	MEDIEVAL	

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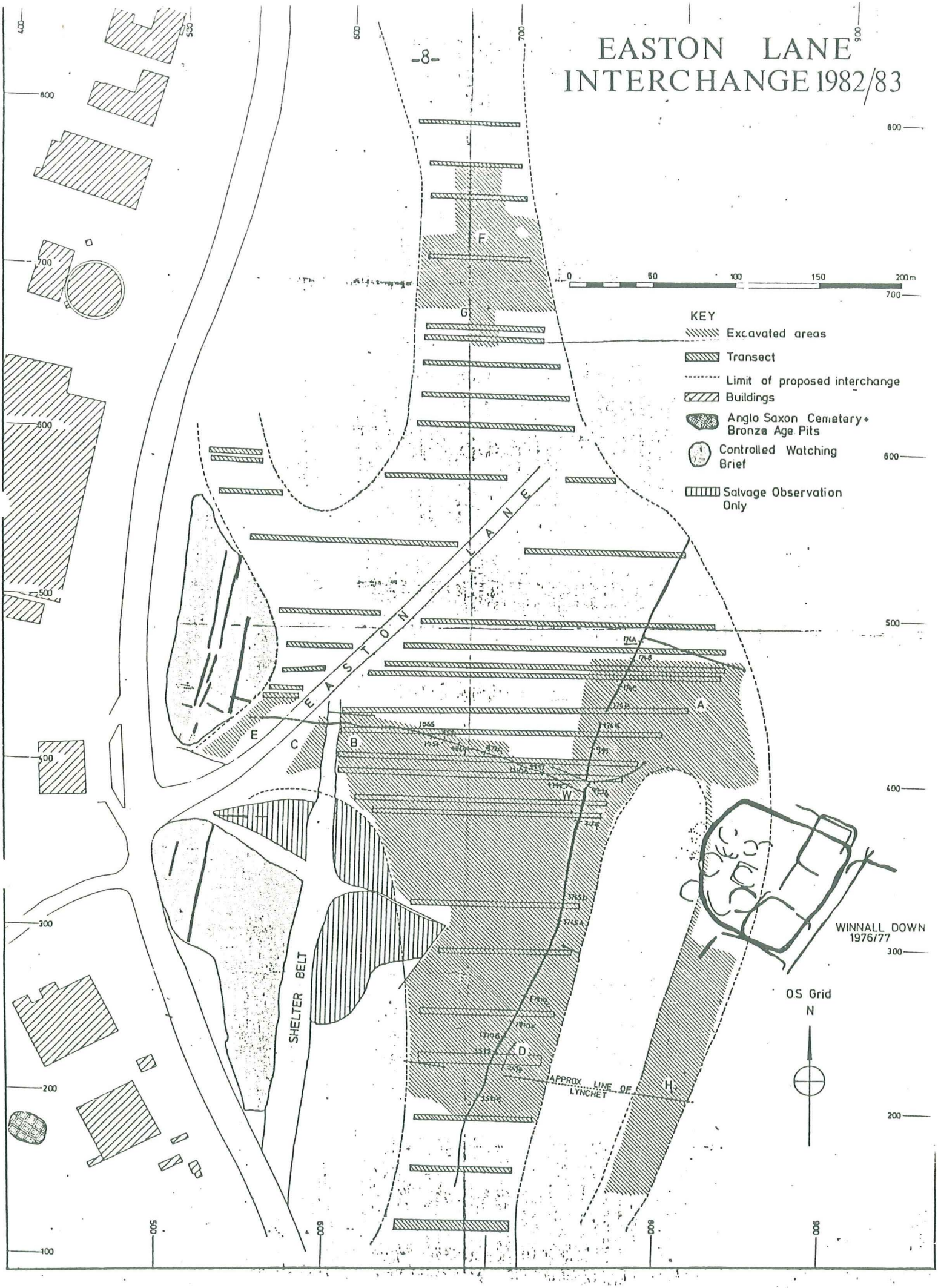


Figure 1. Excavations at Easton Lane; B indicates approximate location of F1017

Easton Lane F 1017

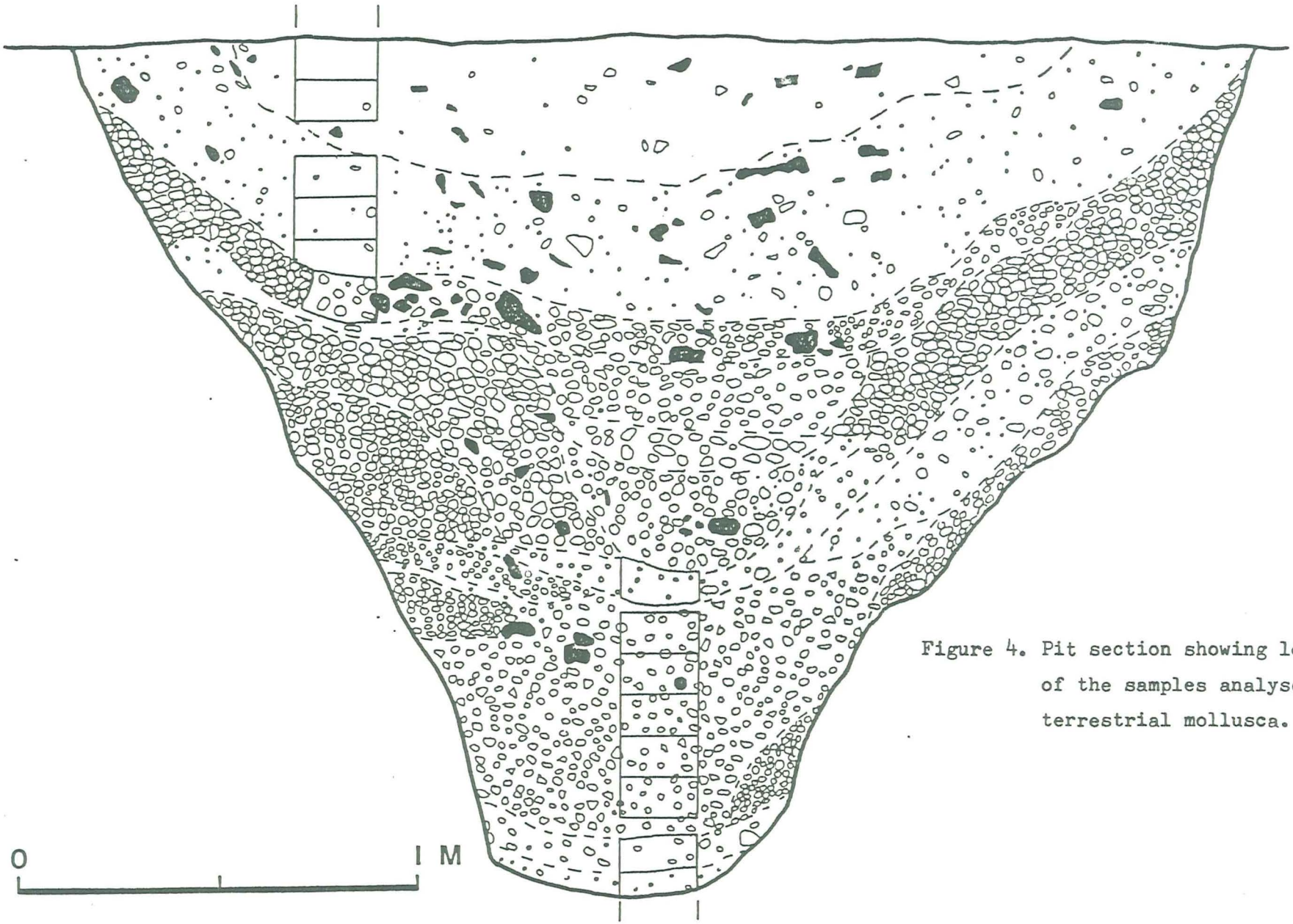
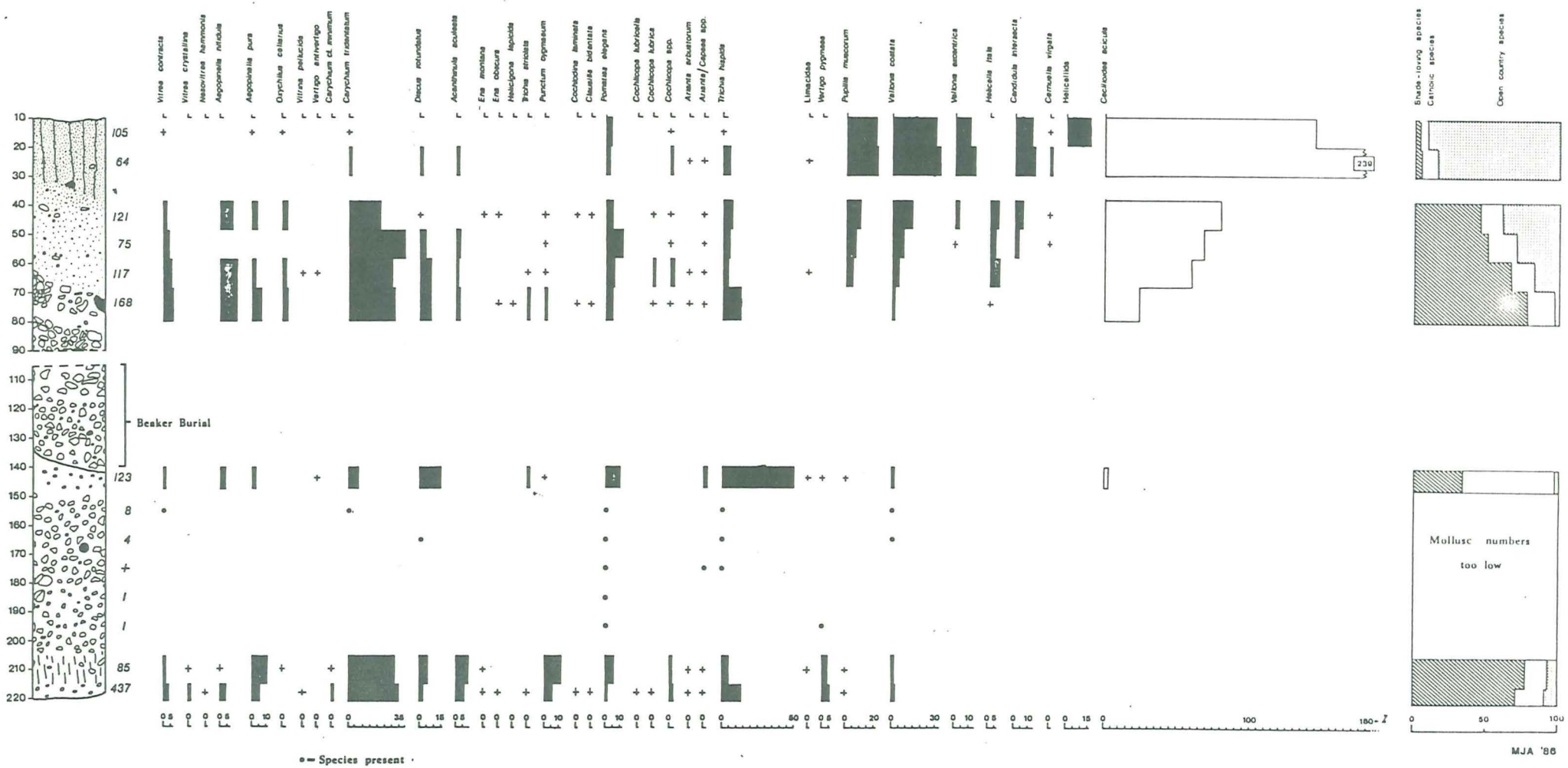


Figure 4. Pit section showing location of the samples analysed for terrestrial mollusca.

Easton Lane ; Neolithic Pit F1017



Easton Lane F1017

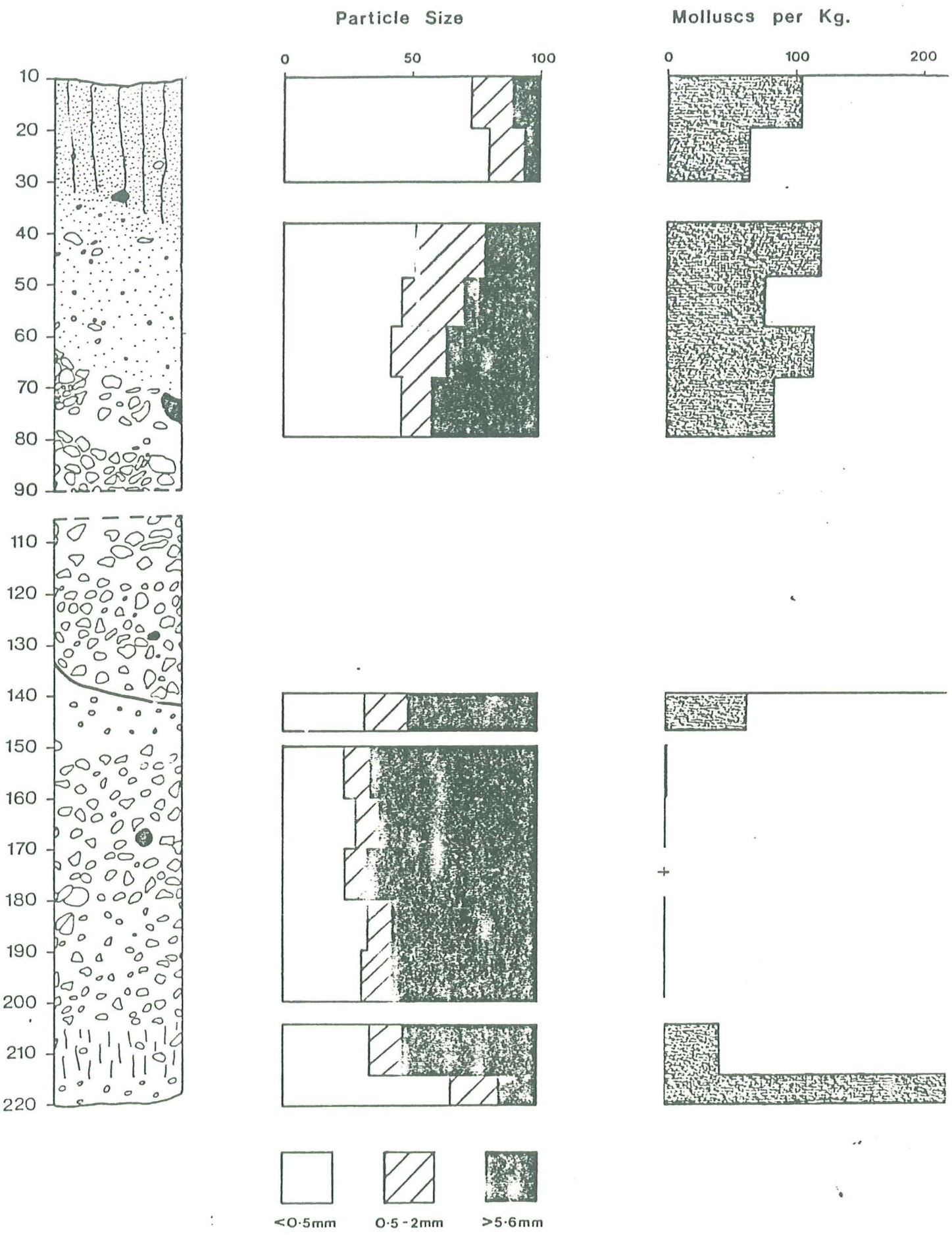


Figure 2 Particle size and molluscs frequency data

FEATURE	F 1017														F 176A						F 1810B					F 990A		F 971
CONTEXT	3231	2798	2763					3233	1042	1019			1018		808	427		411	352		1825	1824	1823	1822		2120		2121
Sample	451	450	449	448	447	446	445	444	125	123	122	121	120	119	68	69	70	71	72	73	520	521	522	523	524	509	510	517
MOLLUSCA wt.	2000g	2000g	2000g	2000g	2000g	2000g	2000g	2000g	2000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1000g	1055g	1150g	1000g	1000g	1000g	1000g	1200g	1000g	1000g	1000g
Pomatias elegans (Müller)	10	5	1	+	1	+	+	12	8	7	9	6	2	4	6	1	+	4	+	+	1	4	1	1	4	+	+	1
Carychium cf. minimum (Müller)	5	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carychium tridentatum (Risso)	131	18	-	-	-	-	1	9	40	24	22	12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carychium spp.	25	9	-	-	-	-	-	-	13	9	7	14	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlicopa lubrica (Müller)	3	-	-	-	-	-	-	-	1	2	-	1	-	-	-	1	2	-	2	1	1	1	1	-	-	-	-	-
Cochlicopa lubricella (Porro)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cochlicopa spp.	15	2	-	-	-	-	-	-	1	3	2	1	1	1	4	1	-	1	1	1	-	1	-	-	3	-	-	-
Vertigo pygmaea (Draparnaud)	10	-	-	-	-	-	-	1	-	-	-	-	-	-	2	1	-	1	-	1	-	-	-	-	-	-	-	-
Vertigo antivertigo (Draparnaud)	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vertigo spp.	16	3	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pupilla muscorum (Linnaeus)	1	1	-	-	-	-	-	1	-	5	5	12	14	22	15	9	10	52	29	41	-	5	7	1	19	9	2	15
Vallonia costata (Müller)	10	2	-	-	-	2	-	2	4	6	10	17	21	27	11	1	-	7	-	3	-	7	1	-	4	-	-	15
Vallonia pulchella (Muller)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	11	3	6	-	2	1	-	2	-	-	-
Vallonia excentrica Sterki	-	-	-	-	-	-	-	-	-	-	1	3	9	10	23	13	6	45	52	37	-	9	8	-	26	1	3	32
Vallonia spp.	1	-	-	-	-	-	1	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acanthinula aculeata (Müller)	26	8	-	-	-	-	-	-	5	2	2	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Ena montana (Draparnaud)	1	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ena obscura (Müller)	1	-	-	-	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Punctum pygmaeum (Draparnaud)	26	10	-	-	-	-	-	1	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Discus rotundatus (Müller)	13	5	-	-	-	1	-	18	13	9	3	1	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
Vitrina pellucida (Müller)	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vitrea contracta (Westerlund)	15	2	-	-	-	-	-	2	12	7	3	3	-	1	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Vitrea crystallina (Müller)	10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vitrea spp.	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nesovitrea hammonis (Strom)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegopinella pura (Alder)	25	1	-	-	-	-	-	4	11	3	-	5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aegopinella nitidula (Draparnaud)	16	9	-	-	-	-	-	5	20	13	-	11	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Oxychilus cellarius (Müller)	-	1	-	+	-	-	-	-	6	3	-	5	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Limacidae	-	1	-	-	-	-	-	1	-	1	-	-	1	-	-	-	2	-	-	2	-	-	-	-	1	-	-	1
Cecilioides acicula (Müller)	-	-	-	-	-	-	1	3	41	67	51	96	153	151	22	45	56	101	40	178	-	81	24	8	99	61	25	85
Cochlodina laminata (Montagu)	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Clausilia bidentata (Strom)	4	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Candidula intersecta (Poiret)	-	-	-	-	-	-	-	-	-	-	2	7	9	13	-	-	-	6	3	13	-	-	-	3	3	-	-	-
Candidula gigaxii (Pfeiffer)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Cernuella virgata (da Costa)	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	-	3	-	3	-	-	-	-	5	-	-	-
Helicella itala (Linnaeus)	-	-	-	-	-	-	-	-	1	8	3	7	-	-	17	2	7	11	23	10	5	34	6	5	13	3	3	4
Helicidae	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichia striolata (C. Pfeiffer)	4	-	-	-	-	-	-	2	3	1	-	-	-	-	-	-	-	-	1	2	-	1	-	-	-	-	-	-
Trichia hispida (Linnaeus)	60	4	-	-	+	1	4	60	21	4	4	9	3	1	5	5	8	12	23	3	-	4	-	1	3	1	+	7
Arianta arbustorum (Linnaeus)	1	+	-	-	-	-	-	-	+	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Helicigona lapicida (Linnaeus)	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cepaea/Arianta spp.	1	1	-	+	+	-	-	4	1	1	1	1	+	-	1	+	1	1	1	-	+	3	-	-	1	1	-	-
TOTAL	437	85	1	+	1	4	8	123	168	111	75	121	64	105	87	37	39	154	138	123	7	74	25	11	88	17	8	75
TAXA	25	19	1	-	1	3	4	15	18	19	15	21	11	13	10	9	8	12	9	12	3	12	7	5	16	6	3	6

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\+ = non-paical fragment

Table 1. Mollusc data

Sample No.	5.6mm	2mm	0.5mm	0.5mm	Total	Molluscs per kg.
119	106	82	78	734	1000	105
120	62	74	68	796	1000	64
121	214	142	122	522	1000	121
122	288	169	82	461	1000	75
123	360	148	65	427	1000	117
125	830	166	85	919	2000	84
444	1016	231	116	637	2000	63
445	1317	113	65	505	2000	4
446	1245	108	62	585	2000	2
447	1349	109	65	477	2000	0.5
448	1135	136	73	656	2000	+
449	1144	163	65	628	2000	0.5
450	1069	162	86	683	2000	42
451	292	259	132	1317	2000	219

Table 2. Residue weights recorded in grams.