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Assessment of insect remains, molluscs and parasite eggs from four sites in Lincoln (Site codes WF89, WN87, WNW88, WO89)

by

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Summary

Sediment samples from four sites in Lincoln (WF89 - Waterside Foreshore; WN87 - Waterfront North (trial excavation); WNW88 - Waterside North West; WO89 - Woolworth's Basement) have been assessed for their content of parasite eggs and macro-invertebrate remains (principally insects and molluscs). In addition, mollusc remains from bulk-sieved samples have been examined.

Parasite eggs are present in interpretatively useful numbers in a substantial number of samples, and probably indicate contamination by, or deliberate disposal of, human faces; confirmation of the species of *Trichuris* is necessary. A single *Capillaria* egg, probably from dog, was found. A substantial number of the samples gave insect assemblages with value at the levels of context interpretation, site reconstruction, and higher synthesis; they came from deposits of Roman, Saxon and medieval date.

Programmes of further work on parasite eggs, insects and marine molluscs are recommended.

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Introduction

Selected samples of sediment ('GBAs' *sensu* Dobney *et al.* 1992) from four sites in Lincoln were supplied by City of Lincoln Archaeological Unit (CLAU) for assessment of their content of invertebrate remains. The sites and numbers of samples were as follows:

WF89 - Waterside Foreshore - 15 samples

WN87 - Waterfront North (trial excavation) - 1 sample

WNW88 - Waterside North West - 18 samples

WO89 - Woolworth's Basement - 15 samples (plus one from a modern dump)

In addition, residues from bulk-sieved ('BS' sensu Dobney *et al., op. cit.*) samples were examined for their content of mollusc remains, particularly marine taxa.

Methods

Eggs of parasitic nematodes

Analysis for eggs of parasitic nematodes was carried out using the 'squash' method of Dainton (1992). Other microfossils (for example phytoliths, diatoms, pollen and fungal spores) were also noted.

Macro-invertebrates

Test subsamples of 1 kg were employed in each case, following methods of Kenward *et al.* (1980) as modified by Kenward *et al.* (1986).

The flots (or occasionally washovers) were quickly examined for their content of invertebrate remains, especially insects, a note being made of the principal species or communities present and of their preservational condition ('assessment recording' s*ensu* Kenward 1992). An estimate of the time required for full recording was made, and the assemblage prioritised for further work. Molluscs were recorded from GBA flots and residues and from BS samples..

Results

Results from the parasite squashes are summarised in Table 1, and those from assessment of insects and other arthropods, and molluscs in GBA samples, in Table 2. Shellfish remains were present in trace amounts in some (12) GBA residues but are not listed in the table; only sample 12 (context 707) gave more than a few fragments; in this case there were abundant fragments of several species as well as fish and other bone. Shellfish from BS samples are summarised in Table 3.

*Table 1. Records from assessment of parasite eggs and other microfossils from samples from four sites in Lincoln. Recording times include taking measurements where appropriate, but do **not** include data entry and processing or writing. Note that samples in which no parasite eggs were seen take P3 since fuller investigation might reveal some remains.*

Site/context	Sample	Nature of context	Notes	Priority for parasites	Time to record (minutes)
Waterside Foreshore (WF89)					
756	61	Roman (M 3rd) dump	Much sand and some humic matter	p3	25
757	60	Roman (M 3rd) dump	Some sand and humic matter (mostly in lumps)	P3	25
758	58	Roman (M 3rd) dump	Some sand, humic matter and plant tissue	P3	25
759	59	Roman (M 3rd) dump	Sand and plant tissue fragments	P3	25
760	56	Roman (M 3rd) dump	Sand; trace of humic matter	P3	25
761	57	Roman (M 3rd) dump	Sand; some humic matter	P3	25
749	43	Roman (M 3rd) inhumation	Sand; some humic matter, abundant fungal spores	P3	25
735	29	Roman (M 4th) surface	Some sand and abundant humic matter	P3	25
707	12	Saxon (E-M 10th to M 10th) layer	Some sand and lumps of humic matter, a few plant hairs	P3	25
706	54	Saxon (EM 10th) dump	Some humic matter; diatom; trace of fungal spores	P3	25
699	53	Saxon/medieval (L 10th-M 12th) dump	not examined	-	-
680	52	Medieval (M 11th) hearth	Sandy, some charcoal and humic matter	P3	25
647	51	Medieval (EM 14th - 15th layer)	Very sandy, some fine silt; fungal hyphae and spores; trace diatoms and phytoliths	P3	25

664	55	Post-medieval (16th -17th) hearth	Trace of humic matter; charcoal; some fungal spores	P3	25
636	50	Post-medieval (L 17th to EM 18th) dump	Sand and some humic particles	P3	25
Totals for recording (WF)				P1 P2 P3	0 0 5.8
Waterside North West (WNW88)					
298	19	Roman (ML 3rd to E 4th) dump	Humic matter; diatoms; fungal spores	P3	25
441	22	Roman (L 4th) layer	Very humic, with much plant debris; fungal spores; testate amoebae; some diatoms; pollen; one *Trichuris* (with polar plugs)	P2	30
472	26	Roman (L 4th) layer	Slightly silts, humic matter; fungal spores; diatoms abundant; phytoliths	P3	25
414	9	Roman (L 4th) ?	Humic debris; silty; fungal spores; testate amoebae. One large *?Trichuris*	P1	30
426	25	Roman (L 4th) ?	Humic matter and some silt; fungal spores and hyphae	P3	25
425	24	Roman (L 4th) dump	Silty, some humic matter; insect fragments; fungal hyphae	P3	25
407	33	Roman (VL 4th) layer	Silty with some humic debris; some fungal spores; mostly particles of a ?mineral deserving identification	P3	25
424	32	Roman (VL 4th) layer	Slightly silts, much fine humic detritus; fungal spores and hyphae; testate amoeba	P3	25

310	13	Roman (VL 4th) layer	Silty; fungal spores; some insect fragments; testate amoeba	P3	25
329	17	Roman (VL 4th) layer	Not examined	-	-
303	16	Saxon (EM 10 th) layer	Humic matter and some silt; abundant fungal spores; numerous testate amoebae; one diatom	P3	25
309	37	Saxon (L 10th to M 11th) layer	Humic matter; fungal spores; abundant diatoms; insect fragments; two *Trichuris*, one with polar plugs	P1	30
423	36	Saxon (L 10th) pit	Humic matter; phytoliths; testate amoebae; fungal spores; diatom; many *Trichuris* (some with polar plugs) and *Ascaris*	P1	30
391	11	Saxon to medieval (EM 11th) wattle	Silty, little humic debris; pollen; fungal spores; testate amoebae; many *Trichuris* (all with polar plugs) and modest numbers of *Ascaris*	P1	20
476	39	Medieval (12th to 13th) pit	Silty, slightly humic; insect fragments; fungal spores; a few *Trichuris*	P1	30
308	34	Medieval (M 12th to M 13th) pit	Mostly coarse plant matter, so little appeared on mount; fungal spores; diatoms; insect fragments; phytoliths; modest numbers of *Trichuris* (one with polar plugs), trace of *Ascaris*	P1	30
320	38	Medieval (M 12th to M 13th) pit	Slightly silty; humic detritus; fungal spores and hyphae; plant hairs. Abundant *Trichuris* (none with polar plugs) and some *Ascaris*	P1	30
219	18	Medieval (L 12th) ?	Sandy, some humic matter; diatoms; fungal spores and hyphae; one *Capillaria* sp.* (70 x 29	P1	20 plus 4 hours tech and contingency 16

			microns, ?from dog); one *Trichuris*		hours tech, 8 hours RF for *
Totals for recording (WNW)				P1 P2 P3	7.5 hours tech +contingency: 16 hours tech 8 hours RF 0.5 hours 3.3 hours
Waterside North (trial excavation) (WN87)					
30	4	Medieval (11th to 13th) pit	Not examined	-	-
Woolworth's Basement (WO89)					
535	19	Roman (M 3rd) dump	Very silts; fungal spores; some plant debris; ?testate amoeba	P3	25
569	25	Roman (M 3rd) dump	Very silts; some organic debris, mostly in lumps; some fungal spores + ?hyphae	P3	25
569	29	ditto	Not examined	-	-
570	30	Roman (M 3rd) dump	Silty; lots of organic debris; fungal hyphae and spores; one damaged diatom	P3	25
571	31	Roman (M 3rd) dump	Silty; fungal growths, organic debris; fungal spores	P3	25
572	32	Roman (M 3rd) dump	Sandy, humic; some fungal spores and hyphae	P3	25
568	27	Roman (L 4th) road	Slightly silty; phytoliths, diatoms (rather abundant); much organic debris; fungal hyphae and spores; a testate amoeba	P3	25
504	11	Saxon (EM 10th) dump	Silty, humic; insect fragment; testate amoebae; fungal spores; plant fragments	P3	25

543	15	Saxon (EM 10th) dump	Humic, slightly silts; some very small diatoms; fungal hyphae	P3	25
543	23	ditto	Not examined	-	-
526	10	Saxon (EM 10th to L 10th/E 11th) latrine pit	Very humic; testate amoeba; fungal spores; phytoliths. *Trichuris* and *Ascaris* abundant; some of former with polar plugs	P1	30
526	18	ditto	Not examined	-	-
526	20	ditto	Not examined	-	-
533	24	Saxon/Medieval (ML 10th) pit	Very humic, slightly silts; testate amoeba; fungal spores; a few *Trichuris* (some with polar plugs) and *Ascaris*	P1	30
533	26	ditto	Not examined	-	-
Totals for recording (WO)				P1 P2 P3	1 hour 0.5 hours 3.3 hours

Table 2. Assessment of subsamples for insect and other invertebrate macrofossil remains from four sites in Lincoln. Priority: P1 - should be studied further; P2 -study if time; P3 - little or no archaeological value, although records may be of use at a more general level; P0 - barren, or effectively so. Time to record: estimated time for a scan record (sensu Kenward 1992) of the insects; this does **not** *include time for data entry, processing, analysis and writing. No terrestrial or freshwater molluscs were seen unless stated.*

Site/context	Sample	Nature of context	Notes	Priority	Time to record (minutes)
Waterside Foreshore (WF89)					
756	61	Roman (M 3rd) dump	A few, very badly decayed, arthropods	P3	10
757	60	Roman (M 3rd) dump	Resembles small extract from assemblage like that in Sample 57. Limited interpretative value, records useful.	P2	10
758	58	Roman (M 3rd) dump	Modest group of insects, grain pests, 'dry' synanthropes, a trace of foul matter. Probably from a building. A ?human louse.	P1	50
759	59	Roman (M 3rd) dump	Numerous insects; probably primarily a stable manure group	P1	60
760	56	Roman (M 3rd) dump	Insects rare and of little interpretative value; records in space and time useful. One freshwater snail.	P3	10
761	57	Roman (M 3rd) dump	A modest assemblage of insect remains with some aquatics but mostly 'urban' decomposers. May be stable manure	P1	40
749	43	Roman (M 3rd) inhumation	Barren	P0	0
735	29	Roman (M 4th) surface	Barren	P0	0
707	12	Saxon (E-M 10th to M 10th) layer	Barren	P0	0

706	54	Saxon (EM 10th) dump	No more than traces of arthropod cuticle	P0	0
699	53	Saxon/medieval (L 10th-M 12th) dump	Barren	P0	0
680	52	Medieval (M 11th) hearth	Barren	P0	0
647	51	Medieval (EM 14th - 15th layer)	Barren	P0	0
664	55	Post-medieval (16 th -17th) hearth	Few, poorly-preserved, insects, and some possible modern contaminants; a ?crustacean chelicera*	P3	5 + 8 for *
636	50	Post-medieval (L 17th to EM 18th) dump	Barren	P0	0
Total for recording				P1 P2 P3	2.5 hours 0.2 hours 0.4 hours + 8 hours for *
Waterside North West (WNW88)					
298	19	Roman (ML 3rd to E 4th) dump	Numerous aquatics, some waterside taxa, grain pests, some terrestrial decomposers and 'semi-natural' habitats forms. Worth recording as a characteristic group	P1	90
441	22	Roman (L 4th) layer	Some grain pests, synanthropic decomposers, a soft *Apion*; ?stable manure	P1	60
472	26	Roman (L 4th) layer	Modest number of insects, but some bugs* which may be of climatic significance. Some aquatics. One freshwater mollusc.	P2, but bugs P1	20 for scan record of all; 40 to check *
414	9	Roman (L 4th) ?	Subjectively stable manure with some aquatics and some unusual taxa requiring recording	P1	180
426	25	Roman (L 4th)	Rather large group; aquatics	P1	120

		?	well-represented; numerous decomposers (mixed, hints of foulness); some unusual taxa		
425	24	Roman (L 4th) dump	Subjectively stable manure; needs recording to confirm nature. Many fly puparia, probably useful**. One terrestrial mollusc.	P1	40 + 8 hours for **
407	33	Roman (VL 4th) layer	About 100 herring otic bullae; no invertebrates seen	P0	0
424	32	Roman (VL 4th) layer	A characteristic synanthropic group, clearly from a building, perhaps a stable? Hint of 'hay'.	P1	60
310	13	Roman (VL 4th) layer	A few insect remains, insufficient for interpretation beyond 'occupation site'	P3	10
329	17	Roman (VL 4th) layer	Trace of poorly preserved insect cuticle; some just identifiable. Probably typical 'urban' group but only worth identifying for space/time records	P3	15
303	16	Saxon (EM 10 th) layer	Small group with some aquatics and decomposers; lice	P1^{-}	60
309	37	Saxon (L 10th to M 11th) layer	May have complex origins; a variety of aquatics in small numbers, with mixed urban decomposers. ***Some lice, bug nymphs and scales. One freshwater mollusc.	P1	180 (allowing time for ***)
423	36	Saxon (L 10th) pit	Large flot, much bran. Requires rapid scan to check insect remains, which are too rare to merit more.	P1 (rapid scan only)	20
391	11	Saxon to medieval (EM 11th) wattle	Large flot, only part examined. Subjectively a cess-pit fauna; needs to be properly recorded. **Many fly puparia, deserving examination	P1	120 + 16 hours for **
476	39	Medieval (12th to 13th) pit	A few insects, terrestrial and aquatic	P3	10
308	34	Medieval (M	Rather few remains but	P1	20

		12th to M 13th) pit	astonishing preservation; perhaps stable manure; worth recording for the opportunity to study material in this state of preservation. 3 hours to sort****		(+180 for ****)
320	38	Medieval (M 12th to M 13th) pit	Remains well-decayed and rather few, but may be faecal and probably worth recording if time	P2	30
219	18	Medieval (L 12th) ?	Small insect group, aquatic and 'outdoor' terrestrial forms; useful as example of one extreme of the range of variation in this material	P1	40
Totals to record				P1 P2 P3	16.5 hours + 24 hours for ** +3 hours for **** 0.8 hours 0.6 hours
Waterside North (trial excavation) (WN87)					
30	4	Medieval (11th to 13th) pit	Unusual group: a few beetles of uncertain origin and several specimens of a ciid, ?ancient or from modern timber on site	P2	60
Total to record				P2	1 hour
Woolworth's Basement (WO89)					
535	19	Roman (M 3rd) dump	Only part examined (huge flot) but may have originated in a building. A modest-sized but interpretable group probably present	P1 record additional for sorting*	 40 120 tech
569	29	Roman (M 3rd) dump	Described: NFA	-	-
570	30	Roman (M 3rd) dump	Small mixed group from human occupation and natural/seminatural habitats, including water. Some	P2	20

			unusual taxa for these sites		
571	31	Roman (M 3rd) dump	Smallish group but probably interpretatively useful; may be dumping into water. Easy to record; should be at lest rapid scanned. One freshwater snail.	$P1^-$	20
572	32	Roman (M 3rd) dump	A few remains; quick to record but unlikely to give much information	$P2^-$	10
568	27	Roman (L 4th) road	Modest-sized group, some aquatic and waterside taxa, some terrestrial ones; not much evidence of dumping of foul matter. Some unusual taxa for space/time records.	P2 to records all P1 to record unusual taxa	100 60
504	11	Saxon (EM 10th) dump	Numerous unfamiliar insect remains, probably aquatic immature. Few adults. Quick to record but of little value	P3 beetles	5
543	15	Saxon (EM 10th) dump	Aquatics, waterside taxa, decomposers, some probable occupation site taxa. Some unusual taxa require recording. Heath/moor component present!	$P1^+$	100
543	23	ditto	Described: NFA	-	-
526	10	Saxon (EM 10th to L 10th/E 11th) latrine pit	Exceptionally good preservation. Needs to be sorted carefully for the unusual. Medium sized beetle group, decomposers and species from natural/seminatural habitats including water Fly puparia ideally should be recorded; at least one ked present	$P1^+$ beetles etc fly puparia**	 90 8 hours tech 2 hours RF
526	18	ditto	Described: NFA	-	-
526	20	ditto	Described: NFA	-	-
533	24	Saxon/Medieval (ML 10th) pit	Well preserved group of modest size, possibly stable manure. Some larvae require identification.	$P1^-$ main assemblage beetle	 50

				larvae	30
533	26	ditto	Very few remains; no interpretative value, little use for space/time records	P3	15
Totals to record				P1 P2 P3	6.5 hours +2 hours for * +10 hours for ** 1.2 hours 0.3 hours

Table 3. Records of marine molluscs. SN - sample number; S type - sample type; P - priority; nwr - not worth recording; res - residue.

Site code	Context	SN	S type	Comments	P
WNW88	310		BS res	Mostly stone, but includes some frags of marine shell	P3
WNW88	310		BS res	Few marine shell frags. nwr	P3
WNW88	329		BS res	Large samples, marine shell worth recording	P1
WNW88	332		BS res	Large samples, marine shell worth recording	P1
WNW88	407		BS res	Mostly stone, but includes some frags of marine shell	P3
WNW88	407	33	Flot	-	P0
WNW88	414		BS res	Mostly stone, but includes some frags of marine shell	P3
WNW88	414		BS res	Some marine shell, perhaps worth recording	P2
WNW88	424	32	Flot	-	P0
WNW88	425		BS res	Marine shell worth recording	P1
WNW88	425	24	Flot	-	P0
WNW88	426		BS res	Marine shell worth recording	P1
WNW88	1029	63	BS res	Very rich in marine shell fragments	P1
WNW88	219-314		Bs res	Mostly small assemblages of marine shell fragments and some rare freshwater species	P2
WNW88	401-424		Bs res	Some assemblages with marine shell - not very large samples	P3
WNW88	441-476		Bs res	Some assemblages with marine shell - not very large samples	P3
WNW88	1006-1029		Bs res	Mostly small fragmentary assemblages of marine shell	P3
WF89	633-693		Bs res	Fragmentary assemblage, occasional marine molluscs, nwr	P3
WF89	723-747		Bs res	Mostly fragments of marine molluscs; 725 also has a few landsnails, probably nwr	P3

WF89	749-761		Bs res	Several recordable assemblages of marine shell	P1
WF89	699-721		Bs res	Some assemblages with enough marine molluscs to be worth recording?	P2
WO89	507		BS res	nwr	P3
WO89	510		u/s BS res	nwr	P3
WO89	513		u/s BS res	nwr	P3
WO89	533			Record marine shell	P1
WO89	569		u/s BS res	nwr	P3
WO89	569	25		Oysters	P1
WO89	570		u/s BS res	nwr	P3
WO89	501-519		BS res	Marine shell includes some recordable fragmentary assemblages	P1
WO89	525-543		BS res	Fragments of marine shell present	P3
WO89	569-572		BS res	Mostly small assemblages of marine shell fragments, perhaps worth recording some	P2

Statement of potential and implications for further work

1. Parasite eggs: all sites

The survey showed parasite eggs to be present. Most were *Trichuris* and *Ascaris*, but a single *Capillaria*, much more unusual in archaeological deposits, was found. High concentrations of eggs of worms parasitic in humans are generally taken as an indicator of the degree of contamination by human faeces, on the assumption (correct or not) that most individuals probably carried infestations. Remains of *Trichuris* and *Ascaris*, when recorded in the relative amounts observed at the present sites, suggest that human faeces were incorporated into deposits; this can be confirmed by specific identification of the *Trichuris* eggs. The *Capillaria* egg was probably from a species associated with dogs, but further investigation would be necessary to establish its identity and the concentration of eggs in the sample (although this would be time-consuming and a satisfactory conclusion could not be guaranteed).

Recommendations: A sample of *Trichuris* eggs from each context where there was material with polar plugs present should be measured to provide a statistically useful set of measurements so as to confirm their identity. Further material should be processed in order to determine whether *Capillaria* was present in significant numbers in the sample from which a single specimen was recovered; if so, an attempt should be made to identify the material more closely. Some P2 samples might usefully be re-examined to determine the concentration of eggs in them more clearly, and replicate squashes of some of the P1 and perhaps P2 samples should be made to allow the degree of evenness of distribution of eggs to be estimated.

2. Insects

All the major sites produced assemblages of insects with clear potential in identifying the nature of material contributing to individual contexts, and in clarifying the depositional regime. This information will obviously have implications for activities at the source(s) of dumped material and in gaining a general view of the sites as a whole. Many of the assemblages are also of considerable interest at a higher level, providing information which it will be possible to integrate with that from various other sites to work towards generalisations concerning periods and activity types. This is true of material of Roman, Saxon and Medieval date.

(a) Waterside Foreshore

Most of the samples gave few remains (if any), and few of the assemblages were regarded as of much importance. Three groups allocated P1 would undoubtedly be of value in interpretation at the context and site level, and the information from them would be useful at the level of broader synthesis.

(b) Waterside North West

There were several large insect groups and a large proportion of the samples were designated as P1. The groups allocated P1 would be of value in interpretation at the context and site level, and the information from them would be useful at the level of broader synthesis. One sample included some bug remains which require close

identification, and another included a variety of remains (including lice) deserving special attention. The fly puparia would probably repay the time required for identification with more detailed information concerning the nature and origin of the organic component of the deposits in which they occurred. Additional time from an external consultant would be required for assistance with the fly puparia from this site and Woolworth's Basement.

(c) Waterfront North (trial excavation)

The single sample had little potential, although the identity of the ?ciid beetle should be ascertained, as should the likely age of the remains (i.e. are they modern contaminants?).

(d) Woolworth's Basement

About half of the assemblages were regarded as P1, and the groups were varied, ranging from essentially natural fauna to communities from material which may well have been stable manure. These groups would give useful information concerning the origin of dumped material and the conditions under which the deposits formed (context and site level), and the material as a whole is valuable at the level of wider synthesis. One sample gave a large group of fly puparia requiring special attention, and another included beetles which appeared to originate in heathland/bog/moor habitats, requiring particular care in identification.

Recommendations: For each site, at least the material designated P1 should be recorded; the additional time required for recording lower priority groups is small, and it would be appropriate to record all of the material. The larger groups of fly puparia should be identified.

(3) Molluscs: all sites

Terrestrial and freshwater mollusc remains were remarkably rare, perhaps as a result of the formation of most the deposits by dumping behind a waterfront. They have only very limited potential in ecological reconstruction at these sites.

Marine molluscs from the BS residues, all presumably food remains, included some groups which should be identified and measured.

Recommendations: No further work on the terrestrial and freshwater snails already examined is recommended; a small contingency should be allowed in case useful assemblages should be recovered from any other subsamples. Marine molluscs from the BS residues should be identified and measured.

Summary of time estimates

Table 4. Estimated contact times required for all stages of work on parasites and macro-invertebrates (principally insects and marine molluscs). The recording times are derived from Table 1-3 with the addition of a component for associated peripheral tasks.

Material	**Task**	**Staff**	**Contact time (rounded *days*)**	**[Cost]**
Parasite eggs: all sites				
P1	Record and measure	tech	2	
	contingency	tech RF	2 1	
P2+P3	Record	tech	1	
	Data processing and technical report preparation	tech RF	3 1	
Insects etc: all sites				
P1	Sorting	tech	1	
	General recording	RF tech	2 3	
	Fly puparia	tech RF	4 1	
P2+P3	General recording	RF Tech	1 1	
	Identify ?crustacean	RF +Tech	1	
	Data processing and technical report preparation	RF Tech	7 7	
	OR for P1 only: Data processing and technical report preparation	RF Tech	7 6	

	Contingency (e.g to allow processing of additional material for insect remains)	RF Tech	1 1	
Molluscs: all sites				
All	Record and report	RF Tech	2 5	
Contin-ge ncy	For unpredicted terrestrial and freshwater groups	RF	2	
Preparation of publication report				
		RF Tech	5 5	

Estimated duration of project

The critical path will be *technician*, with 42 days (8.4 weeks) contact time plus earned leave of 1.1 weeks. The maximum reasonable effort will be 50%, giving a project duration of 18 (16.8 + 1.1) weeks

Consumables

Item	**Cost**
10 x 10 l plastic tubs for bulk storage of vouchers, flots and residues	
laboratory alcohol	
glass specimen tubs	
Computer consumables (nominal)	
Miscellaneous (nominal)	
Total	

Archive

The flots and paper records made during assessment are retained in the EAU.

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