Lincoln Eastern Bypass (LEB 03):
Report on timbers 1690 and 1691, Trench 143
by Maisie Taylor

1690 oak, roundwood - L. 1250mm, D. 110mm; has some sapwood near the point

1691 oak, roundwood - L. 1270mm, D. 120mm; is obscured by mineral salts and iron pan, but probably does not have any sapwood near the tip.

Both timbers are heavily charred to a depth of 4mm. The charring is most unusual.

Both have been shaped with a wide flattish, probably iron blade. Both are trimmed from all directions to a long tapering point and there is some suggestion that the original stem was curved. The long slender point compensating for the curve of a coppice stem has been seen mainly on Iron Age posts including the recent material removed from Fiskerton, and on vertical timbers from the Eton Boating Lakes. It was also seen on (possibly) Anglo-Saxon vertical timbers at Ickleton, Cambs.

Topographic and auger survey of the northern floodplain of the River Witham, Lincoln Eastern Bypass, Greetwell

Introduction

The recognition of a buried soil horizon or palaeosol in Trench 144 during the evaluation excavation in which flints of late mesolithic date were recovered indicated the survival of a relatively intact ground surface of prehistoric date below an overburden of later organic silts and sands. This palaeosol was particularly recognised in Trenches 144 and 152 which lay on the slightly raised ground of a natural river levee. Because of the potential archaeological importance of this horizon on the levee an auger survey was commissioned of the area within the road corridor in order to map the extent of this palaeosol and its potential archaeology.

A 10 metre grid was laid out across the archaeologically sensitive area (see Fig. 1) and a borehole placed at each centre. The survey was conducted using a 25mm diameter gouge auger 1 metre in length, with the deposits being generally classified to topsoil, silts, organic silts, sands, organic muds and peats, and a palaeosol. The site lies on fluvio-glacial sands and the palaeosol was recognised as a layer with a distinct colouration overlying the buff and yellow sands of the lower soil horizons. In conjunction with the auger survey a topographic survey was undertaken of the modern ground surface using a GPS in the southern half of fields D1, D2 and D3. The results of this survey are plotted with a contour interval of 0.1m in Figure 1.

Contour Survey

The topographic survey clarifies two major features that were observed on the ground during the evaluation. The bank or raised ground feature just north of the present River Witham interpreted as natural river levee, and a channel at the western end of the site interpreted as an ancient palaeochannel of the River Witham (Rackham, August 2003).

The survey shows that the land immediately north of the River Witham at the crossing point of the proposed bypass lies between 1.8 and 4.3m OD, the highest point lying between the north delph and the river approximately 150m east of the crossing point. The levee runs at a slight angle to the present day river, its high point crossing the north delph immediately east of the road corridor. To the north in Fields D1 and D2 the land surface drops to 2.5m OD forming a low lying floodplain behind the levee.

Between Fields D2 and D3 there is a marked drop in elevation that runs parallel to the field drain separating them. This is most marked at the southern end where the ground level drops from 3.31m to 2.32 over 10 metres. This drop although less marked to the north is observable in Fig 1 running parallel with the field edge for 100m north of the delph. The evaluation excavations in trenches 152 and 153 showed that this drop marked the edge of an old river channel (Rackham *et al* 2004), 152 picking up the edge of the channel cut and 153 the organic mud and peat filled margin.

The contour survey suggests that the northern bank of the river begins to turn westwards a hundred metres north of the delph and it can be followed on the ground as a slight rise for several hundred metres upstream towards Lincoln.

While it is conjecture it may be worth noting that one or both of the high points on the levee between the river and the north delph could be barrows. Several of the Bronze Age barrows

in the valley of the Witham downstream from Lincoln appear to be located on the levees of the old river course, and this site constitutes just such a situation.

Auger survey

The auger survey was originally intended to plot the distribution of a freshwater mussel shell rich layer initially interpreted as a potential shell midden site. However the assessment of the samples and data collected from the evaluation trench in which this deposit was recognised has led to a re-interpretation of the deposit as primarily of natural origin (Rackham *et al* 2004). The auger survey was therefore extended to plot the distribution of the buried soil horizon or palaeosol over the levee area of the site where it lies within the road corridor. Since the primary objective was to produce a model of this palaeosol (Fig. 2) and its survival the overlying sediments were broadly classified in order to illustrate the character of the deposits and allow the reconstruction of generalised sections across the site (Figs 3-5), rather than described in detail.

A contour plot of the surface of the palaeosol and underlying sands, the latter where the buried soil was not specifically recognised or had been truncated, was produced from the auger results (Fig. 2). This is not a true topographical plot of the old ground surface, but only an approximation. This is for a number of reasons. Firstly as Macphail (Rackham *et al* 2004) has indicated there is evidence that the palaeosol has been truncated in antiquity. Secondly on the low ground behind the levee it appears to have been truncated by possible channel scour, ploughing and soil processes. Thirdly it appears to have been cut by the northward migration of the river channel during the Bronze Age, a cut that was clearly visible in evaluation Trench 152. This surface therefore marks the archaeologically important level rather than the true buried ground surface.

The plot (Fig. 2) shows two main elements to the surface. The high point of the palaeosol lies at 2.877m OD in the south west corner of field D2, where it is buried by 0.8m of sands, compacted silts and sandy silt topsoil. In this area some of the overburden, particularly the silts, may well be of recent origin, deriving from material dumped by machine during cleaning of the north delph. While the levee is still evident along the southern margin of the fields it appears to have been less marked than the modern topography, rising no more than 0.7m above the floodplain to the north. In contrast the edge of the river bank on the west side of the site shows a much more dramatic fall in level compared to the modern topography, with the sands underlying later sediments falling nearly two metres across the 10 metres between the two western auger transects. In this area the palaeosol has either been removed by the channel or never existed.

The broad sequence of deposits revealed during the auger survey is illustrated by the three reconstructed section drawings (figs. 3-5). The east west profile across the southern end of the site, the main levee area, shows the following sequence. The palaeosol was recognised in most of the boreholes on the raised levee (Fig. 3) buried beneath fairly clean buff or iron rich yellow sands on the higher ground and humified organic silts or peats on the lower areas. In the section presented in Fig. 3 only the far western auger did not produce evidence for the palaeosol and this because it lay within the river channel. Overlying the palaeosol on the high ground, the buff and yellow sands also appeared to have developed a palaeosol on their surface. Two tentative explanations are offered for this. Firstly this sand deposit may represent continued natural accretion of the levee burying the earlier palaeosol. Alternatively it could reflect the mounded sand of a barrow. In Fig. 3 the deposits were recorded in three consecutive boreholes, ie over at least 30 metres, but not seen in the subsequent augers on

either side. The centre of this raised sand deposit lies immediately above the letter D in Fig 2, but the contour plot is not particularly suggestive of a barrow. On either side of the raised levee peats and organic silts were deposited. On the western side these lie in an old channel of the River Witham (Fig. 4), but on the eastern side they represent the development of wet conditions and marsh and carr environments. Although the peats on this side are shown overlapping the sand described above, this stratigraphic relationship was not observed in this series of boreholes. In a borehole north of these there was a thin humified organic horizon beneath sands upon which a possible palaeosol had developed, but with clear evidence for washed sands in several boreholes (Fig. 3) and the difficulty of classifying these sands on the basis of a 25mm core, the relationship of the organic horizons and sands cannot be extrapolated between boreholes. Washed sands clearly overlie the organic deposits both within the channel and on the eastern side of the site.

Overlying these sediments is a horizon of humified slightly organic silts and silts. These deposits are so dessicated that it is difficult to establish from the core how organic they originally were but the presence of a much larger clay fraction suggests that some of these may include material deposited during overbank flood events at a period when the area was not so marshy. As has been noted above where these silts lie on the highest part of the levee adjacent to the delph they may derive from cleaning of the delph. A thin alluvial clay lens overlying the peats in the borehole at point A was the only true clay recorded. Washed sands overly the silts on the eastern side of the site, almost certainly the result of downslope movement of sands from the levee or perhaps a barrow. The ploughsoil over the whole sequence varies from 0.2 to 0.4m in thickness and its composition changes across the area augered. On the eastern half of the site, particularly on the levee the topsoil is a silty sand, while in the western and northern parts the soil becomes much siltier and in places has very little sand.

Organic sediments and silts are lacking on the western half of the northern side of the levee (Figs 2 and 5). It may be that they have been lost through dessication and shrinkage and incorporation into the ploughsoil. They occur in only the northernmost borehole along the bank of the old channel, where the deposits are very shallow and the palaeosol was not recognised in the holes in the central part of this transect. In this area of the site it is likely that the archaeologically rich palaeosol has been incorporated into the modern ploughsoil or removed by the river.

The shell rich horizon that originally prompted this survey was not specifically targetted but it was recognised in twelve boreholes, all located on the western side around trenches 152 and 144 and immediately south of the latter.

Conclusions

The results of the survey indicate that the archaeologically rich palaeosol recognised in evaluation trenches 144 and 152 extends over most of the southern 40 metres of field D2 and the eastern 10-15 metre margin of field D3. It has been protected by the deposition of later sediments over much of this area, although it may have been disturbed by later prehistoric and recent agricultural activity. The levee visible today overlies a much earlier, but less pronounced levee, that appears to have been the focus of late Mesolithic activity, but the eastern part of this site has probably been removed by the northward migration of the River Witham in the Bronze Age (see Rackham *et al* 2004). Where the overburden of later sediments thins on the floodplain behind the levee the palaeosol is likely to have been incorporated into the modern ploughsoil and the *in situ* archaeological evidence may be

limited to negative features. The bank of the river and its margins may have been a focus for the late neolithic/early Bronze Age activity testified by the flints of this date recorded (Rylatt, pers. comm.) and the eastern margin of field D3 where it lies within the road corridor should be investigated. Further Bronze Age activity may be represented by barrow construction on the top of the levee on the eastern side of the easement or further east.

This site constitutes a well protected and relatively undisturbed late mesolithic site which may extend to up to 3000 square metres or more within the road corridor, although the focus is likely to be more concentrated. Evidence for Bronze Age activity may equally be found over the same area, but later archaeological evidence is likely to be limited. The river margin and bank along the west side of the easement is a potential resource for waterlogged cultural material of the Bronze Age and occupation debris.

Bibilography

Rackham, D.J. 2003 Lincoln Eastern Bypass. Auger Survey. 19th August 2003. Unpublished report for PCA, Lincoln.

Rackham, J., Gale, R., Macphail, R. and Crowther, J. 2004 Lincoln Eastern Bypass – LEB03 Environmental Archaeology Assessment. Unpublished report for PCA, Lincoln.

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The Environmental Archaeology Consultancy and Landscape Research Centre Ltd
5th February, 2004

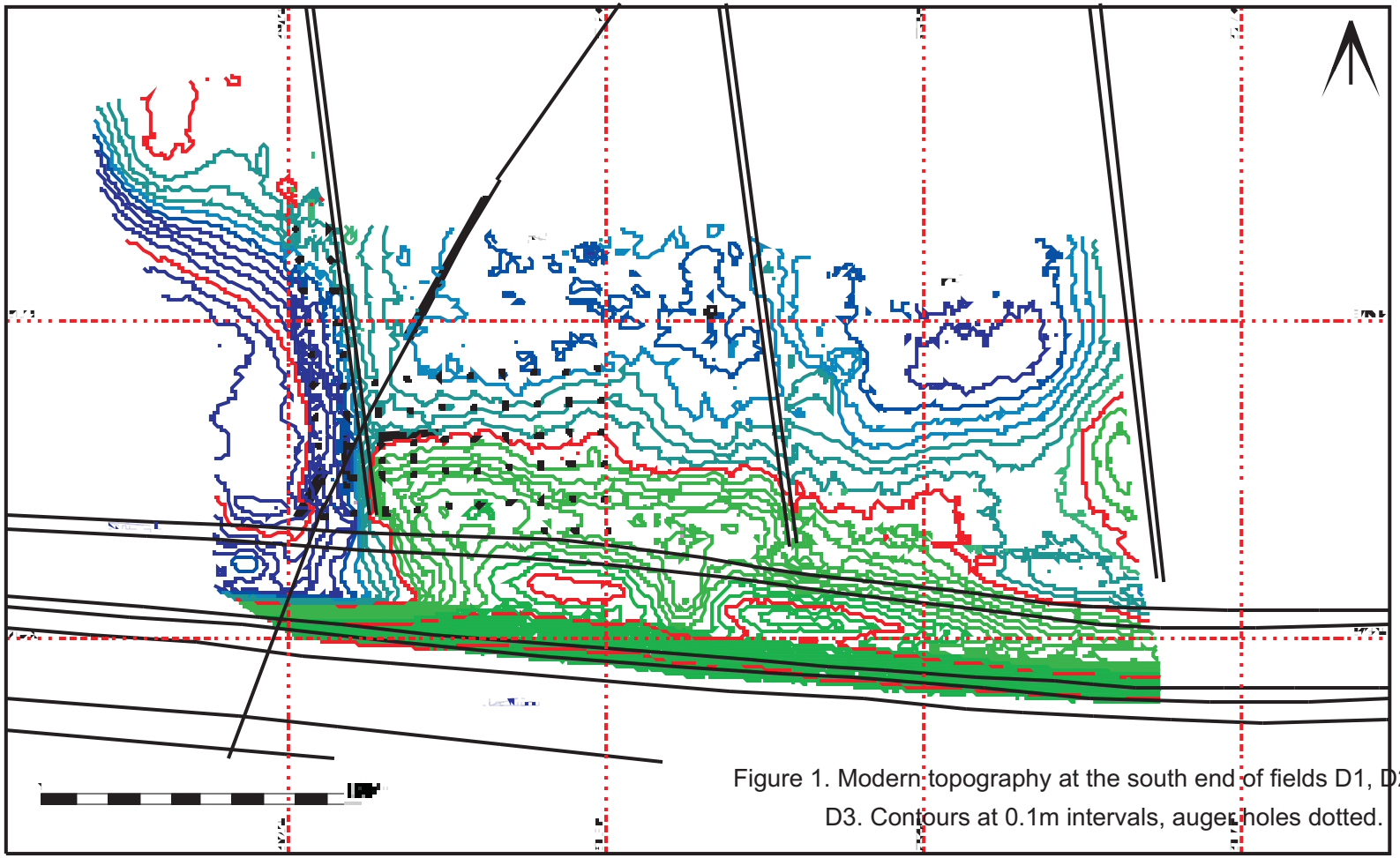


Figure 1. Modern topography at the south end of fields D1, D2 and D3. Contours at 0.1m intervals, auger holes dotted.

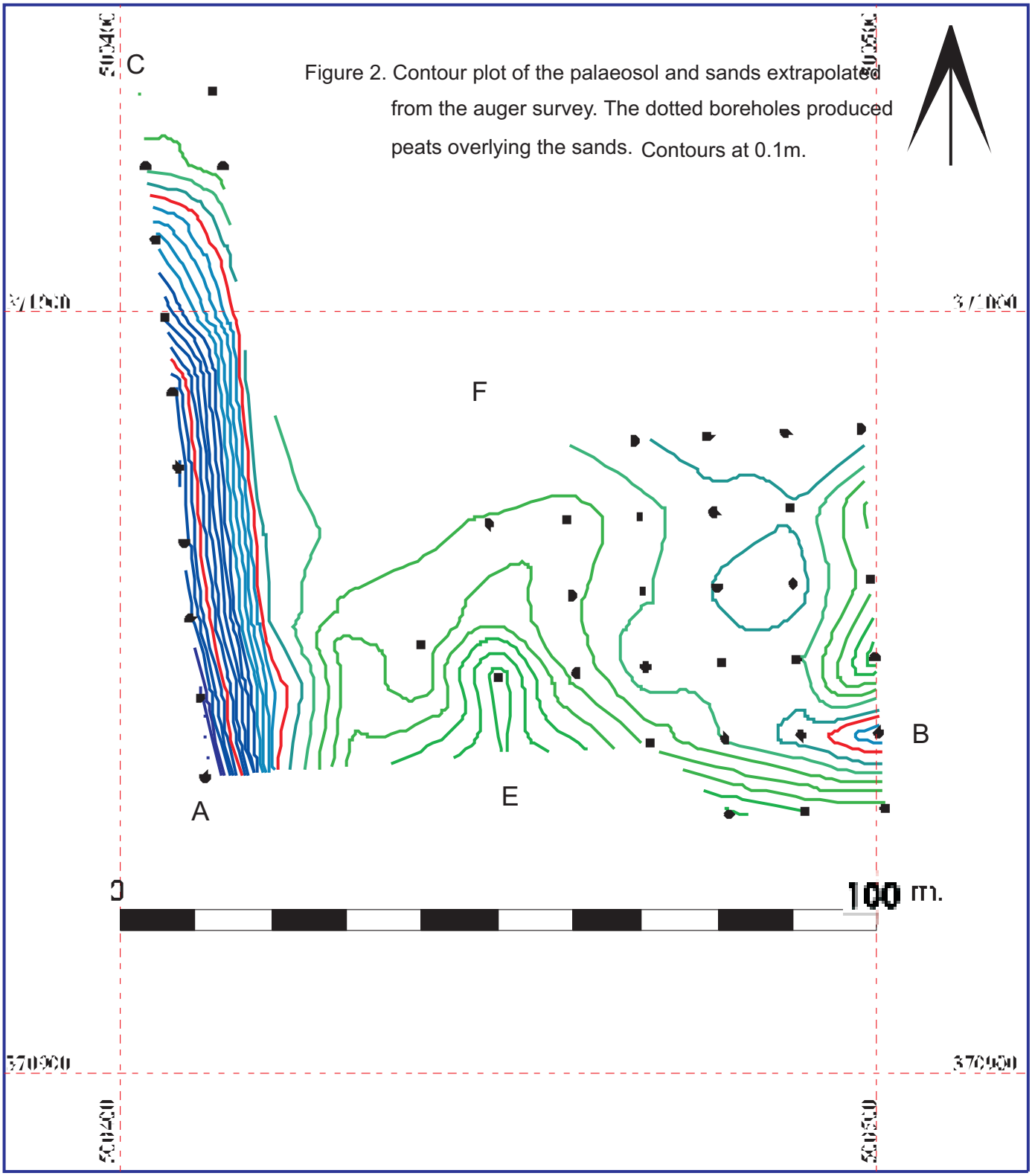


Figure 2. Contour plot of the palaeosol and sands extrapolated from the auger survey. The dotted boreholes produced peats overlying the sands. Contours at 0.1m.

Figure 3. Reconstructed section of the deposits between points A and B (see Fig. 2)

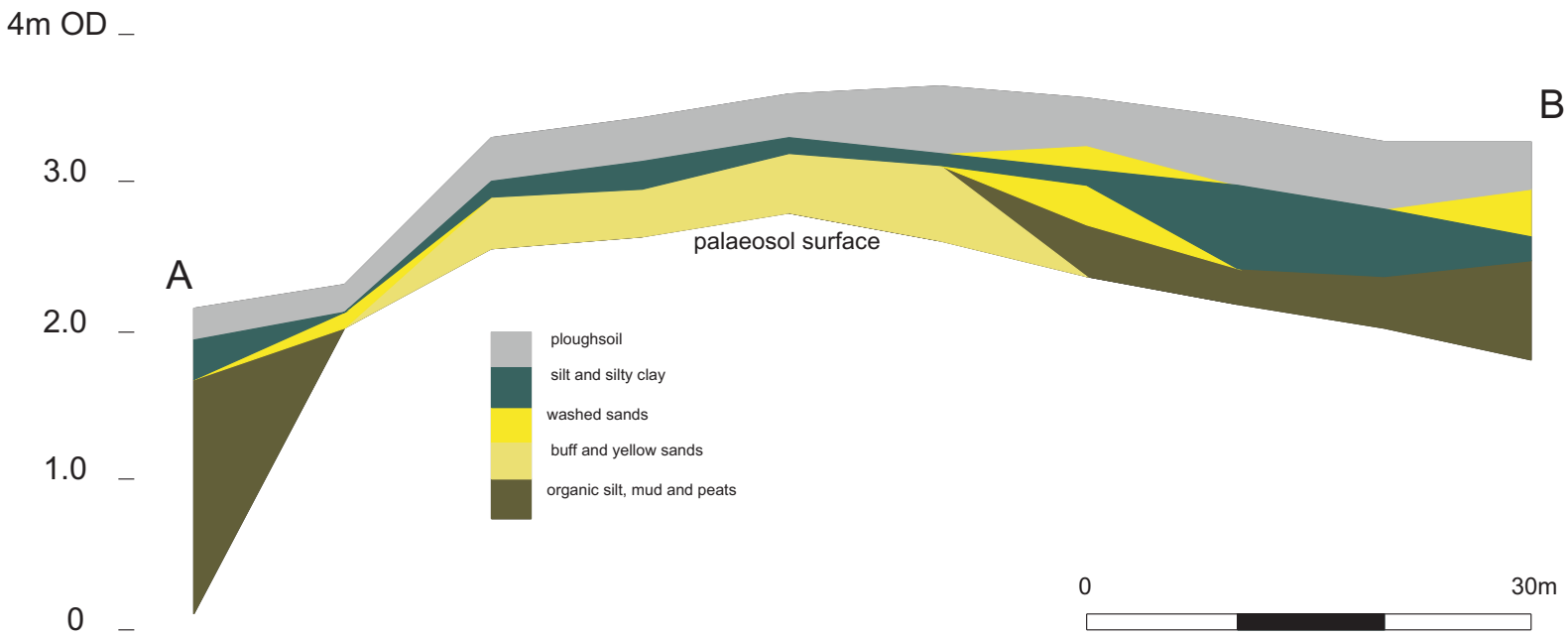


Figure 4. Reconstructed section of the deposits between points A and C (see Fig. 2)

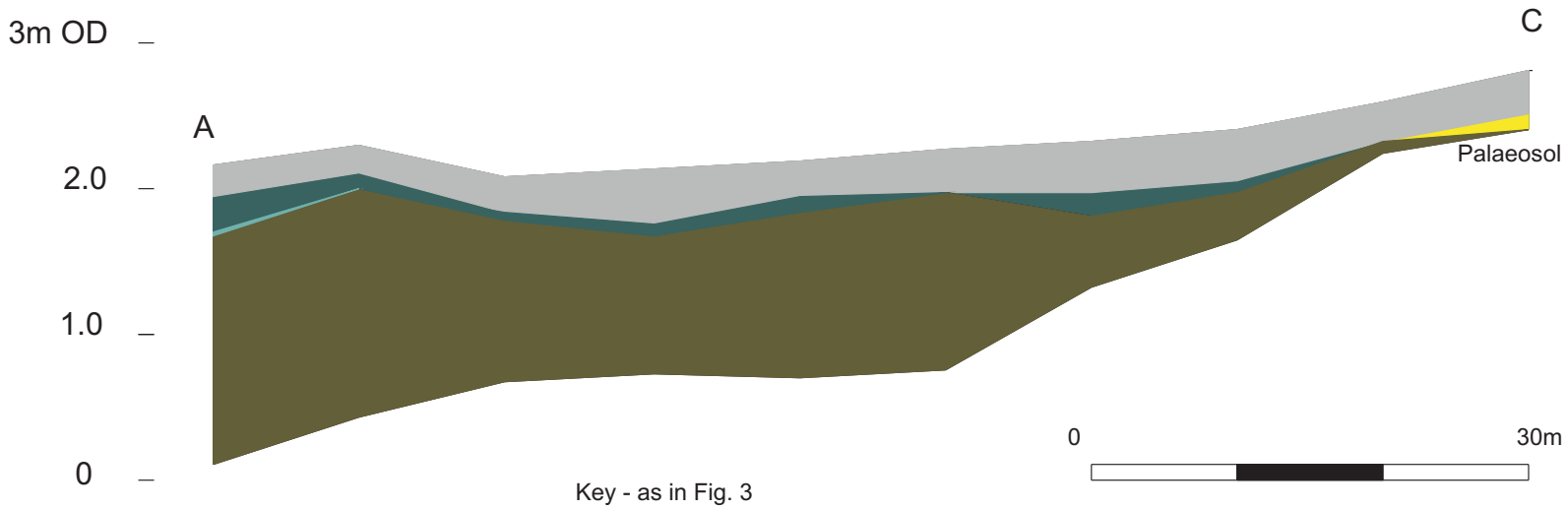
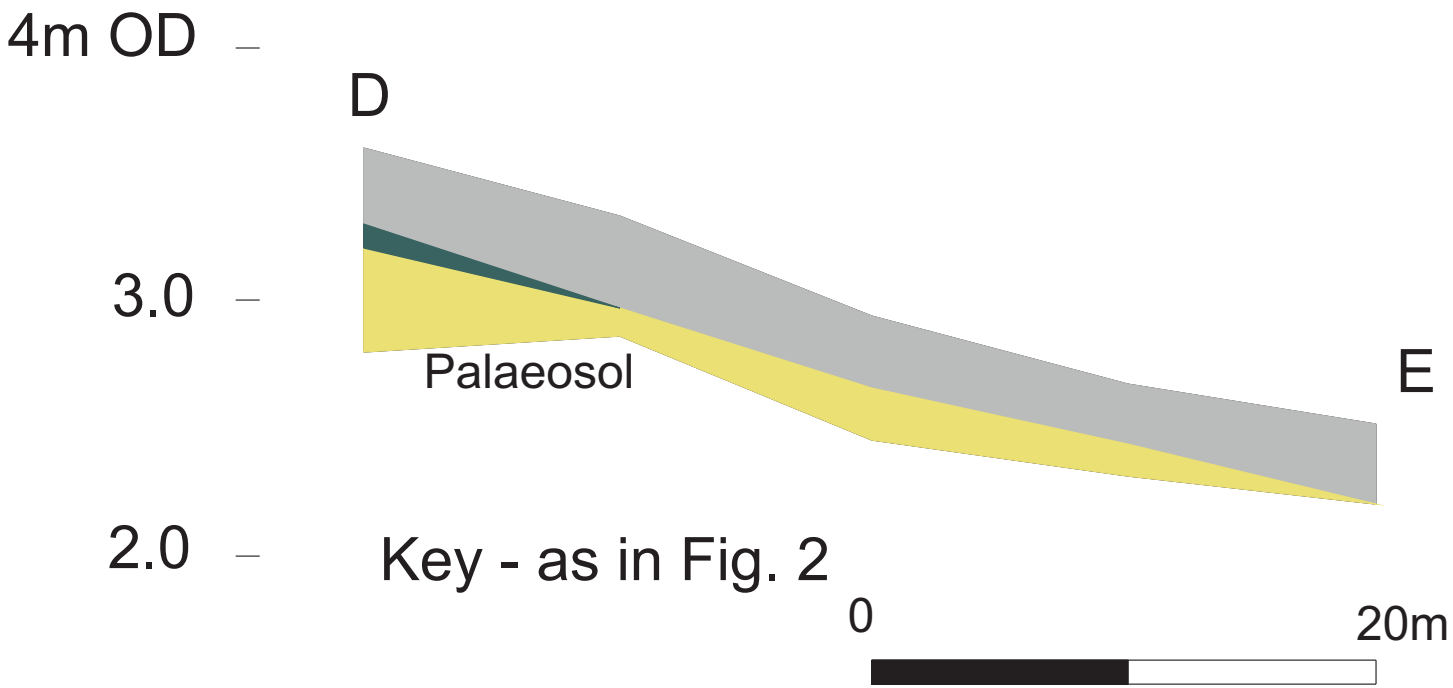


Figure 5, Reconstructed section between points D and E (see Fig. 2)



Lincoln Eastern Bypass – LEB03

Environmental Archaeology Assessment

Pre-Construct Archaeology carried out an archaeological evaluation of the proposed route of the Lincoln Eastern Bypass. This involved a series of evaluation trenches along the route from which a number of samples were collected for environmental assessment. Nineteen samples were collected from twelve of the evaluation trenches (Table 1) and a total of 399 bone and shell fragments from eight of the trenches. The samples and animal bones were submitted to the Environmental Archaeology Consultancy for processing and assessement. Dr Richard Macphail visited the site to comment on the soils and deposits on the valley floor on the north side of the River Witham and subsequently studied samples and submitted a report which is included here. A series of samples were also taken for radiocarbon dating from the archaeological trenches on the north bank of the River Witham. These are reported below in Table 7.

Table 1: Lincoln Eastern Bypass. Samples taken for environmental analysis

Trench	sample no.	context no.	sample volume (l)	sample wt kg	feature	date
38	1	1101B	10	10.5	Fill of ditch 1102	medieval
15	2	1275B	8	8	Fill of ditch 1274	
16	3	1193	10	10.5	Fill of ditch 1194	
17	4	1284	11	11.5	Fill of ditch 1285	
44	1	1413	10	12	Fill of construction trench 1411	
60	2	1505	9	10	Middle fill of large pit 1500	
55	3	1494	19	22.5	Fill of curvilinear ditch 1493	
139	1	1616	10	12	Fill of pit 1615	
141	2	1628	11	9	Dessicated peat horizon	Late Bronze Age
144	3	1700	9.5	12	Deflated organic river deposit full of freshwater mussels and bark	Bronze Age
144	4	1754	10	13	Primary fill of ditch/pit 1714	late mesolithic
152	5	1778	10	14	Buried soil layer -bottom 15 cm	Neolithic/mesolithic
152	6	1778	10	14	Buried soil layer -top 15 cm	Neolithic/mesolithic
144	7	1701	3	3	Deflated organic river deposit full of freshwater mussels	Bronze Age
144	8	1700	3.2	3.7	Deflated organic river deposit full of freshwater mussels and bark	Bronze Age
152	9	1774	6	4.2	Degraded silty peat with numerous freshwater mussel shell	Late Bronze Age?
144	10	1736	4	2.75	Dessicated shell rich silty peat	
115	1	2025	7	12	Primary fill of ditch 2019	
115	2	2015	8	11	Fill of ditch 2000	

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet sieve of 1mm mesh for the residue. Samples with waterlogged material were processed on a 0.5mm mesh and floated onto a 0.3mm mesh. Both residue and flot were dried, unless waterlogged, and the residue subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flot was measured and the volume and weight of the residue recorded. The waterlogged flots and residues were kept wet or damp, respectively, and volume estimated damp.

The residues were sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheets and bagged independently. A magnet was run through the residue in order to recover magnetised material such as hammerscale and prill. The residue

was then discarded from most samples, but organic residues were retained. The flot was studied using x10 magnifications and the presence of environmental finds (i.e. snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. Only a sub-sample of the large organic flots and residues were scanned and the abundance of material estimated for the whole sample. The flots were then bagged and along with the finds from the sorted residue, and the retained residues, constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2 - 4.

The hand collected bones have been identified and recorded following the procedures of the Environmental Archaeology Consultancy (see attached Key) and the catalogue is attached to this report (Appendix 2). Several pieces of bone had been fragmented, either in the ground or during excavation and subsequent washing, and these are recorded as a single entry in the catalogue where recognised, as are the bones from the two partial skeletons recovered.

Results

There is a variable amount of contamination in the samples. Some include quite large quantities of recent rootlets, with a few seeds of elder (*Sambucus* sp.) and goosefoot/orache (*Chenopodium* sp.), insect larvae, earthworm egg cases, burrowing snails, and straw and chaff that might have been blowing around when the sample was taken. Others show little or no evidence of contamination.

Trench 15

A single sample, context 1275B, was collected from a ditch in Trench 15. The sample produced pottery, but the deposit is as yet undated, and fired earth, animal bone and hammerscale (Table 2). The latter indicates iron smithing was taking place in the vicinity of the trench. The presence of a few charred cereal grains, sheep bone and burnt bone (Table 3) indicates an input of domestic waste. The terrestrial snails (Table 4), although not abundant, are indicative of an open country/dry grassland habitat, with *Vallonia excentrica*, *Vertigo pygmaea* and *Pupilla muscorum*.

Trench 16

A single sample was collected from a ditch fill, context 1193, in this trench. The sample produced one sherd of pottery, a couple of grammes of fired earth and 5 flakes of hammerscale. The residue also included a fragment of oyster, bones of sheep/goat, frog/toad and a small bird. The flot included several charred cereal grains, among which wheat and barley are preliminarily identifed, with five pieces of chaff, some charred weed seeds and charcoal. The hammerscale indicates some iron-smithing near the site, while the other debris suggests domestic waste. The snails (Table 4) again suggest an open country/grassland habitat with *V.excentrica*, *P. muscorum*, *V. pygmaea* and *Helicella* sp..

Trench 17

One sample was collected from a ditch fill, context 1284, in this trench. A number of very degraded pottery fragments were recovered from the sample, along with a little animal bone and 3 flakes of hammerscale. The latter suggests some iron-smithing being undertaken somewhere in the vicinity. The flot produced small quantities of charcoal with three charred cereal grains, a single piece of chaff and several charred weed seeds. Wheat, barley, dock, cleaver and sheep/goat have been preliminarily identified among the assemblage. Terrestrial

Table 2: Lincoln Eastern Bypass. Finds from the processed samples

sample no.	context	sample volume (l)	residue volume (l)	pot no/wt (g)	flint no/wt	brick /tile (g)	fired earth (g)	mag. (g.)	ham'r-scale no.	fresh-water mussel shell (g)	bone (g)	comments
1	1101B	10	0.425			2	2	3	72		9	Fe nail x 1, Cu alloy x 2wire
2	1275b	8	0.35	3/6			15	2	15		42	
3	1193	10	1.2	1/2			2	1	5		26	
4	1284	11	1.1	27/14				<1	3		11	
1	1413	10	2.5					1				Heated stone and burnt shell fragments
2	1505	9	4.25					5	13			94g mortar?; 35g coal; burnt stone and burnt shell
3	1494	19	2	1/<1				2	3		4	1 glass splinter; 1 small piece slag
1	1616	10	1.3					3			<1	
2	1628	11	0.2									
3	1700	9.5	?		13/2					600	29	
4	1754	10	0.4		78/79							
5	1778	10	0.4		6/1							
6	1778	10	0.425		2/2					1		
7	1701	3										
8	1700	3.2	0.3		3/<1					129		
9	1774	6								82	54	
10	1736	4										
1	2025	7	#									
2	2015	8	#									

Hammerscale counts include both flake and spheroidal material.

samples accidentally mixed during processing so the residues were not sorted, only the floats recovered.

Table 3: Lincoln Eastern Bypass. Environmental finds from the processed samples

sample no.	context no.	sample vol (l)	dry flot vol. (ml)	wet flot vol (ml)	wood *	char-coal $	charred grain *	charred chaff *	charred seed *	water-logged seed *	insect *	fresh-water mussel shell *	fish bone *	snails *	comment
1	1101B	10	10			3/4	1		2				1		Wheat, barley, oat?, pea/bean, grass, frog/toad, field vole, house mouse, common shrew, bird, eel, other small fish
2	1275b	8	27			3/5	1		2					3	Indet grain, *Chara*, sheep/goat, burnt bone
3	1193	10	25			3/5	3	1	3			1		4	Wheat, barley, oyster, *Chara*, sheep/goat, fog/toad, small bird, burnt bone
4	1284	11	15			2/3	1	1	2					4	Wheat, *Rumex*, *Gallium*, *Chara*, sheep/goat, burnt bone
1	1413	10	5			-/1		1						4	*Chara*
2	1505	9	105			1/2			1					4	*Chara*, vole, wood mouse; most of flot is cinder
3	1494	19	10			2/3	1		1					4	Indet. grain, *Chara*, sheep/goat, frog/toad, newt, ostracods
1	1616	10	45	75		4/5				2	+			1	Burnt bone, degraded wood
2	1628	11		2000	5					5	5				
3	1700	9.5	10	75	5					3	2	5	2	5	*Pinus* type wood, *Unio pictorum*, *Unio tumidus*, *Chara*, red deer, fish teeth and scales, *Daphnia*, ostracods, lots of bark
4	1754	10	1	20		1/4			1		1				Hazelnut shell, *Chara*
5	1778	10	17	50	3	3/4			1?	2					Mineralised wood, *Rumex*, *Chenopodium*, *Chara*, ostracods
6	1778	10	20	35		1/4			1?	2	2	1		1	*Rumex*, *Polygonum*, *Chenopodium*, *Chara*, *Daphnia*, ostracods
7	1701	3	5	110	5	2/3				2	3	1			Partially mineralised wood, bark and twigs, *Rubus*, *Chara*, caddis larva cases
8	1700	3.2	15	150	4	2/3				2	2	4		5	Bark and degraded wood, alder, *Unio pictorum*, *Unio tumidus*, *Sambucus*, *Rubus*, *Chara*, caddis larval cases, fish teeth, scales and vertebrae, eel
9	1774	6		800	5	3/4				4	4	4	3	5	Degarded bark and wood, with some twigs, *Unio pictorum*, *Rumex*, *Chara*, red deer, frog/toad, small fish scales, teeth and bones, *Daphnia*, ostracods
10	1736	4		1200	4					4	3	+	5	5	Degraded wood and bark, *Juncus*, *Chara*, fish scales, fragmented freshwater mussel shell
1	2025#	7	2			-/1								4	
2	2015#	8	20											5	

as above in Table 2.

*frequency 1=1-10; 2=11-50; 3=51-150; 4=151-250; 5=>250

$ abundance of >2mm fraction/abundance of <2mm scored as above

snails are fairly abundant (Table 4) and include taxa typical of both open/country and woodland habitats.

Trench 26

No samples were collected from this trench but two bone fragments were recovered from contexts 1245 and 1247. Both fragments were very severely eroded and clearly indicate that animal bone has survived very poorly in this area. It is probable that much of the animal bone originally deposited in this area has been lost through leaching and sub-surface erosion. The fragment from 1245 has been identified as a cattle femur shaft. The fragment from 1247 is the base of a red deer antler with the bez tine. The antler is so etched and pitted that it is impossible to be certain as to whether it was shed or broken at the base.

Table 4. Molluscan taxa preliminarily identified in the samples

Context	1275	1193	1284	1413	1505	1494	1616	1700	1778	1774	1736	2025	2015
Abundance*	3	4	4	4	4	4	1	5	1	5	5	4	5
Catholic taxa													
Cecilioides acicula	++	+++	++	+++	+++	+++	+						+
Hygromia hispida	+	+	+	+	+*	+						+	++
Cochlicopa sp.			+	+								+	+
Limacidae (slug)		+				+							
Helix hortensis			+									+	+
Open country taxa													
Vallonia excentrica	+	+*	+	+	+*	+						+	+
Vallonia costata			+	+									+
Pupilla muscorum	+	+	+		+*	+						+	+
Vertigo pygmaea	+*	+*	+										
Vertigo sp.													+
Helicella sp.		+	+		+*	+							+
Woodland/shaded taxa													
Pomatia elegans													++
Aegopinella nitidula													+
Aegopinella pura												+	+
Nesovitrea hammonis						+							+
Oychilus cellarius			+		+							+	
Oychilus alliarus			+		++							+	
Oxychilus sp.				+									
Ena montana													+
Acanthinula sp.													+
Carychium sp.												+	++
Vitrea sp.												+	+
Clausilidae			+										
Vitrina sp.			+									+	
Discus rotundatus			+									+	+
Punctum pygmaeum			+										+
Damp ground or marsh													
Lymnaea truncatulata	+												
Freshwater taxa													
Unio pictorum								+++		+++	+		
Unio tumidus								+		?			
Valvata piscinalis								++	+	++	++		
Valvata cristata								+					
Bithynia tentaculata								+++	+	++	++		
Bithynia leachii								+		+	+		
Planorbis carinatus								+					
Planorbis planorbis								+		+			
Gyraulus albus								+					
Pisidium amnicum								+					
Pisidium spp.								++		+	++		

* abundance for whole assemblage scored as in Table 3.

Abundance of individual species crudely scroed + - 1-20; ++ 20-50; +++ >50

Trench 36
No samples were collected from this trench but two bone fragments were recovered from context 1024. Both have been identified as sheep/goat and include a tibia and a metatarsus. The end of the metatarsus has been gnawed indicating the presence of a dog or fox.

Trench 38
One sample was taken in Trench 38, from the fill, context 1101, of ditch 1102. The context is attributed to the medieval period. Finds from the sample included a few fragments of ceramic building material, fired earth, nine grammes of animal bone, an iron nail, two pieces of copper alloy and seventy two flakes and spheroids of hammerscale. The latter clearly indicates that iron-smithing was being undertaken nearby and shows the highest density of hammerscale in any of the bypass samples. The flot was small, with a little comminuted charcoal, a few charred cereal grains, a charred pea or bean, and several charred weed seeds. The preliminarily identified assemblage includes wheat, barley, oats?, pea/bean, grass seed, frog/toad, field mouse, house mouse, common shrew, bird, eel and other small fish. The presence of house mouse, eel bones and the charred cereal and pulse remains is clearly indicative of domestic rubbish entering the deposits, while the hammerscale is evidence for local industrial/craft activity. The densities are not high so it is probable that much of this material is secondarily derived from other deposits nearby.

This trench produced the largest assemblage of hand recovered animal bone (Table 5). A total of 224 recorded bone and shell fragments were recovered from fifteen contexts, of which 1065 was the richest.

Table 5. The hand excavated animal bone and shell from Trench 38 by context.

context	1000	1001	1003	1007	1063	1065	1066	1077	1078	1079	1101	1103	1105	1108	1114	1071	1064
date		pmed	med	med	med	med	med	med	med	med	med	med	med	med	med	AS-med?	R-B
Horse			3	1		6		1			1		1			1	
Cattle	1	7	11	5	2	29	1				12	2	7	2		2	1
Cattle size		1	7	1	2	31	2	1	1	1	9		6	2		1	1
Sheep/goat		1	1	1	1	3	2	1			1		2	1	3		
Sheep															1		
Sheep size					2	3	1				2		1				1
Pig				2	1	3					2		1	2			
Dog						1		1									
Rabbit	1	1		1													
Bird											1						
Unidentified						10											1
Oyster	2										1				1		
Helix aspersa	2																
Total	**6**	**10**	**22**	**11**	**8**	**86**	**6**	**4**	**1**	**1**	**29**	**2**	**18**	**7**	**5**	**4**	**4**

The bulk of the animal bone derives from layers assigned to the medieval period (Table 5). Cattle bones predominate in the assemblage with sheep and pig bones considerably less important. A relatively large number of horse bones suggest that the trench lay within or near an area where horses were disposed of. The presence of a partial skeleton of a rabbit in context 1001 suggests that the rabbit bones probably derive from animals that intruded into the deposits through burrowing. The condition of this assemblage is fairly good and there is

little indication that any bones will have been lost through erosion in the soil. The presence of eel and other small fish bones in the sample from 1101 does, nevertheless, suggest that hand collection will not recover the whole bone assemblage and soil sampling should be used to collect the smaller bones if further archaeological work is undertaken in this area. Several of the bones show evidence for butchery and a number have been gnawed by dogs.

The fragmentation of the assemblage is variable with several intact bones being recovered while others are broken up. Part of a calf skull and mandible were recovered from 1007, while the partial skeleton (31 fragments) of a medium sized dog was found in 1065.

The cattle bones include calves, immature and adult animals although no neonatal specimens are present. Only adult animals are represented among the few sheep bones recovered. The distal half of a wild bird tibia recovered from 1101 has not been taken to species for this report.

Trench 39
No soil samples were taken in this trench but a small assemblage of 24 animal bones were recovered by hand from two deposits, contexts 1043 and 1071. The latter may be an error in labelling since 1071 is a context recorded in Trench 38. The assemblage includes cattle and sheep bones (see Appendix 2), the former more abundant, and two rabbit bones which could quite possibly be intrusive.

Trench 40
No samples were collected from this trench but a small collection of ten animal bones was made during excavation from contexts 1046 and 1504. These included cattle, horse, sheep size, rabbit, frog or toad and crow or rook bones. The rabbit bones comes from a juvenile animal and may be intrusive.

Trench 41
No samples were collected from this trench but a small collection of thirty eight animal bones and shells were recovered by hand during excavation from contexts 1081, 1082 and 1083. 1081 and 1082 are dated to the medieval and 1083 to the Roman-British period. Cattle, sheep/goat and dog bones have been identified from the medieval deposits while, cattle, sheep/goat, pig, dog, oyster and a human tooth have been identified from Romano-British context 1083.

Trench 42
No samples were taken in this trench but a collection of ninety animal bone fragments were recovered by hand from contexts 1122, 1125, 1128, 1130, 1132, 1133, 1137 and 1214. These finds are summarised in Table 6.

Horse, cattle, sheep/goat, pig, dog, goose and oyster have been identified in the assemblage. Most of the assemblage derives from medieval context 1122 and is dominated by the bones of cattle, with a few relatively intact horse bones perhaps suggesting a disturbed horse burial. Few of the cattle bones indicate the ages of the animals represented but both immature and adult animals are present.

Table 6. The hand excavated animal bone and shell from Trench 42 by context.

context	1022A	1122	1128	1128A	1130	1130A	1133A	1133B	1125	1132	1137	1214	U/S
date	med pmed	med	med	med	med	med	med	med	R-B or med	R-B	R-B	Und.	
Horse		10	1					1	2				
Cattle	2	26	1	1	1	1	2	2				1	
Cattle size	1	10					2		1	4	1		
Sheep/goat	1	2						2	2			1	
Sheep size			1					1	1				
Pig		2						2	2				
Dog			1										
Goose	1												
Oyster													1
Total	**5**	**50**	**4**	**1**	**1**	**1**	**4**	**8**	**8**	**4**	**1**	**2**	**1**

Trench 44
A single sample was collected from the fill, context 1413, of a construction trench, 1411, in this trench. Very few finds were recovered from the sample whose residue was composed largely of heated or burnt limestone and burnt shell fragments. A very small flot (Table 3) included a little charcoal, a single piece of chaff, and a few uncharred seeds that are probably contaminants. A fairly large assemblage of terrestrial snails is dominated by *Cecilioides acicula*, a blind burrowing snail which may be intrusive in the deposit. The other snail taxa suggest a local open country/grassland habitat in the immediate vicinity.

Trench 55
A single sample from the fill, context 1494, of a curvilinear ditch, 1493, was taken in this trench. Finds were limited to a small piece of slag, a splinter of recent glass, four grammes of animal bone and three flakes of hammerscale. The small flot produced little cultural material, a little charcoal, three charred cereal grains and a few charred weeds seeds. The assemblage includes a tooth of sheep/goat and bones of newt and frog/toad. A few uncharred seeds including goosefoot/orache, bramble and poppy are probably contaminants. The snail assemblage (Table 4), while dominated by shells of *C. acicula*, has other taxa indicative of an open country/grassland habitat at the site.

Trench 60
A sample was collected from the middle fill, context 1505, in a large pit, 1500, in Trench 60. Finds included coal, mortar, burnt stone, burnt shell, 13 flakes and spheroids of hammerscale and a fairly large quantity of cinder in the flot. It is evident that the fuel being used was coal, which might imply a medieval or later date for the feature. The hammerscale suggests local smithing activity. The relatively large flot is dominated by cinder with only a little charcoal present and rare charred weed seeds. The only bones extracted were those of vole and wood mouse, although an abundant snail assemblage (Table 4) includes taxa of both open country and shaded or woodland habitats. Four of the snail taxa included burnt shells suggesting contemporary deposition and burning in the fires that generated the burnt stone and larger shell fragments.

Trench 115
Two samples were taken from ditches in Trench 115. Both ditches, 2019 and 2000, are undated. Unfortunately owing to an error during processing the residues of both samples were mixed for the second float and had to be discarded. In consequence only the first flots of each

sample were available for study. Both flots were largely composed of snail shells with almost no evidence for any human activity in the vicinity. The snail assemblages of both samples include a mixture of taxa characteristic of open country and woodland habitats, although those of shaded and woodland environments dominate. The snail *Pomatia elegans* is abundant in context 2015, and in two small assemblages collected by hand from contexts 2015 and 2020, the latter another fill of ditch 2019. This snail favours scrub, woods and sandhills on calcareous soils where the ground has been disturbed and loose soil occurs (Evans 1972). Evans (1972) associates it with clearance phases of woodland where the soil is disrupted and its occurrence with snails of both woodland and grassland habitats in these two ditches may be reflective of such a situation. A column of samples through the fills of these two ditches, which are over 1 metre deep, would be needed to investigate this hypothesis, but the ditches may be associated with a phase of clearance in the landscape.

Trench 139

One sample was collected from the fill, context 1616, of a pit, 1615, in Trench 139. This sample produced no finds other than a tiny fragment of burnt bone and some burnt sediment. This latter included some highly magnetic lumps of sandstone or concreted sands and what appears to be very small vesicular material that may be slag or naturally formed. The flots comprise both wet and dry material, the latter including abundant comminuted charcoal. The wet flot reflects the fact that the feature once contained well preserved peats that have now dessicated and degraded to such a degree that much of the organic matter is unrecognisable, although wood fragments are abundant. A few waterlogged seeds, of robust structure, and occasional insect fragments indicate the survival of a residue of the material originally present in the deposit. The only snails in the sediment are *C. acicula* and clearly intrusive. The finds give no clue as to the function of the pit.

Trench 141

A sample was taken from the basal peat, context 1628, immediately above the underlying sands (palaeosol) in this trench. This represents a naturally accumulated peat. The deposit is extremely dessicated and degraded and not surprisingly produced no finds. The whole of the flot/residue was organic in character with a very large degraded wood and bark component in which waterlogged seeds and insect fragments were abundant although not at a very great density. The poor preservation of the peat suggests that the surviving material is probably biassed towards the more robust seeds and insects. A piece of wood from the base of the peats was submitted for radiocarbon dating and has yielded a calibrated age of 1250-990 BC (Table 7).

Trench 144

Five samples were taken from layers and features revealed in this trench. A shell rich deposit, context 1700, originally thought to be a possible mussel shell midden, was sampled in two places; a second shell rich deposit, 1701, immediately below 1700, in a matrix of washed white and iron stained sand; a dessicated shelly organic silty peat horizon, 1736, slightly higher in the sequence than 1700; and the fill, 1754, of a small pit or ditch, 1714. The latter was cut through the underlying palaeosol represented by layer 1702.

The upper deposit in the sampled sequence, dessicated peat 1736, produced no finds. This is visible as a paler band below a dark humified peaty silt in Figure 1. The large wet organic flot which formed the total residue of the sample after washing contained abundant degraded wood and bark fragments, numerous waterlogged seeds and insect fragments, comminuted freshwater mussel shell, and numerous fish scales, freshwater mollusca and *Chara* sp.. The

rich organic silt that this deposit must have originally been has been so degraded that it has lost all structure. Much of the organic component has been humified and leached out, and the identifiable plant and insect components can be expected to be biassed in favour of the more robust elements of the original assemblage. Even the shells show a level of erosion. Although all finds occur at a relatively low density in total if the whole sample was carefully sorted the resulting sample size of identifiable plant, insect, snail and fish assemblages would be quite large. Preliminary identification of the mollusc shells is presented in Table 4. The assemblage is dominated by shells of *Valvata piscinalis*, *Bithynia tentaculata*, *Pisidium* sp. and fragments of the large bivalves *Unio* spp., probably *Unio pictorum*.

The shell rich deposit, 1700, appeared as if a 'dump' of shells several metres in extent (Fig. 1), and representing several thousand freshwater mussels. The bulk of these shells appear to be *Unio pictorum*, with a few shells of *Unio tumidus* among them. But most of the shell in the sample is fragmented and only represented by undiagnostic shell fragments, and specific determination requires the hinges and muscle scars, so only a few individual valves could be taken to species. In both samples taken from this layer a few flakes of flint were recovered (Table 2), and in sample 3 a fragment of the proximal shaft of a red deer tibia was present. Processing of the samples established that as well as the shells the deposit also included a large amount of degraded, weathered or waterworn bark, some of which has been identified as of *Pinus* type and Alder. A few fragments of limestone up to 20mm were also present. Both samples produced a wet organic flot in which degraded bark and wood was abundant, and seeds, insect fragments, bones, teeth and scales of fish and freshwater molluscs were common. Ostracods, *Daphnia* (water fleas) ephippia, *Chara* sp. (freshwater stonewort or algae) and caddis larval cases were also present. Although an eel vertebra was recorded only the freshwater molluscs have been preliminarily identified. These are noted in Table 4 and as with the degraded organic silt above the assemblage is dominated by shells of *V. piscinalis*, *B. tentaculata*, and *Pisidium* spp, with other less abundant taxa including *Bithynia leachii*, *Valvata cristata*, *Planorbis carinatus*, *Planorbis planorbis*, *Gyraulus albus* and *Pisidium amnicum*. Two samples from this deposit were submitted for radiocarbon dating. The red deer bone and a piece of bark. The calibrated results (at 2 sigma, Table 7) of 1360-1360 BC and 1320-970 BC for the bark (at 2 sigma) and 940-800 BC for the red deer bone indicate that the deposit is late Bronze Age in date.

The sample from the deposit immediately below, 1701, is very similar in character, although a marked absence of shells in this deposit suggests that it may be decalcified. The organic component in this deposit is more heavily mineralised, and its location immediately over the underlying buried sandy palaeosol may be a factor in both the loss of shells and thei mineralisation. Wood, bark and twigs, caddis larval cases, *Chara* sp. and seeds and insects are present in the deposit.

The fifth sample from this trench was taken from the fill, 1754, of a pit or ditch, 1714, cut through the underlying palaeosol (Fig. 2). The pit cut was not visible in the palaeosol and soil processes had obscured and truncated the physical evidence that the feature was cut from the surface. The palaeosol is extremely sandy (see below) and has not been conducive to the survival of organics or mollusc shells, although a small wet flot was recovered, but with very little identifiable material. Finds from the sample included abundant flint debris, a little charcoal and a fragment of charred hazelnut shell. The latter was submitted for a radiocarbon date and yielded a result of 7740-7580 calibrated BC (at 2 sigma – Table 7) indicating a late mesolithic date for the feature.

The interpretation of the sequence in this trench and the adjacent trenches is discussed below.

Figure 1. North facing section at the west end of Trench 144. The soil evaluation samples were taken from the section just this side of the tape.

Figure 2. The north facing section of Trench 144 showing feature 1714 and the hole from which the soil sample was taken. A hazelnut shell from this sample produced an early mesolithic radio-carbon date.

Trench 152
Three samples were taken in Trench 152 (see Fig. 3). Two of these were collected from different levels in the slightly mounded palaeosol, context 1778, which abuts the visible edge of the north bank of the River Witham. The third was taken from a degraded organic peaty silt horizon, 1774, stratigraphically above from which a flint blade was collected on site and fragmented freshwater mussel shells were present in numbers.

The two samples from 1778, a dark grey sandy palaeosol with visible charcoal flecks, produced a few flint flakes and a few fragments of freshwater mussel shell, but no other finds. Both samples produced a wet organic component as well as a dry flot, the lower of the two samples producing a higher proportion of organics and the survival of degraded partially mineralised wood. Charcoal was present in both samples, and possible charred seeds or spores. The upper sample from the top 5cm of the layer produced uncharred seeds, insects, *Daphnia* sp., *Chara*, ostracods and two snail taxa both of which were aquatic (Table 4). With the field interpretation that this deposit was a palaeosol and the presence of flints in the sample a single piece of charcoal was submitted for radiocarbon dating. The result gave a calibrated age of 2880-2580 BC indicating a neolithic date for the charcoal (Table 7).

Figure 3. The south end of the west facing section of Trench 152 showing the prehistoric palaeosol and its cutting by the river channel.
[The hole in the section in the foreground marks the position of the two samples from 1778, while the hole in the upper part of the section by the tape measure marks the position of the sample from 1774 from which a red deer bone and a flint were recovered. A neolithic date was obtained from a single piece of charcoal from the lower of the two samples taken in the foreground]

Table 7. Radiocarbon dates

Trench	context	material	Lab.no.	measured age	conventional age	Calibrated date at 2 sigma
141	1628	Wood	Beta-185217	3010±40	3010±40	Cal BC 1250-990
143	1690	Oak post-sapwood	Beta-184261	1870±60	1870±60	Cal AD 20-260
144	1700	Bark	Beta-184263	2940±60	2940±60	Cal BC 1360-1360 and 1320-970
144	1700	Red deer bone	Beta-184262	2670±50	2710±50	Cal BC 940-800
144	1754	Hazelnut shell	Beta-184264	8660±40	8640±40	Cal BC 7740-7580
152	1778	Charcoal	Beta-184265	4120±40	4130±40	Cal BC 2880-2580
153	1766/Col3 5	Hazel roundwood	Beta-184266	3210±90	3210±90	Cal BC 1690-1290
153	1763/Col3 97	Twigs and small roundwood	Beta-184267	2700±90	2700±90	Cal BC 1030-770

The calibration curves can be found in Appendix 3

Trench 153

Most of the deposits revealed in Trench 153 were waterlogged organic silts and peats, some with much brushwood (Fig. 4). All appeared to be natural deposits although possible post-holes were recorded cutting into the upper preserved peats. None were sampled for this assessment but columns samples of the sequence at both the north and south ends of the trench were taken for palaeoenvironmental assessment and subsequent study. The location of the three monolith samples from Column 3, the northern end of the trench are illustrated in Figure 4. The sequence is 176 cm of organic sediments and topsoil over the natural fluvio-glacial sands visible at the very base of the section. Two radiocarbon samples were taken from this northern section to establish whether any of these waterlogged sediments were contemporary with the mesolithic and neolithic palaeosol that underlies the mussel shell and degraded peaty deposits in Trenches 144 and 152. Samples of hazel roundwood, and small roundwood and twigs were collected from the basal (5cm) and upper (97cm) part of the preserved organic sequence in this trench. The results from both samples are presented in Table 7 and indicate that this sequence of deposits built up between the middle and late Bronze Age.

Identification of the Radiocarbon samples

Rowena Gale

Three samples were examined to identify the species from which they originated.

Methods

The samples included two of dried bark fragments and a third of waterlogged wood. Thin sections were removed from the latter using standard techniques (Gale and Cutter 2000) and examined using transmitted light on a Nikon Labophot-2 microscope at magnifications up to x400. The bark was dessicated. Several fragments were prepared for examination using standard techniques for charcoal (Gale and Cutter 2000) and examined using incident light on the microscope named above. The anatomical structure was compared to reference slides of modern wood.

Results

Context 1700, sample 8

A single fragment from a cylinder of bark, measuring some 25mm in width and 6mm in thickness. By extrapolation, the diameter of the branch/stem from which this fragment derived can be estimated very roughly as 60mm, ie, probably fairly juvenile. There was

Figure 4. The north east corner of Trench 153 after removal of the three monolith samples. [Samples submitted for radiocarbon dating were taken from 5cm above the base of the section and 97cm above the base of the section, which is 176cm to the modern ground surface. The organic sediments sit on sands at the base.]

insufficient anatomical structure to identify the bark other than to note that it was almost certainly from a hardwood.

Context 1700, sample 8.
The sample contained a number of weather or water-worn flakes and fragments of bark from a mixture of species. The bark typically included:

1. Thick flakes (up to 100mm) comprising discrete layers of bark. Although the anatomical structure was insufficient for identification, macroscopically these pieces were similar to pine (*Pinus* sp.) and, in view of the thickness, probably derived from trunks or branches from fairly large or mature trees.
2. Thinner flakes of bark (eg. 4mm), fairly smooth with lenticels. The anatomical structure observed on one piece which still retained a fragment of wood matched alder (*Alnus glutinosa*).
3. Rougher pieces of bark, fairly thin, probably from (unidentified) immature trees.

Column 3, 5cm depth
A single fragment of hazel (*Corylus avellana*) roundwood, diameter 25mm, 7 growth rings indicating moderate growth.

Soils evaluation – Part 1: Field trip (10th Sept. 2003) and observation
Richard I Macphail

Introduction
A series of trial trench excavations on the northern floor of the Witham Valley along the proposed Lincoln Eastern Bypass route, excavated by PCA, were visited with James Rackham (Environmental Archaeology Consultancy) on the 10th of September 2003. Two trenched areas and topics were discussed, namely:

1. Trench 141 investigating the palaeoenvironmental potential of the valley soils and sediments near the River Witham, and
2. Trenches 144 and 152 examining the archaeological value of soils and sediments at a natural levee (of the River Witham), an associated late Mesolithic and Neolithic site and deposits juxtaposed to the modern river.

The soils and sediments were discussed, briefly described and samples taken for assessment purposes.

Results
1. *Palaeoenvironmental potential*
In Trench 141, the sequence appears to be composed of *c*. 0.70 m of earthy eutro-amorphous fen peat (Adventurer's soil series) over what could have been a typical humic sandy gley soil formed in glaciofluvial drift mapped along the River Witham, from the City of Lincoln as far east as Stainfield (Isleham soil series- Adventurer's 2 soil association; Hodge *et al*., 1983). A typical section is described in Table 8 (Hodgson, 1997). The peat although stratified also includes patches of pale sand, and overlies a heavily gleyed sandy soil. The latter appears to contain mottling features relict of both rooting from the peat (prominent mottling throughout the sequence) and possible rooting of the buried palaeosol (faint mottling in bAg horizon).

2. *Archaeological value of soils and sediments at a natural levee (of the River Witham) and associated Late Mesolithic site*
Two trenches were examined in detail, 144 and 152. Another trench, 153, nearer the river could only be examined cursorily because of flooding. Trench 144 displays a complicated stratigraphy (Table 8), in part produced by post-depositional effects of a) peat oxidation, b) earlier periods of topsoil ploughing, c) weathering and fragmentation of the freshwater mussels especially in the upper shell layer and d) bioturbation of the sandy deposits mainly just below the lower shell layer through likely tree rooting. Moreover, the buried palaeosol, beneath the shell layer, not only contains late Mesolithic flints, but also shows features of disturbance, with some deep finds of charcoal and essentially contemporary flints that indicate the obscure presence of possible pits or ditches (Rackham, pers.comm.). The palaeosol also seems to show areas where shallow leaching (and a discontinuous Ea horizon) developed prior to the formation of the mussel-rich layer.

In juxtaposed Trench 152, the present day topsoil buries a 0.40 m thick humic levee soil (Table 8), presumably developed by flood accretion and continual humic Ah formation. This

occurs over another 0.40 of subsoil sand (B horizon) that also contains pipe clay layers probably relict of Pleistocene depositional conditions in the area (Rackham, pers. comm.) consistent with the mapped areas of soils on glaciofluvial drift (Hodge *et al*., 1983). There is a mixed boundary between the humic levee soil and the sandy subsoil, indicating bioturbation along this boundary, which is typical of accretionary alluvial soils. The humic levee soil also contains a subhorizontal scatter of red burned clay. On the Witham side of the trench, the levee appears to have been cut by a meander of the river, the cut being filled with clean sands that may have been washed from the area of Trench 144, because large amounts of wood and charcoal are present. These sediments may also constitute, in part, channel deposits, although their exact origins are obscure at the moment.

Discussion

1. *Palaeoenvironmental potential*

At Trench 141 there are two geoarchaeological topics of interest:

i) the environment of the buried soil and
ii) the nature of sedimentation forming the peat and intercalated sand that buries this soil.

Firstly, it is important to try and understand what soil processes were active on the (now peat-buried) old land surface, to help identify, a) what type of post-glacial environment was present, b) what if any human impact was recorded and c) how was the landscape affected by rising water tables. Such questions have been tackled along the tributaries of the Thames, in the valley of the River Nene, and in the Fens including the Breckland edge (e.g., currently at Mildenhall, Suffolk)(French, 2003; Lambrick, 1992; Lewis *et al*., 1992; Macphail, forthcoming; Robinson, 1992). During such investigations it is also crucial to understand the affects of rising ground water and flooding, and to differentiate any affects of saline inundation as recorded locally (and in Essex, the Fens etc.)(French, 2003; Hodge *et al*., 1983; Macphail, 1994). The classic study of soil catena at Woodhall Spa, Lincolnshire where a podzol had formed naturally under woodland by the Atlantic period will be a useful analogue for the Lincoln Eastern Bypass site (Valentine and Dalrymple, 1975). It can also be noted that in the Valley of the Nene (Raunds) there are accumulative proxy soil indicators of Neolithic and Bronze Age stock concentrations that are consistent with other environmental findings; and such methods have also been successfully applied to prehistoric accretionary alluvial soils at Bad Homburg, Hesse, Germany (Macphail, 2003; Macphail and Crowther, 2003).

There appears to be an eroded junction between the sandy palaeosol and the overlying peat, which implies possible flowing water that was more likely due to flooding than any course change in the River Witham (Rackham, pers. comm.). In addition, in some places the lower peat deposits are intercalated with clean sands, again indicative of localised surface water flow. It is possible that these derive from leached soils of environments resembling that of the archaeological soils formed on the levee (Table 8).

One 150 mm long monolith sample (M1) and three bulk samples (x1a-x1c) were collected from this trench (Table 8). A more detailed study was not deemed necessary, and it has to be borne in mind that increased wetness has likely depleted the soils in iron (and possibly clay), and may have affected ancient levels of phosphate and magnetic susceptibility, but on the other hand good results were gained from a similarly wet site at Bad Homburg. This sampling was coordinated with the taking of a nearby a column for dating, pollen and macrofossil analysis (see above, Table 7, for radiocarbon date for the base of the peat).

2. *Archaeological value of soils and sediments at a natural levee (of the River Witham) and associated Late Mesolithic site*
The site history at Trenches 144 and 152 is as yet unclear. The fieldwork identified:

a). the probable development of an accretionary humic soil (to be tested) over a soil formed in Pleistocene fluvioglacial sediments, with a scatter of burned clay (to be checked) at one level,
b). the partial bank-side erosion of this levee by the migrating River Witham,
c). the part infilling of this cut by clean sand, charcoal and charred/aged wood,
d). the weathering and leaching (and possible localised erosion) of the levee in an area occupied by Mesolithic humans, with possible trampling and pit cutting, and
e). the formation of a possible freshwater mussel shell midden alongside a complicated history of sand movement, peat formation and tree rooting – this interpretation of the mussel shell layer as a midden has been re-evaluated as a result of the analysis of the samples collected (see intrepretation below).

Before full excavation and environmental studies can be undertaken it is necessary to try and understand better, through an assessment, the nature of soil formation and sedimentary history of the site. This is because leaching (see Woodhall Spa, noted above; Valentine and Dalrymple, 1975), possibly associated with Mesolithic and Neolithic occupation and clearances (as recorded on other sandy and impoverished substrates – Flixton, Yorkshire, and Iping Common and High Rocks, Sussex; see reviews of Macphail, 1987; Scaife and Macphail, 1983) has caused the soil to lose structure, etc., so that features such as pits are difficult to see. This was also the case at West Heath, West Sussex, where in addition large amounts of leached sand eroded from plateau areas formed thick valley bottom colluvium (Drewett, 1976; Drewett, 1989). The presence of clean 'colluvial' sand at the Lincoln Eastern Bypass site may have similar origins to the last. It was also noted at the Lincoln site that probable oxidation of organic matter has occurred, and perhaps mainly only fine charred material – in the disturbed bAh and bEa horizons is still present (to be tested). In addition, it is not completely clear how the overlying (calcareous) mussel shell (with flint and animal bone) layer affected the leached (acidic) buried soil. The overlying stratigraphy of clean sands, peats and mussel shell layer needs to be investigated. It is possible that they relate to activities not yet excavated along this levee – with for example clean sands being deposited (from a putative disturbed weathered and leached Mesolithic surface) into the valley (Trench 141) and nearby, down slope (Trench 152) in the river meander cut (in part as 'colluvium' – see West Heath, above). The early acidification and localised podzolisation of soils has been suggested from a number of sites as indicating the asynchronous onset of this soil environment compared to the more usual chronology of such sandy substrates still being brown soils in the Neolithic and only becoming podzolised after Bronze Age clearances, for example (Macphail, 1986). This levee site at the Lincoln Eastern Bypass may well show that such environmental change is cultural and site specific (Macphail, 1987; Scaife and Macphail, 1983). Shell midden sites have different characteristics according to their depositional history, the classic 'coastal' shell midden at Westward Ho! actually formed in a fen carr environment, and its study included both soil micromorphology and bulk analyses (Balaam *et al*., 1987). It can also be noted that prehistoric middens as noted at numerous coastal and lake-side sites in the USA, can also undergo large amounts of bioturbation (Stein, 1992); Goldberg, pers. comm. 2003).

There is therefore a need to assess, through soil micromorphology, a) the buried sandy palaeosol in which there are flint flakes (Monolith M2B) and b) the overlying mussel shell

layer, sands and tree root stratigraphy (Monolith 2A). It is also suggested that some bulk analyses to support this work, are carried out, from the levee site and from the buried soil/midden stratigraphy**.**

Soils evaluation – Part 2: Assessment of soil micromorphology, chemistry and magnetic susceptibility

Richard I Macphail and John Crowther

Introduction

This assessment report adds laboratory findings to the report above (Part 1). 6 bulk samples and 2 thin sections were assessed. The assessment comprised chemical and magnetic susceptibility analysis of 6 samples from the 'mussel shell layer' and 'levee' deposits (see Table 9), and soil micromorphological studies of 2 thin sections from Trench 144. The two thin sections sampled the buried sandy soil and overlying mussel shell deposits (see Tables 8 and 10).

Methods

Chemistry Analysis was undertaken on the fine earth fraction (i.e. <2 mm) of the samples. LOI (loss-on-ignition) was determined by ignition at 375^{o}C for 16 hrs (Ball, 1964)). Phosphate-P (total phosphate) was determined following alkaline oxidation of the sample with NaOBr, using the procedure described by Dick and Tabatabai (1977). A Bartington MS1 meter was used for magnetic susceptibility measurements. An indication of the carbonate content was gained by observing the reaction when 10% HCl was added (Hodgson, 1974).

Soil micromorphology Samples M2A and M2B (Table 8) were impregnated with a crystic resin mixture, which when cured was slabbed, and 75x50 mm size thin sections were manufactured by Arizona University (Murphy, 1986). Thin sections were analysed under plane polarised light (PPL), crossed polarised light (XPL) and oblique incident light (OIL), and using fluorescent microscopy (blue light – BL), at magnifications ranging from x1 to x200. Thin sections were described (Table 10) according to standard authorities and reference studies on soil micromorphology applied to archaeology (Bullock *et al*., 1985; Courty *et al*., 1989; Macphail and Cruise, 2001; Murphy, 1986; Stoops, 2003).

Results

Chemistry The results are presented in Table 9. All four properties investigated display very wide variation over the 6 samples. The mussel shell layer is distinguished by its very high carbonate content, which appears to reflect the presence of a high proportion of shell material, although limestone is also present. Sample 2d, from the lower part of the mussel shell layer, was observed to be particularly shell-rich. The upper part of the mussel shell layer [sample 2c] contrasts with the lower part [2d] in having a higher χ value (9.14 x 10^{-8} SI) and a much higher phosphate-P concentration (0.805 mg g^{-1}) and LOI (21.0%). This phosphate-P concentration is very high for such a sandy soil, though it would be interesting to establish the extent to which the phosphate present is in an organic form (i.e. within the organic fraction).

The samples from the disturbed bA and levée Ah horizons contain very little organic matter and no carbonate, and display no signs of χ enhancement or phosphate enrichment. The burned clay displays clear evidence of burning (exceptionally high χ value). It also has a relatively high LOI (2.47%), and very high phosphate-P concentration. Some caution, however, needs to be exercised in relation to both the LOI and phosphate-P data, since some

Table 8: Lincoln East Bypass, Lincoln – samples taken for soil analysis (September 2003)

Monolith	*Bulk samples*	*Depth & context*	*Description*
Trench 141			***Palaeoenvironmental valley site***
		1627	0-370 mm (pasture/peaty topsoil): Very dark grey (10YR3/1) very humic, finely rooted loam with silt, fine and medium sand; very coarse, poorly developed prisms; clear horizontal boundary.
M1	x1a (*c*. 600-700 mm)	670-830 mm **1628**	370-700 mm (peat): Black (10YR2/1) organic peat sometimes showing marked mixing of bleached/clean fine and medium sand grains; massive with evidence of stratification; common prominent reddish brown (5YR4/4) iron mottling of relict roots and patchy thin ironpan near base; sharp, irregular/wavy boundary (corrugated-like surface with 50-70 mm wide surface irregularities).
M1	x1b	670-830 mm **1629**	700-780 mm (bAg): Light brownish grey (2.5Y6/2) massive fine and medium sand, with common faint light olive brown (2.5Y5/4) mottles (relict of pre-peat rooting?) and prominent reddish brown (5YR4/4) iron mottling (relict peat roots?); gradual wavy boundary.
M1	x1c	670-830 mm **1620**	780-910+ mm (bBg): Yellowish brown to brownish yellow (10YR5/8-6/8) massive fine and medium sand, with light brownish grey (2.5Y6/2) traces of monocot plants? (water table at 910 mm)
Trench 144			***Late Mesolithic site***
	x2a x2b (loamy peat)	**1698** & **1736**	0-390 mm (pasture/peaty topsoil): Very dark grey (10YR3/1) very humic, loam with silt, fine and medium sand; very coarse, poorly developed prisms; finely rooted in uppermost 150 mm; loamy peat layer at 350-390 mm; clear smooth boundary.
M2A	x2c	440-520 mm **1698**	390-450 mm (upper shell deposit and peat): Very dark greyish brown (10YR3/2) humic loam with very abundant mainly finely fragmented and soft shell fragments; layered; loamy peat layer at base; distinct ochreous mottling; abrupt, smooth boundary.
M2A	x2d	440-520 mm **1700**	450-560 mm (Lower mussel shell deposit): Loose greyish brown (10YR7/2)(light grey [10YR7/2] when dry) fine and medium sand with common faint dark greyish brown (10YR4/2) (brownish yellow [10YR6/8] when dry); very abundant soft and mainly large shells, with occasional flints (Rackham, pers. comm.); layered; abrupt, smooth boundary.
M2B	x2e	580-660 mm **1759**	560-590 mm (charcoal and woody root layer): Loose greyish brown (10YR7/2)(light grey [10YR7/2] when dry) fine and medium sand with common faint dark greyish brown (10YR4/2) (brownish yellow [10YR6/8] when dry); with very abundant woody roots and occasional charcoal; structureless; sharp, smooth boundary.
M2B	x2f	580-660 mm **1702**	590-750 mm (bAh): Faintly mottled yellowish brown (10YR5/6) and greyish brown (10YR5/2) very weak fine and medium sand, with rare Mesolithic flints; many sub-horizontal humic?fine charcoal-rich? laminae/fills? in places; massive; clear, wavy boundary.
	x2g	**1715**	750-750 (800) mm (bEa): Discontinuous weakly leached pale brown (10YR6/3) loose fine and medium sand; common distinct ochreous mottles relict of roots; structureless; flint flakes present; clear, wavy boundary.
	x2h	**1756**	800 mm – 1.09+ m (bB): Very weak faintly mottled brownish yellow (10YR6/6 and 6/8) fine and medium sand; massive; flint flakes present, possibly in obscure feature fills?
Trench 152			
		1773 & **1774/1776**	0-330 mm (pasture/peaty topsoil with traces of weathered shell rich peat at the base): See Trench 144
	x3a (*c*. 340-400 mm) xBurned clay x3b (*c*. 550-650 mm)	**1778**	330-720 mm (relict levee bAh[g]): Patchy very dark grey (10YR3/1) weak fine and medium sand, becoming black (10YR2/1) towards base; massive; few fine roots; scattered spread of gravel-size red burned clay; gradual, irregular (burrowed) boundary.
		1779	720 mm-1.10+ m (bBg): As Trench 144, with thin pipe clay layers at *c*. 1.10 m.

breakdown of clays may occur during ignition and clays naturally tend to have a higher phosphate-P concentration than sandy soils.

On the basis of these results, it seems that the chemical and magnetic properties of the soils at this site are likely to provide valuable insight into the nature and origins of the various contexts present. It is recommended therefore that the analysis be extended to a wider range of samples, and that a fuller range of properties be investigated, including: χ_{max} (and χ_{conv}), concentrations of organic and inorganic phosphate, pH and particle size.

Table 9: Bulk analytical data on the soil samples

Sample	Description	Context	LOI (%)	Carbonate (est. %)	χ (10^{-8} SI)	Phosphate-P (mg g^{-1})
2c	Upper shell layer	1736	21.0	>10.0	9.14	0.805
2d	Lower mussel shell layer	1700	1.95	>10.0	0.73	0.083
2f	Disturbed bA	1702	1.44	<0.1	0.59	0.068
3a	Upper levée Ah	1778	0.864	<0.1	1.10	0.089
3b	Lower levée Ah	1778	0.904	<0.1	1.87	0.079
3c	Burned clay		2.47	<0.1	3960	2.69

Soil Micromorphology. Thin section scans and main micromorphological features are presented in Table 10. Essentially, a leached fine and medium sandy soil formed in glaciofluvial drift (Isleham soil series/Adventurer's 2 soil association; Hodge *et al*., 1983) has a likely disturbed/truncated surface, and was buried by a more well-sorted medium sand (sample M2A). This overlying sand also contains lignified wood fragments and charcoal. The overlying mussel shell-rich layers are also well-sorted medium sands, which are poorly stratified, and show strong evidence of organic decomposition. For example, trace amounts of weathered bone, very abundant decalcifying shell (that is apparently releasing phosphate), charcoal and lignified woody remains, and associated very abundant organic excrements of mesofauna (e.g., mites), are present. The association of organic excrements and a fine fabric dominated by amorphous organic matter and patchy relict calcitic shell material may imply weathering of wood; only the very poorly decomposable lignified bark (and charcoal) now remaining. A similar situation of rapid decomposition of all but lignified material and charcoal was reported from the Wareham Experimental Earthwork project (on acid sands) after only 33 years (Macphail *et al*., 2003). At Wareham a putative 70 mm of surface organic matter had become reduced to 1-4 mm.

Discussion

As explained in detail previously (Macphail above, Part 1), and employing the new laboratory data, the 'late Mesolithic' and 'levee' sites appear to be composed of:

a) A strongly leached fine to medium *in situ* sandy soil developed in glaciofluvial drift, that is poorly humic (1.44% LOI), has a low phosphate content (0.068 mg g^{-1} Phosphate-P) and magnetic susceptibility signal (χ=0.59 x 10^{-8} SI), and is characterised by late Mesolithic archaeology (artefacts and features). This soil appears to be truncated and disturbed.

b) A subsequent overburden of what appears to be better-sorted medium sand (needs grain size analysis) burying a burrowed (and possibly sloping) truncated surface, with upwards, increasing amounts of coarse woody (lignified bark fragments), charcoal and shell inclusions. This once probably well stratified deposit, is partially mixed by burrowing but still displays a 'lower mussel shell layer' that displays a lower signal for LOI, phosphate and magnetic susceptibility compared to the 'upper shell layer' (cf. 'mussel shell layer'- 1700: 1.95% LOI, 0.083 mg g^{-1} Phosphate-P, χ=0.73 x 10^{-8} SI; 'upper shell layer'- 1736: 21.0% LOI, 0.805 mg g^{-1} Phosphate-P, χ=9.14 x 10^{-8} SI). These calcium carbonate-rich (>10% estimated carbonate) layers also contain traces of weathered bone, and both evidence of shell weathering (and release of P) and very strong indications of the biological breakdown of coarse woody material, leaving only lignified bark and charcoal. (The very act of organic matter oxidation very likely is responsible for the 'taphonomic' concentration of poorly decomposable organic matter; Babel, 1975; Macphail *et al*., 2003).

c) Downslope:

i) the probable development of an accretionary poorly humic (0.864-0.904% LOI) 'levee' soil (over a soil formed in Pleistocene fluvioglacial sediments), with a scatter of burned and moderately phosphate-rich clay (χ=3960 x 10^{-8} SI; 2.69 mg g^{-1} Phosphate-P) at one level;

ii) the partial bank-side erosion of this levee by the migrating River Witham;

iii) the partial infilling of this cut by (colluvial?) clean sand, charcoal and charred/aged wood;

iv) and the burial of this levee-riverside sequence by a stratified overburden of sand, woody and shell (layer) as noted immediately upslope (see paras a and b, above).

d) These findings still leave a number of questions to answer, which are:

1. Is soil acidification a Mesolithic phenomenon or an effect of post site weathering (cf. Iping Common, Sussex)?,
2. What caused soil truncation and disturbance – Neolithic and Mesolithic activity?
3. How is the local levee related to this *in situ* soil development?
4. What is the origin of the *well-sorted* medium sand overburden that buries the leached 'late Mesolithic' soil;
    a). river sand (along with wood, shell and charcoal deposits)?,
    b). wind-winnowed weathered soil?, or
    c). colluvial wind-winnowed weathered soil?
5. Is this sandy semi-stratified overburden the oxidised remains of a much thicker shell and wood 'peat' sandy alluvium?,
6. Was an earlier sequence also washed into the river cut, before being 'sealed' by the shell and woody layers now present?
7. How can the rather high magnetic susceptibility (χ=9.14 x 10^{-8} SI) and late Mesolithic artefacts, be explained – along with shell, charcoal, weathered bone etc. Is there some Mesolithic opportunism here?

Suggested further analyses

Further areas of the leached 'Mesolithic soil' need to be studied, alongside further examples of the stratified buried soil/overburden-mussel shell sequence. Soil micromorphology, including semi-quantitative analyses should be supported by full chemistry, grain size and magnetic susceptibility analyses (see Appendix 1)(Courty *et al*., 1989; Macphail and Cruise, 2001).

Table 10: Soil micromorphology

Thin section scan

Summarised Micromorphological findings

M Lin2B (~75 mm long)

390-450 mm (upper shell deposit and peat):
450-560 mm (Lower mussel shell deposit):
Sand, shell, charcoal and woody layers weakly separated by a more sandy and woody/charcoal layer.
Overall – burrowed well-sorted medium sand, with very abundant relict lignified (bark) woody remains (with abundant thin organic excrements of mesofauna), wood charcoal and shell (weathering: decalcification apparently producing amorphous CaP hypocoatings that are autofluorescent under blue light), and traces of weathered bone. Fine fabric of patchy dominant non-calcareous organic excrement and frequent calcitic (from shell) coated grains; many secondary iron nodules and impregnation.

M Lin 2A (~75 mm long)

560-590 mm (charcoal and woody root layer – blown sand?): well sorted mainly medium rounded sand, coarsely burrowed; polymorphic amorphous and excremental organic matter; patchy sesquioxidic and iron coatings; trace of humic clay and silt (and charcoal) inwash; inclusions of 2 coarse (7 mm) size lignified woody and fine (2 mm) charcoal; humic micaceous clay fragment; possible relict sharp horizontal- (sesquioxides coated), but diffuse burrowed and mixed-boundary.
590-750 mm (bAh): moderately well-sorted fine and medium rounded sand, with original(?) sparse pellety amorphous organic matter – truncated Ah/Ea horizon, with rare charcoal, sloping features (trample/ disturbed); abundant secondary(?) inwash of amorphous organic matter, fine silt and clay; root traces.

Interpretation of the sequence on the north bank of the River Witham

Field observations, the results of the analysis of environmental soil samples, the laboratory analysis of soil and micromorphological samples and the radiocarbon dates have all been used to make an interpretation of the sequence of deposits on the northern floodplain of the Witham at the point of crossing of the proposed Bypass route. This interpretation has also been informed by the results of an auger survey conducted over this area but reported elsewhere (Rackham & Guy 2004).

The ground immediately north of the north delph, within the road easement, is slightly raised above the surrounding floodplain and indicates the presence of an ancient river levee, which augering and field observation suggests crosses the present course of the river at this point (Rackham, August 2003). The radiocarbon date of 8660 BP from a charred hazelnut shell fragment in a feature cut into the underlying sands in Trench 144 indicates that this levee was already in existence in mesolithic times, a factor re-inforced by the numerous flint flakes of late mesolithic date recovered from these sands. These sand deposits, contexts 1702, 1715, 1721, 1756 and 1761 are all part of a buried soil complex or palaeosol, a humic soil, that has developed over a soil formed on the fluvio-glacial sands (see above and Table 8). This palaeosol is present in Trenches 139, 144 and 152, but is more pronounced and visible in the two trenches, 144 and 152, on the levee. The bulk of the flint material from these trenches is late mesolithic in character, but the occurrence of some flakes of late neolithic/early Bronze Age type in the palaeosol suggests that the ground surface remained exposed, or only accreting very slowly for some considerable time. A conclusion reinforced by the dating of a single piece of charcoal from context 1778 in Trench 152 to the late Neolithic (Table 7). These two radiocarbon dates span 5000 years and suggest very little accretion of the soil during the late mesolithic and neolithic periods. The micromorphological evidence suggests that this soil is truncated and disturbed but clear evidence for features (Fig. 2), animal burrows and other structures in it indicates that this truncation is unlikely to be very great on the levee.

The palaeosol is truncated by river erosion in Trench 152 (see Fig. 3), and apparently north of this trench (see auger survey of the palaeosol). Here the scour caused by the river is infilled with what appears to be a downslope wash of colluvial sand, incorporating material perhaps from the site exposed upslope in Trench 144. A sequence of downslope and alluvial sediments built up over this, forming bands of sand and organic horizons, some including bone and flint possibly washed in from the adjacent site. The organic horizons in this sequence are severely dessicated and humified with considerable loss of the organic component. Across the few metres from Trench 152 to Trench 153 the surface of the fluvio-glacial sands underlying these alluvial sediments drops dramatically from 0.8m to 1.76m below the modern ground level. In Trench 153 well preserved organic rich silts and muds, with frequent brushwood, freshwater mussels and aquatic snails comprise the basal metre of these deposits, with progressively humified organic silts above. In this trench the topsoil is an extremely humified and degraded organic silt that was ploughed until recently.

A radiocarbon date from the base of the sequence of riverine organic muds in Trench 153 gives an indication of when the northward migration of the river eroded this ancient bank. Wood at the base of the organic sequence in Trench 153 gave a date of 3210 BP (Table 7), indicating that the river had already scoured out this north bank by the early to middle Bronze Age. This is broadly consistent with the few late neolithic/early Bronze Age flints found in the palaeosol and suggests that the river was beginning to seriously impact upon the site by the middle Bronze Age.

This migration of the river appears to have been associated with a rising water table. After an initial interpretation of the freshwater mussel shell, 1700, visible in Figures 1 and 2 immediately above the palaeosol, as a possible shell midden contemporary with the late mesolithic activity suggested by the flint finds, both the dating and interpretation of the layer have been re-evaluated. Radiocarbon determinations upon a red deer tibia and a piece of bark from this deposit both gave middle to late Bronze Age dates (Table 7), 2670 and 2940 BP respectively, indicating a considerable time gap between the archaeological evidence in the palaeosol and material in the mussel shell layer, despite the recovery of a small number of flint debitage flakes in the latter. Furthermore, although the layer appeared on site to be composed of mussel shells within a sand matrix, the deposit has a high organic component composed largely of bark and some degraded wood. It also contains some surviving but robust seed and insect fragments, fish teeth and scales, and numerous snail and small bivalve shells, along with the resting stages of *Daphnia* sp. and the valves of ostracod shells. The small mollusc fauna (ie those other than the large mussels) of several hundred shells is composed entirely of aquatic taxa (Table 4) with not a single terrestrial snail present. These taxa, along with the mussels, which include *Unio pictorum* and *Unio tumidus*, are characteristic of the present day deposits in the River Witham (Kerney 1999). It is difficult to envisage that a midden forming on dry ground would have had no terrestrial snail fauna and the almost exclusively aquatic character of the elements identified during this assessment suggests that the deposit was originally waterlain. The exceptional density of mussel shells, the few flints and animal bone in a sand matrix do appear to contradict this conclusion but an interpretation can be offered.

The organic sediments identified infilling the old river channel (Rackham, August 2003) are dominated by organic ‘muds’, with a relatively low silt fraction, and mussel shells, occasional wood fragments and small snails and bivalves distributed through them. As has been noted above (p. 20) by Macphail organic deposits can undergo rapid decomposition and reduce in thickness by over 90%. If such a deposit approximately 0.7-1.0m in thickness were reduced through decomposition by drainage of the valley floor over the last 2-300 years, or perhaps much less, then the shells, more robust bark, inclusions of limestone and sands would be concentrated within a deposit largely devoid of the silts and fine grained organics originally present. This layer may also have been originally sought out by the roots of scrub vegetation and alder carr growing on the wet ground prior to its drainage. Since the deposit appears to be localised on the north and west sides of the levee, immediately east of the contemporary river channel it may in part be a lag deposit in which wood and larger debris accumulated during periods of higher water flow, which subsequently became covered as the water table rose. Major changes were taking place in the lower reaches of the Witham and the maximum marine transgression up the valley is thought to have occurred in the early Bronze Age (French and Rackham 2003). This is likely to have been a major factor in the rising water table at Greetwell and the development of peats and organic sediments on the levee.

The deposits above 1700 have a much higher organic component (see LOI figures in Table 9) and the presence of organics, silts and numerous aquatic snails and other fauna and flora of freshwater habitats indicate that these are also waterlain organic peaty silts. These are capped by a loamy peat layer and loamy silts with an alluvial clay band present in some of the auger holes. The age of this sequence is unknown but the severely degraded condition of the deposits and the historical evidence for ploughing over the last 50 years or so indicates that these sediments have also been considerably reduced through drainage and subsequent decomposition and deflation. The condition of much of these upper layers, particularly the

presence of a substantial organic component suggests that the period of drying out responsible for this deflation is relatively recent, perhaps the last century or more. It probably stems directly from the drainage works associated with the canalisation of the River Witham and the establishment of the north delph and the field drains that run across the floodplain.

Recommendations

Individual recommendations have been made through the report. In general the evaluation trenches on the sides of the Witham Valley, and on the ridges above have lacked any organic remains; some have suffered severe decalcification with the loss of bone and shell; and the only category of environmental evidence consistently present is charred plant remains, including cereals, weed seeds and charcoal. Apart from the terrestrial snail assemblages, particularly for instance those in the Trench 115 ditches, little environmental evidence for the palaeoenvironment is present. Some of the sites indicate that substantial palaeoeconomic evidence may survive in the form of domestic animal bones, fish bones, marine molluscs, charred cereal remains, and iron smithing debris and sampling should be targetted at the recovery of these assemblages where excavations are undertaken. Samples and bone assemblages from Trenches 15, 16, 17, 38, 42, 55 and 60 all indicate that archaeology in these areas has the potential to produce environmental assemblages that would aid in the understanding and interpretation of the archaeology.

On the floor of the Witham Valley the environmental assessment and auger survey have shown that the floor of the valley had become inundated by the middle Bronze Age, but that the waterlain deposits have buried a relatively undisturbed palaeosol of mesolithic and neolithic date upon which there is considerable evidence for occupation or human activity. Unfortunately this soil is largely decalcified and has a low survival of organic material, but charred plant remains and flint flakes are abundant, the latter indicating *in situ* knapping events (Rylatt, pers. comm.), the smaller flints often being recovered from the soil samples. This activity is located on a levee on the edge of an ancient course of the River Witham, and its eastern end may have been eroded away by the northward migration of the river channel. It seems probable that much of the archaeological evidence for this human occupation remains relatively undisturbed and the site offers a very high potential for both spatial and assemblage analysis of the flints and other surviving archaeological debris where it has been covered by waterlain sediments. The sediments immediately overlying the palaeosol, may themselves include some either re-worked or *in situ* archaeological debris but the archaeological potential of the deposits higher in the sequence is probably limited since their origin appear to be alluvial.

The organic deposits that have survived on the valley floor, particularly those visible in Trenches 152 and 153 afford an extremely important resource for understanding the palaeoenvironment of the Valley at this point, certainly throughout the Bronze Age, a period when the Barrow cemeteries indicate considerable activity in the valley, and probably for other periods. The clear indication of a bank or edge to the Bronze Age river channel on the western side of the easement (see the auger survey report) may also be an important topographical context for contemporary human activity and excavation of the edge and bank of the channel where organic cultural material may have survived is clearly important.

Many of the interpretations presented above are preliminary and will need to be re-considered in any future programme of investigation.

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Appendix 1 (chemistry and magnetic properties)

Analysis focused on phosphate and magnetic susceptibility, both of which are widely used in the investigation of archaeological contexts:

Phosphates: Phosphates are present in all organic material (plant tissue, excreta, bone, etc.). As they are released by organic decomposition processes, they tend to form insoluble compounds and thus become 'fixed' within the mineral fraction of soils and sediments. Many forms of human activity (including middens) lead to phosphate enrichment and, under favourable conditions, this may remain detectable for 10^2-10^3 years (see reviews by Bethel and Máté, 1989; Crowther, 1997; Heron, 2001)(Bethell and Máté, 1989; Crowther, 1997; Heron, 2001). It should be noted that phosphate-retention is generally less in very sandy soils such as those from the site.

Magnetic properties: χ (low frequency mass-specific magnetic susceptibility) in soils and sediments largely reflects the presence of magnetic forms of iron oxide (e.g. maghaemite) – this being dependent upon the occurrence of iron and of alternating reduction-oxidation conditions that favour the formation of magnetic minerals. Enhancement is particularly associated with burning (see reviews by Clark, 1990; Scollar *et al.*, 1990)(Clark, 1990; Scollar et al., 1990), though considerable care is needed in the interpretation of χ data when, as here, the maximum potential magnetic susceptibility (χ_{max}), and hence fractional conversion (χ_{conv}), have not been determined (Crowther and Barker, 1995; Crowther, in press)(Crowther, In Press; Crowther and Barker, 1995).

Appendix 2

Key to codes used in the cataloguing of animal bones and marine shells

SPECIES:

SPECIES CODE			SPECIES CODE	
MAN	human		DOVE	Dove species
EQU	Horse		FER	Feral dove
EQSZ	Horse size		PART	Partridge
BOS	Cattle		SWAN?	Swan?
BOSL	Cattle-large		WOOD	Woodcock
CSZ	cattle size		CURL	Curlew
SUS	Pig		WADE	wader
OVCA	sheep or goat		CROK	Crow or rook
OVI	Sheep		CORV	Crow or rook
CRA	Goat		JACK	Jackdaw
SSZ	sheep size		OWL	Owl indet.
FEL	Cat		BUZZ	Buzzard
CAN	Dog		GULL	Gull sp.
AUR	Aurochs			
AUR?	Aurochs?		TURD	Turdidae
CER	red deer		BIRD	Identifiable but not id'd
DAM	Fallow deer		PASS	Passerine
CLS	roe deer		LBIRD	Large bird
LEP	Hare		UNIB	Bird indet
ORC	Rabbit			
LAG	Lagomorph		FROG	Frog
CARN	Carnivore		FRTO	Frog or toad
FOX	Fox			
POLE	Polecat/ferret			
WEA	weasel		GAD	Gadid, cod family
BADG	Badger		LING	Ling
SEAL	seal		HADD	Haddock
SQU?	Squirrel?		RAY	ray
BEAV	Beaver		FISH	Fish
ROD	Rodent		UNIF	Fish indet
RAT	Rat			
AGR	Field vole		OYS	oyster
ARV	Water vole		COK	Cockle
MUS	House mouse		MUSS	Common Mussel
SORA	Common shrew		WHELK	Common whelk
MOLE	Mole		HEL	Helix aspersa
SMA	Small mammal		HELIX	Helix sp.
UNI	Unknown		HELN	Helix nemoralis
			SNAIL	snail
CHIK	Chicken			
CHKZ	Chicken size		FOSS	Fossil bone
GOOS	Goose, dom			
GOOS?	Goose, dom.?			
GSSZ	Goose size			
GSSP	Goose species			
GOSZ	Goose, poss. Wild			
DUCK	Duck, domestic sp.			
DUCK?	Duck?			
DKSP	Duck species			
DSP	Duck species indet			
MALL	Duck, dom.			
TURK	Turkey			

BONE ELEMENT:

BONE CODE		BONE CODE	
SKEL	skeleton	SCP	scapula
SKL	skull	HUM	humerus
ANT	antler	RAD	radius
ANT?	antler?	ULN	ulna
ATT	antler tine	RUL	radius and ulna
HC	horn core	C/T	carpus/tarsus
TEMP	temporal	C23	carpus 2+3
FRNT	frontal	CAR	carpus
PET	petrous	CPA	accessory carpal
PAR	parietal	CPI	intermediate carpal
OCIP	occipital	CPR	radial carpal
ZYG	zygomatic	CPU	ulnal carpal
NAS	nasal	MTC	metacarpus
PMX	premaxilla	MC1-5	metacarpus 1-5
MAN	mandible	MTP	metapodial
MNT	mandibular tooth	MPL	lateral metapodial
DLI	deciduous lower incisor	INN	innominate
DLPM1-4	deciduous lower premolar 1-4	ILM	ilium
LI	lower incisor (and 1-3)	PUB	pubis
LC	lower canine	ISH	ischium
LPM1-LPM4	lower premolar 1-4	FEM	femur
LM1-LM3	lower molar 1 - molar 3	PAT	patella
MAX	maxilla	TIB	tibia
DUI	deciduous upper incisor	FIB	fibula
UI	upper incisor (1-3)	LML	lateral malleolus
UC	upper canine	AST	astragalus
DUPM	deciduous upper premolar	CAL	calcaneum
DUPM1-4	deciduous upper premolar 1-4	CQ	centroquartal
UPM1-UPM4	upper premolar 1-4	TAR3	tarsus 3
UM1-UM3	upper molar 1 - molar 3	T4	tarsus 4
MXT	maxillary tooth	TAR	tarsus
TTH	indeterminate tooth	MTT	metatarsus
INC	incisor	MT1-5	metatarsus 1-5
HYD	hyoid	MTL	lateral metatarsus
ATL	atlas	SES	sesamoid
AXI	axis	PH1	1st phalanx
CEV	cervical vertebra (and 3-7)	PH2	2nd phalanx
TRV	thoracic vertebra (and 1-13)	PH3	3rd phalanx
LMV	lumbar vertebra	PHL	lateral phalanx
SAC	sacrum	LBF	long bone
CDV	caudal vertebra	UNI	unidentified
VER	vertebra		
STN	sternum	CLV	clavicle
CC	costal cartilage	COR	coracoid
RIB1	first rib (2 etc)	CMP	carpo-metacarpus
RIB	rib	CMC	carpo-metacarpus
		WPH1-3	wing phalanges 1-3
URO	urostyle	WPH	wing phalanx
		LSA	lumbosacrale
DENT	dentary		
CLEI	cleithrum		
RAY	fin ray		
SHELL	shell		
UV	upper valve		
VAL	valve		

NUMBER: number of fragments in the entry

SIDE: W - whole L - left side R - right side F - fragment

FUSION: records the fused/unfused condition of the epiphyses
P - proximal; D - distal; E - acetabulum; N - unfused; F - fused; C - cranial; A - posterior

ZONES: records the part of the bone present.
The key to each zone on each bone is on page 4

BUTCHERY: records whether a bone has been chopped (CH), cut (KN), worked (W), burnt (C)

GNAWING: records if a bone has been gnawed by dogs (DG), cats (FEL) or rodents (RG)

TOOTH WEAR - Codes are those used in Grant, A. 1982 The use of tooth wear as a guide to the age of domestic animals, in B.Wilson, C.Grigson and S.Payne (eds) *Ageing and sexing animal bones from Archaeological sites*, 91-108.

Teeth are labelled as follows in the tooth wear column:

Deciduous	Permanent
f ldpm2/dupm2	F lpm2/upm2
g ldpm3/dupm3	G lpm3/upm4
h ldpm4/dupm4	H lpm4/upm4
	I lm1/um1
	J lm2/um2
	K lm3/um3

MEASUREMENTS :Any measurements are those listed in A.Von den Driesch (1976*) A Guide to the Measurement of Animal Bones from Archaeological Sites*, Peabody Museum Bulletin 1, Peabody Museum, Harvard, USA
Some measurments have been taken on juveniles. Measurements marked L1 are the greatest length of long bones lacking one unfused epiphysis – the measurement being taken from the epiphyseal junction. Measurements marked L2 are the greatest length of the long bones between epiphyseal junctions when both epiphyses are unfused.

PATHOLOGICAL: A 'P' indicates that the bone fragment carries a pathology

COMMENTS: This may include a short description of the fragments, any pathologies, butchery or gnawing evidence

PRESERVATION: records the condition of the bone in the following manner

1- enamel only surviving
2- bone very severely pitted and thinned, tending to break up; teeth with surface erosion and loss of cementum and dentine
3- surface pitting and erosion of bone, some loss of cementum and dentine on teeth

4- surface of bone intact, loss of organic component, material chalky, calcined or burnt
5- bone in good condition, probably with some organic component

ZONES - codes used to define the zones on each bone

SKULL	1. paraoccipital process	METACARPUS	1. medial facet of proximal articulation, MC3
	2. occipal condyle		2. lateral facet of proximal articulation, MC4
	3. intercornual protuberance		3. medial distal condyle, MC3
	4. external acoustic meatus		4. lateral distal condyle, MC4
	5. frontal sinus		5. anterior distal groove and foramen
	6. ectorbitale		6. medial or lateral distal condyle
	7. entorbitale		
	8. temporal articular facet	FIRST PHALANX	1. proximal epiphysis
	9. facial tuber		2. distal articular facet
	0. infraorbital foramen		
		INNOMINATE	1. tuber coxae
MANDIBLE	1. Symphyseal surface		2. tuber sacrale + scar
	2. diastema		3. body of illium with dorso-medial foramen
	3. lateral diastemal foramen		4. iliopubic eminence
	4. coronoid process		5. acetabular fossa
	5. condylar process		6. symphyseal branch of pubis
	6. angle		7. body of ischium
	7. anterior dorsal acsending ramus posterior M3		8. ischial tuberosity
	8. mandibular foramen		9. depression for medial tendon of rectus femoris
VERTEBRA	1. spine	FEMUR	1. head
	2. anterior central epiphysis		2. trochanter major
	3. posterior central epiphysis		3. trochanter minor
	4. centrum		4. supracondyloid fossa
	5. neural arch		5. distal medial condyle
			6. lateral distal condyle
SCAPULA	1. supraglenoid tubercle		7. distal trochlea
	2. glenoid cavity		8. trochanter tertius
	3. origin of the distal spine		
	4. tuber of spine	TIBIA	1. proximal medial condyle
	5. posterior of neck with foramen		2. proximal lateral condyle
	6. cranial angle of blade		3. intercondylar eminence
	7. caudal angle of blade		4. proximal posterior nutrient foramen
			5. medial malleolus
HUMERUS	1. head		6. lateral aspect of distal articulation
	2. greater tubercle		7. distal pre-epiphyseal portion of the diaphysis
	3. lesser tubercle		
	4. intertuberal groove	CALCANEUM	1. calcaneal tuber
	5. deltoid tuberosity		2. sustentaculum tali
	6. dorsal angle of olecranon fossa		3. processus anterior
	7. capitulum		
	8. trochlea	METATARSUS	1. medial facet of proximal artciulation, MT3.
	9. coronoid fossa		2. lateral facet of proximal articulation, MT4
	0. teres tubercle		3. medial distal condyle, MT3
RADIUS	1. medial half of proximal epiphysis		4. lateral distal condyle, MT4
	2. lateral half of proximal epiphysis		5. anterior distal groove and foramen
	3. posterior proximal ulna scar and foramen		6. medial or lateral distal condyle
	4. medial half of distal epiphysis		
	5. lateral half of distal epiphysis		
	6. distal shaft immediately above distal epiphysis		
ULNA	1. olecranon tuberosity		
	2. trochlear notch- semilunaris		
	3. lateral coronoid process		
	4. distal epiphysis		

Archive catalogue of animal bone from Lincoln Eastern Bypass – LEB03

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T26	1245	BOS	FEM	1	R								SPLIT SHAFT-VERY ERODED-LARGE	2
LEB03T26	1247	CER	ANT	1	F								BASE OF ANTLER AND BEZ TINE-VERY ERODED	2
LEB03T36	1024	OVCA	MTT	1	L		12		DG				PROX HALF-PROX END CHEWED	4
LEB03T36	1024	OVCA	TIB	1	R								MIDSHAFT-SURFACE ETCHED	3
LEB03T38	0064	BOS	UM1	1	F					I12			ONE CUSP ONLY	4
LEB03T38	0064	CSZ	CEV	1	F								ZYGAPOPHYSIS FRAGMENT	4
LEB03T38	0064	SSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	0064	UNI	UNI	1	F								INDET	4
LEB03T38	1000	BOS	HC	1	R		1						COMPLETE-SMALL UPWARD CURVING CORE	4
LEB03T38	1000	HELIX	ARB	2	W								SHELLS	4
LEB03T38	1000	ORC	TIB	1	L	PFDF					GL-88.9 Bp-13.6 Bd-10.9		COMPLETE	4
LEB03T38	1000	OYS	LV	1	F								PART LOWER VALVE	3
LEB03T38	1000	OYS	UV	1	F								PART UPPER VALVE	3
LEB03T38	1001	BOS	FEM	1	F								DISTAL SHAFT FRAGMENT	4
LEB03T38	1001	BOS	MAN	1	L		468						POST ASC RAMUS- CORONOID AND ANGLE- 2 PIECES	4
LEB03T38	1001	BOS	MTT	1	F								SPLIT PROX SHAFT	4
LEB03T38	1001	BOS	RAD	1	L	PF	1						SPLIT PROX END	4
LEB03T38	1001	BOS	RIB	1	F								1ST RIB SHAFT- 2 PIECES	4
LEB03T38	1001	BOS	TIB	1	R			CH					MIDSHAFT FRAGMENT-DIFFERENT ANIMAL TO ABOVE-SHAFT CHOPPED	4
LEB03T38	1001	BOS	TIB	1	R								MIDSHAFT FRAGMENT	4
LEB03T38	1001	CSZ	LBF	1	F								FRAGMENT PROX END	4
LEB03T38	1001	ORC	SKEL	1	P								PARTIAL SKELETON-IMM-PROX HUM-FUSION VISIBLE-FEM-HUM-MTP-VER-TIB-ULN-RIBS-ETC-	4
LEB03T38	1001	OVCA	INN	1	R	EF	579						ILIAL AND ISCHIAL SHAFTS WITH ACETAB- 2 PIECES	4
LEB03T38	1003	BOS	CQ	1	W		1						COMPLETE	4
LEB03T38	1003	BOS	FEM	1	F		4						POROUS DISTAL SHAFT FRAGMENT	4
LEB03T38	1003	BOS	FEM	1	F								DISTAL MIDSHAFT-SL POROUS	4
LEB03T38	1003	BOS	INN	1	F								PART OF CAETABULUM	4
LEB03T38	1003	BOS	LI3	1	R								SL WEAR	4
LEB03T38	1003	BOS	MTT	1	L	DF	12345				GL-22.5 Bp-42.7 Dp-43.8 SD-23.6 Bd-52.9 Dd-30.2		COMPLETE	4
LEB03T38	1003	BOS	MTT	1	R	DF	12345				GL-22 Bp-45.9 Dp-42.8 SD-24.4 Bd-51 Dd-31		COMPLETE- 2 PIECES	4
LEB03T38	1003	BOS	PH1	1	R	PF	12						PROX END SL DAMAGED	4
LEB03T38	1003	BOS	SCP	1	L		235		DG				DISTAL HALF BLADE AND NECK AND GLENOID-TUBER CHEWED OFF	4
LEB03T38	1003	BOS	SCP	1	L								LARGE PORTION OF BLADE- 3 PIECES	4
LEB03T38	1003	BOS	UM1	1	R					J15			COMPLETE	4
LEB03T38	1003	CSZ	RIB	1	F								MIDSHAFT	4
LEB03T38	1003	CSZ	RIB	3	F								SHAFT FRAGMENT	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T38	1003	CSZ	UNI	1	F								INDET	4
LEB03T38	1003	CSZ	UNI	2	F								INDET	4
LEB03T38	1003	EQU	RIB	2	F								PROX SHAFT	4
LEB03T38	1003	EQU	RIB	1	R								PROX SHAFT- 4 PIECES	4
LEB03T38	1003	OVCA	TIB	1	L	DF	4567				SD-12.9 Bd-24.3		DISTAL END AND SHAFT	4
LEB03T38	1007	BOS	FEM	1	R		4						DISTAL SHAFT FRAGMENT- 2 PIECES	4
LEB03T38	1007	BOS	FEM	1	R	DN	567						DISTAL EPIPHYSIS- 2 PIECES	4
LEB03T38	1007	BOS	MAN	1	R		12345678			fgh13l7J2			COMPLETE- 3 PIECES	4
LEB03T38	1007	BOS	SKL	1	L					gh12l3J2			PART OF MAXILLA- 2 PIECES	4
LEB03T38	1007	BOS	TIB	1	R	DF	567				Bd-54.5 Dd-43		DISTAL END- 3 PIECES	4
LEB03T38	1007	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1007	EQU	SCP	1	R	DF	12						GELNOID AND TUBER- 2 PIECES	4
LEB03T38	1007	ORC	TIB	1	R	PFDF					GL-86.8 Bp-13.8 Bd-11.5		COMPLETE	4
LEB03T38	1007	OVCA	FEM	1	R		4						SHAFT	4
LEB03T38	1007	SUS	ATL	1	R			CH					RIGHT SIDE OF ATLAS-CHOPPED	4
LEB03T38	1007	SUS	MTP	1	F	DN	2						PROX END UNFORMED-JUV	4
LEB03T38	1063	BOS	LMV	1	L		5						PART OF NEURAL ARCH AND TRANS PROCESS	4
LEB03T38	1063	BOS	MTT	1	R		12	CH					PROX END-LARGE-CHOPPED AXIALLY	4
LEB03T38	1063	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1063	CSZ	UNI	1	F								INDET	4
LEB03T38	1063	OVCA	UM2	1	R					J12			COMPLETE	4
LEB03T38	1063	SSZ	FEM	1	F								SHAFT FRAGMENT	4
LEB03T38	1063	SSZ	LBF	1	F			C					CHARRED SHAFT FRAGMENT	4
LEB03T38	1063	SUS	TRV	1	F		1						SPINE	4
LEB03T38	1065	BOS	CAL	1	L	PN	23						PROX EPI LOST	4
LEB03T38	1065	BOS	DUP4	1	L					h15			COMPLETE	4
LEB03T38	1065	BOS	INN	1	F								ILIAL SHAFT FRAGMENT	4
LEB03T38	1065	BOS	LM	1	F								UNERUPTED CUSP	4
LEB03T38	1065	BOS	MAN	1	F								LATERAL FRAG HORI RAMUS	4
LEB03T38	1065	BOS	MAN	1	L		7			K15			FRAGMENT WITH M3-ROBUST-ELDERLY	4
LEB03T38	1065	BOS	MAN	1	R		7			K12			PART RAMUS WITH MOLAR ALVEOLI AND M3- 2 PIECES	4
LEB03T38	1065	BOS	MAN	1	R		45678			K1			ASC RAMUS	4
LEB03T38	1065	BOS	MTC	1	L		12						PROX END	4
LEB03T38	1065	BOS	PH1	1	R	PF	12				GL-62 BP-33.4		COMPLETE-ROBUST	4
LEB03T38	1065	BOS	PH1	1	R	PF	12				GL-53.6 Bp-26		COMPLETE	4
LEB03T38	1065	BOS	PH2	1	R	PF	12		DG				COMPLETE	4
LEB03T38	1065	BOS	RAD	1	R	PF	1						SPLIT PROX END-ROBUST	4
LEB03T38	1065	BOS	RIB	1	R				DG				PROX SHAFT-PROX CHEWED-1ST RIB	4
LEB03T38	1065	BOS	SAC	1	F	CNAN	4						1ST CENTRUM	4
LEB03T38	1065	BOS	SAC	1	L	CF	24						CENTRUM AND LEFT WING	4
LEB03T38	1065	BOS	SAC	1	R	CF							RIGHT WING	4
LEB03T38	1065	BOS	SCP	1	F								PART OF SPINE	4
LEB03T38	1065	BOS	SCP	1	L	DF	1235						GLENOID-NECK AND DISTAL BLADE- 2 PIECES	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T38	1065	BOS	SCP	1	L								BLADE AND BASE SPINE- 2 PIECES	4
LEB03T38	1065	BOS	SCP	1	R		2345						GLENOID-NECK AND DISTAL BLADE- 3 PIECES	4
LEB03T38	1065	BOS	SKL	1	L					fg15I9J3			MAXILLA WITH PREMOLAR ROW	4
LEB03T38	1065	BOS	SKL	1	R								ZYGOMATIC ARCH-CALF	4
LEB03T38	1065	BOS	TIB	1	R								MIDSHAFT FRAGMENT	4
LEB03T38	1065	BOS	TRV	1	F	CNAN	4						CENTRUM	4
LEB03T38	1065	BOS	ULN	1	F								SHAFT FRAGMENT	4
LEB03T38	1065	BOS	ULN	1	L	PF	123						PROX HALF-OLECRANON DAMAGED	4
LEB03T38	1065	BOS	UM1	1	L					I11			COMPLETE	4
LEB03T38	1065	BOS	UM2	1	L					J9			COMPLETE	4
LEB03T38	1065	CAN	SKEL	1	P								ADULT-SKL-ULN-RAD-HUM-MTP-31 PIECES	4
LEB03T38	1065	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1065	CSZ	LBF	2	F								SHAFT FRAGMENT	4
LEB03T38	1065	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1065	CSZ	LMV	1	F								PART NEURAL ARCH	4
LEB03T38	1065	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T38	1065	CSZ	RIB	1	F								SHAFT	4
LEB03T38	1065	CSZ	RIB	1	L								PROX SHAFT	4
LEB03T38	1065	CSZ	SCP	7	F								BLADE FRAGS	4
LEB03T38	1065	CSZ	SKL	5	F								INDET	4
LEB03T38	1065	CSZ	UNI	1	F								INDET	4
LEB03T38	1065	CSZ	UNI	5	F								INDET	4
LEB03T38	1065	CSZ	UNI	5	F								INDET	4
LEB03T38	1065	EQU	ATL	1	F								PART POSTERIOR AND ANTERIOR FACETS- 2 PIECES	4
LEB03T38	1065	EQU	CEV	1	W	CFAF	12345						COMPLETE	4
LEB03T38	1065	EQU	PH1	1	F								SPLIT DISTAL HALF	4
LEB03T38	1065	EQU	SCP	1	F								PROX SPINE FRAGMENT	4
LEB03T38	1065	EQU	SCP	1	L		25						GLENOID AND PART OF NECK- 2 PIECES	4
LEB03T38	1065	EQU	UI	1	R								MED-WELL WORN	4
LEB03T38	1065	OVCA	INN	1	R		7						ISCHIAL SHAFT	4
LEB03T38	1065	OVCA	MAN	1	R		1237			H14I18J14 K12			FRAGMENT WITH MOLAR ROW AND SYMPHYSIS- 2 PIECES	4
LEB03T38	1065	OVCA	MTC	1	F				DG				DISTAL SHAFT-DISTAL CHEWED	4
LEB03T38	1065	SSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1065	SSZ	LMV	1	F								ZYGAPOPHYSIS FRAGMENT	4
LEB03T38	1065	SSZ	RIB	1	F								PROX SHAFT FRAGMENT	4
LEB03T38	1065	SUS	INN	1	L		7		DG				POST ISCHIUM-CHEWED	4
LEB03T38	1065	SUS	LC	1	F								FRAGMENT	4
LEB03T38	1065	SUS	LMV	1	F	CFAF	2345						CENTRUM AND NEURAL ARCH	4
LEB03T38	1065	UNI	UNI	10	F								INDET	4
LEB03T38	1066	BOS	LM1	1	L					I15			COMPLETE	4
LEB03T38	1066	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1066	CSZ	RIB	1	F								SHAFT FRAGMENT	3
LEB03T38	1066	OVCA	FEM	1	F								SHAFT	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T38	1066	OVCA	INN	1	L		39						ILIAL SHAFT	4
LEB03T38	1066	SSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1071	BOS	HUM	1	L		69	CH	DG				DISTAL SHAFT-DISTAL CHEWED	3
LEB03T38	1071	BOS	MTT	1	F								SHAFT FRAGMENT	4
LEB03T38	1071	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T38	1071	EQU	MTT	1	F			CH					SHAFT FRAGMENT-MULTPLY CHOPPED	4
LEB03T38	1077	CAN	INN	1	R	EF	234579						ILIAL AND ISCHIAL SHAFT AND ACETAB	4
LEB03T38	1077	CSZ	LBF	1	F								SHAFT FRAGMENT-FEM?	4
LEB03T38	1077	EQU	TIB	1	R		4				SD-33.5		SHAFT	4
LEB03T38	1077	OVCA	SCP	1	L	DF	12345						GLENOID-NECK AND DISTAL BLADE	4
LEB03T38	1078	CSZ	STN	1	F								SPLIT STERNUM	4
LEB03T38	1079	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1101	BOS	AST	1	L		1				L1-58.6 L2-53.5 Bp-40.3 Bd-38.9 Dd-27.7		COMPLETE	4
LEB03T38	1101	BOS	CEV	1	R	AJ		SP					RIGHT SIDE WITH ZYGAS AND PART CENTRUM-SPLIT-POSS CHOPPED- DOWN MIDDLE	4
LEB03T38	1101	BOS	HUM	1	F	PF	1	CH					PROX FACET-CHOPPED OFF	4
LEB03T38	1101	BOS	INN	1	L		2	CH	DG				ANT ILIAL SHAFT WITH SCAR-CHOPPED AND CHEWED- 2 PIECES	4
LEB03T38	1101	BOS	INN	1	R								POST ILIAL SHAFT-POROUS	4
LEB03T38	1101	BOS	MAN	1	R		5						FRAG ASC RAMUS WITH CONDYLE	4
LEB03T38	1101	BOS	RAD	1	L	PF	1	CH					SPLIT ANT MEDIAL PROX END-CHOPPED AXIALLY	4
LEB03T38	1101	BOS	RAD	1	L	PF	12						PROX END	4
LEB03T38	1101	BOS	RAD	1	L	DC	45	CH					PART DISTAL END -CHOPPED AXIALLY	4
LEB03T38	1101	BOS	SCP	1	R		7						PROX CAUDAL EDGE	4
LEB03T38	1101	BOS	ULN	1	L								SHAFT FRAG JUST DISTAL TO ARTIC	4
LEB03T38	1101	CSZ	CEV	1	L	AJ							FRAG WITH PART CENTRUM AND TRANS PROCESS	4
LEB03T38	1101	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1101	CSZ	LBF	1	F			CH					SHAFT FRAGMENT-HEAVILY CHOPPED	4
LEB03T38	1101	CSZ	RIB	3	F								MIDSHAFT FRAGMENT	4
LEB03T38	1101	CSZ	RIB	2	F								SPLIT SHAFT FRAGMENT	4
LEB03T38	1101	CSZ	RIB	1	F			KN					PROX MIDSHAFT FRAGMENT-DISTAL WITH CUT MARKS	4
LEB03T38	1101	EQU	PH1	1	W	PF	12		DG				PROX ARTIC BROKEN-DISTAL SLIGHTLY CHEWED	4
LEB03T38	1101	OVCA	TIB	1	R								DISTAL AND MIDSHAFT	4
LEB03T38	1101	OYS	LV	1	W								LOWER VALVE	4
LEB03T38	1101	SSZ	HUM	1	F				DG				MIDSHAFT FRAGMENT WITH TOOTH MARKS	4
LEB03T38	1101	SSZ	TIB	1	L				DG				PROX SHAFT FRAG-CHEWED	4
LEB03T38	1101	SUS	MC5	1	L	DN	12				GL1-52.3		PROX END AND SHAFT	4
LEB03T38	1101	SUS	RAD	1	R	PF	1		DG				SPLIT PROX HALF	4
LEB03T38	1101E	BIRD	TIB	1	L								DISTAL HALF- LARGE CROW SIZE	4
LEB03T38	1101E	BOS	RAD	1	L	PF	1						SPLIT PROX END-LARGE AND ROBUST- 2 PIECES	4
LEB03T38	1103	BOS	FEM	1	F								MIDSHAFT FRAGMENT	4
LEB03T38	1103	BOS	TIB	1	R		4						SPLIT PROX MIDSHAFT FRAGMENT- 2 PIECES	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T38	1105	BOS	LMP3	1	R					G6			NO WEAR	4
LEB03T38	1105	BOS	MAN	1	F								VENTRAL FRAGMENT ASC RAMUS	4
LEB03T38	1105	BOS	MAN	1	F			CH					POST VENTRAL FRAGMENT- ANGLE-CHOPPED- 2 PIECES	4
LEB03T38	1105	BOS	MAN	1	L		5	CH					PART ASC RAMUS WITH CONDYLE-CHOPPED ANT POST-AXIALLY-SL POROUS	4
LEB03T38	1105	BOS	MAN	1	R		5						CONDYLE ONLY	4
LEB03T38	1105	BOS	MTC	1	R	DF	12345		DG		GL-185 Bp-50 SD-26.2 Bd-50.1		COMPLETE BUT BOTH ENDS SL CHEWED	4
LEB03T38	1105	BOS	PH1	1	L		2		DG				DISTAL HALF-CHEWED	4
LEB03T38	1105	CSZ	CEV	1	F	AN							POST CENTRUM FRAGMENT	4
LEB03T38	1105	CSZ	LBF	1	F								SHAFT FRAGMENT-ROBUST	4
LEB03T38	1105	CSZ	LMV	1	F	CF	24						MOST OF CENTRUM	4
LEB03T38	1105	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T38	1105	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
LEB03T38	1105	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
LEB03T38	1105	EQU	LI	1	L								MED WEAR	4
LEB03T38	1105	OVCA	RAD	1	R				DG				SHAFT-DISTAL CHEWED	4
LEB03T38	1105	OVCA	TIB	1	L		4						PROX SHAFT FRAGMENT- LARGE	4
LEB03T38	1105	SSZ	FEM	1	F								PROX SHAFT FRAGMENT	4
LEB03T38	1105	SUS	MAN	1	F								FRAG OF ANGLE AREA	4
LEB03T38	1108	BOS	SKL	1	L								PREMAXILLA	4
LEB03T38	1108	BOS	TRV	1	F	CNAN	45						CENTRUM AND ARCH	4
LEB03T38	1108	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T38	1108	CSZ	RIB	1	L								PROX SHAFT FRAGMENT	4
LEB03T38	1108	OVCA	RAD	1	F								SPLIT DISTAL SHAFT FRAGMENT	4
LEB03T38	1108	SUS	FIB	1	F								MIDSHAFT	4
LEB03T38	1108	SUS	SKL	1	F		790790			D3efgh16I10J2K0			ANTERIOR HALF SKULL- 5 PIECES	4
LEB03T38	1114	OVCA	RAD	1	L	PF	123						PROX END	4
LEB03T38	1114	OVCA	RAD	1	L		23						ARTIC AND PART SHAFT-SAME LIMB AS RADIUS	4
LEB03T38	1114	OVCA	TIB	1	F				DG				PROX SHAFT FRAGMENT-PROX CHEWED-SL POROUS	4
LEB03T38	1114	OVI	MAN	1	L		123678			I17J14K12			COMPLETE HORI RAMUS-ASC BROKEN OFF	4
LEB03T38	1114	OYS	UV	1	W								UPPER VALVE	4
LEB03T39	1043	BOS	AST	1	R		1				L1-60.5 L2-55 BP-41.1 BD-39.1 Dd-29.2		COMPLETE	4
LEB03T39	1043	BOS	FEM	1	R		4		DG				DISTAL SHAFT- 6 PIECES	4
LEB03T39	1043	BOS	HC	1	R		1						COMPLETE	4
LEB03T39	1043	BOS	HUM	1	R	DF	67890		DG		BT-70 HT-39.1		DISTAL HALF-DISTRAL CHEWED	4
LEB03T39	1043	BOS	MTT	1	L	DF	12345				GL-20.7 Bp-45.4 Dp-41.2 SD-24 Bd-55.5 Dd-29		COMPLETE	4
LEB03T39	1043	BOS	PAT	1	L		1		DG				PERIPHERAL DAMAGE	4
LEB03T39	1043	BOS	SCP	1	R		3	CH					NECK-CHOPPED THRU DISTALLY	4
LEB03T39	1043	BOS	SCP	1	R								DISTAL PART OF SPINE	4
LEB03T39	1043	CSZ	LBF	2	F								SHAFT FRAGMENT	4

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LEB03T39	1043	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T39	1043	CSZ	UNI	1	F			C					CHARRED FRAGMENT	4
LEB03T39	1043	ORC	FIB	1	W								COMPLETE-SAME LIMB AS ABOVE	4
LEB03T39	1043	ORC	TIB	1	L	PNDN							SHAFT-JUV	4
LEB03T39	1043	OVCA	LMV	1	F	CNAN	145						NEURAL ARCH AND CENTRUM	4
LEB03T39	1043	OVCA	MTT	1	R				DG				MIDSHAFT-PROX CHEWED	4
LEB03T39	1043	OVI	MAN	1	R		12345678			FGH12I15J 13K12			COMPLETE	4
LEB03T39	1043	SSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T39	1043	SSZ	RIB	1	R								SHAFT	4
LEB03T39	1043	UNI	LBF	1	F								YOUNG JUVENILE SHAFT FRAG	4
LEB03T39	1071	BOS	MTT	1	R	DF	345				Bd-55 Dd-30.5		DISTAL END- 3 PIECES	4
LEB03T39	1071	BOS	SAC	1	F								NEURAL ARCH OF POST SACRAL VERTS	4
LEB03T39	1071	BOS	TIB	1	F								MIDSHAFT FRAGMENT	4
LEB03T39	1071	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T40	1046	CRRO	ULN	1	R								PROX HALF	4
LEB03T40	1046	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T40	1046	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T40	1046	EQU	AXI	1	W	AN	245						CENTRUM AND NEURAL ARCH	4
LEB03T40	1046	EQU	MTT	1	F								SHAFT-SMALL-DONKEY SIZE	4
LEB03T40	1046	FRTO	LBF	1	F								SHAFT	4
LEB03T40	1046	SSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T40	1504	BOS	SCP	1	R		5						CAUDAL FRAGMENT OF DISTAL BLADE	4
LEB03T40	1504	ORC	FEM	1	L	PNDN							COMPLETE SHAFT-SAME ANIMAL AS ABOVE TIB	4
LEB03T40	1504	ORC	TIB	1	R	PNDN							COMPLETE SHAFT	4
LEB03T41	1081	CAN	LC	1	W								WELL WORN	4
LEB03T41	1081	CSZ	RIB	1	F								SHAFT FRAGMENT- 3 PIECES	4
LEB03T41	1081	OVCA	INN	1	L	EF	39						ILIAL SHAFT AND PART ACETAB	4
LEB03T41	1081	OVCA	MTT	1	F				DG				MIDSHAFT FRAGMENT-CHEWED	4
LEB03T41	1081	OVCA	UM	1	F					12			BROKEN	4
LEB03T41	1081	OVCA	UM2	1	R					J12			COMPLETE	4
LEB03T41	1082	BOS	FEM	1	R		4		DG				DISTAL HALF OF SHAFT-DISTAL CHEWED	4
LEB03T41	1082	BOS	TIB	1	R	PFDF	1234567				GL-333 Bp-92 SD-32.3 Bd-59.3 Dd-42.9		COMPLETE BUT SL DAMAGE TO PROX END	4
LEB03T41	1082	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T41	1082	CSZ	RIB	1	F								SHAFT FRAGMENT- 4 PIECES	3
LEB03T41	1082	SSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T41	1083	BOS	AXI	1	F								PART ANT ARTIC	4
LEB03T41	1083	BOS	CQ	1	F								ANT HALF	4
LEB03T41	1083	BOS	MTT	1	F								MIDSHAFT FRAGMENT-ROBUST	4
LEB03T41	1083	BOS	RAD	1	L	PF	1						SPLIT PROX END	4
LEB03T41	1083	BOS	RIB	1	L				DG				PROX SHAFT-PROX CHEWED	4
LEB03T41	1083	BOS	UM3	1	R					K14			COMPLETE	4
LEB03T41	1083	BOS	UPM3	1	L					G12			CHIPPED	4

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LEB03T41	1083	CAN	LC	1	F								BROKEN	4
LEB03T41	1083	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
LEB03T41	1083	CSZ	LBF	2	F								SHAFT FRAGMENT	4
LEB03T41	1083	CSZ	LBF	1	F	PF							PROX FRAGMENT-RAD?	4
LEB03T41	1083	CSZ	LBF	1	F			C					CHARRED SHAFT FRAGMENT	4
LEB03T41	1083	CSZ	TIB	1	L								ANT PROX SHAFT FRAGMENT	4
LEB03T41	1083	CSZ	TTH	1	F								ROOT FRAGMENT	4
LEB03T41	1083	CSZ	TTH	1	F								FRAGMENT	4
LEB03T41	1083	MAN	LI	1	W								CHIPPED	4
LEB03T41	1083	OVCA	CAL	1	R	PN	23		DG				COMPLETE EXCEPT FOR EPI-CHEWED	4
LEB03T41	1083	OVCA	UM3	1	L					K12			COMPLETE	4
LEB03T41	1083	OYS	LV	1	W								LOWER VALVE	4
LEB03T41	1083	SSZ	LBF	3	F								SHAFT FRAGMENT	4
LEB03T41	1083	SSZ	RIB	2	F								SHAFT FRAGMENT	4
LEB03T41	1083	SUS	INN	1	L	EF	345		DG				ILIAL SHAFT AND ACETAB-CHEWED	4
LEB03T41	1083	SUS	SCP	1	R	DF	1235						GLENOID-NECK AND CAUDAL MARGIN- 3 PIECES	4
LEB03T42	1022A	BOS	MTT	1	F								MIDSHAFT-SMALL-POROUS-CALF	4
LEB03T42	1022A	BOS	SCP	1	R			CH	DG				PROX CAUDAL MARGIN OF BLADE-CHOPPED DISTALLY- 2 PIECES	4
LEB03T42	1022A	CSZ	RIB	1	F								SHAFT FRAGMENT- 2 PIECES	4
LEB03T42	1022A	GOOS	FEM	1	L								DISTAL END	4
LEB03T42	1022A	OVCA	MTT	1	F								SPLIT MIDSHAFT FRAGMENT	4
LEB03T42	1122	BOS	ATL	1	F								PART ANT FACET	4
LEB03T42	1122	BOS	DLP3	1	R					g10			COMPLETE	4
LEB03T42	1122	BOS	DUPM	1	F								ONE CUSP	4
LEB03T42	1122	BOS	HUM	1	R		90						SPLIT DISTAL HALF OF SHAFT	4
LEB03T42	1122	BOS	INN	1	L	EF	57	CH					PART ACETAB WITH PART ISCHIAL SHAFT- 2 PIECES	4
LEB03T42	1122	BOS	LM1	1	R					I9			ROOTS BROKEN OFF	4
LEB03T42	1122	BOS	LMP3	1	R					G14			COMPLETE	4
LEB03T42	1122	BOS	LMV	1	F	CFAN	1245						CENTRUM AND NEURAL ARCH	4
LEB03T42	1122	BOS	MAN	1	L								POST FRAG ASC RAMUS	4
LEB03T42	1122	BOS	MAN	1	L		5						CONDYLE	4
LEB03T42	1122	BOS	MAN	1	R		67						ANGLE AND VENTRAL ASC RAMUS- 2 PIECES	4
LEB03T42	1122	BOS	MTC	1	F								POST MIDSHAFT FRAGMENT	4
LEB03T42	1122	BOS	MTC	1	L	DF	45		DG				LATERAL PART DISTAL END	4
LEB03T42	1122	BOS	MTT	1	F				DG				PROX FRAGMENT-POROUS-CHEWED	4
LEB03T42	1122	BOS	MTT	1	F								SHAFT FRAGMENT	4
LEB03T42	1122	BOS	PH2	1	L	PF	12						COMPLETE	4
LEB03T42	1122	BOS	PH2	1	L	PF	12		DG				DISTAL END CHEWED	4
LEB03T42	1122	BOS	PH3	1	R		1						COMPLETE	4
LEB03T42	1122	BOS	SCP	1	R	DF	123						GLENOID-NECK AND CAUDAL MARGIN OF BLADE- 3 PIECES	4
LEB03T42	1122	BOS	SKL	1	R								PART ZYGOMATIC ARCH	3
LEB03T42	1122	BOS	TIB	1	F								MIDSHAFT-SMALL-POROUS-JUV-4 PIECES	4

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LEB03T42	1122	BOS	TIB	1	F								SPLIT DISTAL SHAFT FRAGMENT	4
LEB03T42	1122	BOS	UM2	1	L					J14			COMPLETE	4
LEB03T42	1122	BOS	UM3	1	L					K12			LAST CUSP LESS WORN-LM3 PROB WITHOUT COLUMN	4
LEB03T42	1122	BOS	UM3	1	L					K11			COMPLETE	4
LEB03T42	1122	BOS	UPM4	1	L					H12			COMPLETE	4
LEB03T42	1122	CSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T42	1122	CSZ	LBF	1	F				DG				SHAFT FRAGMENT	4
LEB03T42	1122	CSZ	RIB	4	F								SHAFT FRAGMENT	4
LEB03T42	1122	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T42	1122	CSZ	UNI	2	F								INDET	4
LEB03T42	1122	CSZ	VER	1	F	AN	3						EPI FRAGMENT	4
LEB03T42	1122	EQU	ATL	1	F		12345						SL PERIPHERAL DAMAGE	4
LEB03T42	1122	EQU	CEV	2	F								NEURAL ARCH FRAG AND ZYGAPOPHYSIS	4
LEB03T42	1122	EQU	CEV	2	F	CF	24						CENTRUM	4
LEB03T42	1122	EQU	HUM	1	R	DF	567890						DISTAL END AND SHAFT	4
LEB03T42	1122	EQU	RAD	1	R	DF	456				SD-32.2 Bd-63.5 Dd-35		DISTAL HALF	4
LEB03T42	1122	EQU	TIB	1	F								MIDSHAFT FRAGMENT	4
LEB03T42	1122	EQU	TRV	1	F	CNAN	4						CENTRUM ONLY	4
LEB03T42	1122	EQU	UI	1	R								SLIGHT WEAR	4
LEB03T42	1122	OVCA	FEM	1	L	PF	23						PART PROX END	4
LEB03T42	1122	OVCA	MAN	1	F								LATERAL FRAG HORI RAMUS	4
LEB03T42	1122	SUS	LC	1	L								MALE CANINE	4
LEB03T42	1122	SUS	RIB	1	F								SHAFT	4
LEB03T42	1125	CSZ	RIB	1	F								SPLIT SHAFT FRAGMENT	4
LEB03T42	1125	EQU	HUM	1	L		9						DISTAL SHAFT- 3 PIECES	4
LEB03T42	1125	EQU	MPL	1	F								LATERAL METAPODIAL	4
LEB03T42	1125	OVCA	INN	1	L		39	CH					POST ILIAL SHAFT-CHOPPED	4
LEB03T42	1125	OVCA	MTT	1	L				DG				SHAFT-PROX CHEWED-GRACILE	4
LEB03T42	1125	SSZ	UNI	1	F								INDET	4
LEB03T42	1125	SUS	MAN	1	L		7			K7			POST TOOTH ROW FRAGMENT	4
LEB03T42	1125	SUS	SCP	1	F		3						FRAGMENT OF NECK-SMALL-JUV	4
LEB03T42	1128	BOS	FEM	1	F								SHAFT FRAGMENT	4
LEB03T42	1128	CAN	FEM	1	F								PROX SHAFT FRAGMENT	4
LEB03T42	1128	EQU	LPM2	1	R								SL WEAR	4
LEB03T42	1128	SSZ	LBF	1	F								SHAFT FRAGMENT	4
LEB03T42	1128A	BOS	TIB	1	R				DG				PROX SHAFT FRAGMENT-PROX CHEWED	4
LEB03T42	1130	BOS	LM2	1	L					J7			ROOTS BROKEN	4
LEB03T42	1130A	BOS	MTT	1	R		25		DG				WHOLE SHAFT-DISTAL END CHEWED	4
LEB03T42	1132	CSZ	LBF	2	F								SHAFT FRAGMENT	4
LEB03T42	1132	CSZ	RIB	1	F			CH					CHOPPED SHAFT FRAGMENT	4
LEB03T42	1132	CSZ	RIB	1	F								SHAFT FRAGMENT	4
LEB03T42	1133A	BOS	INN	1	R	EF	7					P	ANT ISCHIAL SHAFT WITH PART ACETAB-SOME BONE GROWTH ON OUTSIDE ACETAB	4

site	context	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
LEB03T42	1133A	BOS	TIB	1	R		4						SMALL FRAG PROX SHAFT-POROUS	4
LEB03T42	1133A	CSZ	LBF	1	F								SHAFT FRAGMENT	3
LEB03T42	1133A	CSZ	RIB	1	F								SHAFT FRAGMENT	3
LEB03T42	1133B	BOS	AST	1	R		1				L1-69.3 L2-60.7 Bp-48.2 Bd-43.6 Dd-33		COMPLETE	4
LEB03T42	1133B	BOS	MTC	1	L	DN	5		DG				DISTAL HALF SHAFT-SMALL-POROUS-JUV	4
LEB03T42	1133B	EQU	FEM	1	F								PROX MIDSHAFT FRAGMENT	4
LEB03T42	1133B	OVCA	FEM	1	R	DF	457						DISTAL END-ONE CONDYLE LOST	4
LEB03T42	1133B	OVCA	RAD	1	L	PF	123						PROX END AND SHAFT-PROX DAMAGED	4
LEB03T42	1133B	SSZ	RIB	1	F								SHAFT	4
LEB03T42	1133B	SUS	HUM	1	R				DG				PROX HALF SHAFT-PROX END CHEWED OFF	4
LEB03T42	1133B	SUS	SKL	1	F		3	CH					POST CRANIUM-PARS AND OCCIPITAL INTERNAL CRANIUM CHOPPED-SUTIRES OPEN	4
LEB03T42	1137	CSZ	SKL	1	F								ALVEOLAR FRAGMENT	4
LEB03T42	1214	BOS	RAD	1	R	PF	2						SPLIT PROX EWND-VERY ERODED	2
LEB03T42	1214	OVCA	RAD	1	L	PF	123						PROX END AND SHAFT-VERY ERODED- 2 PIECES	2
LEB03T42	U/S	OYS	LV	1	F								LOWER VALVE	4
LEB03T144	1703	CER?	LMV	1	F	CNAN	4						CENTRUM	4
LEB03T144	1776	BOS	HUM	1	L	DF	6789				BT-66.5 HT-38		DISTAL HALF-VERY LIGHT	3
LEB03T144	U/S	BOS	ULN	1	R		23						ARTICULATION	3
LEB03T144	U/S	CSZ	RIB	1	L								PROX SHAFT	4
LEB03T144	U/S	CSZ	RIB	1	R								MIDSHAFT	4
LEB03T144	U/S	DUCK	TIB	1	L	PNDN							COMPLETE SHAFT-YOUNG DUCK?	4
LEB03T144	U/S	OVCA	RAD	1	L	PFDN	1236						PROX END AND SHAFT-GRACILE	4
LEB03T144	U/S	SUS	MT3	1	R	DN	12						PROX END AND SHAFT	3
LEB03T144	U/S	SWAN	COR	1	R								DISTAL HALF	4

Appendix 3
Radiocarbon Calibration Curves.

AMS Dates

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 184262	2670 +/- 50 BP	-22.6 o/oo	2710 +/- 50 BP
SAMPLE : LEB03/1700/3			
ANALYSIS : AMS-Advance delivery			
MATERIAL/PRETREATMENT : (bone collagen): collagen extraction: with alkali			
2 SIGMA CALIBRATION : Cal BC 940 to 800 (Cal BP 2890 to 2750)			
Beta - 184264	8660 +/- 40 BP	-26.5 o/oo	8640 +/- 40 BP
SAMPLE : LEB03/1754/4			
ANALYSIS : AMS-Advance delivery			
MATERIAL/PRETREATMENT : (nutshell): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 7740 to 7580 (Cal BP 9690 to 9530)			
Beta - 184265	4120 +/- 40 BP	-24.1 o/oo	4130 +/- 40 BP
SAMPLE : LEB03/1778/5			
ANALYSIS : AMS-Advance delivery			
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid			
2 SIGMA CALIBRATION : Cal BC 2880 to 2580 (Cal BP 4830 to 4520)			

Standard Radiocarbon Dates

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 184261 SAMPLE : LEB03/1690/RC14 ANALYSIS : Radiometric-Priority delivery MATERIAL/PRETREATMENT : (wood): acid/alkali/acid 2 SIGMA CALIBRATION : Cal AD 20 to 260 (Cal BP 1930 to 1690)	1870 +/- 60 BP	-25.0* o/oo	1870 +/- 60* BP
Beta - 184263 SAMPLE : LEB03/1700/8 ANALYSIS : Radiometric-Priority delivery MATERIAL/PRETREATMENT : (wood): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 1360 to 1360 (Cal BP 3310 to 3300) AND Cal BC 1320 to 970 (Cal BP 3260 to 2920)	2940 +/- 60 BP	-25.0* o/oo	2940 +/- 60* BP
Beta - 184266 SAMPLE : LEB03/COL3/5CMS ANALYSIS : Radiometric-Priority delivery (with extended counting) MATERIAL/PRETREATMENT : (wood): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 1690 to 1290 (Cal BP 3640 to 3240)	3210 +/- 90 BP	-25.0* o/oo	3210 +/- 90* BP
Beta - 184267 SAMPLE : LEB03/COL3/97CMS ANALYSIS : Radiometric-Priority delivery (with extended counting) MATERIAL/PRETREATMENT : (wood): acid/alkali/acid 2 SIGMA CALIBRATION : Cal BC 1030 to 770 (Cal BP 2980 to 2720)	2700 +/- 90 BP	-25.0* o/oo	2700 +/- 90* BP

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-22.6:lab. mult=1)

Laboratory number: **Beta-184262**

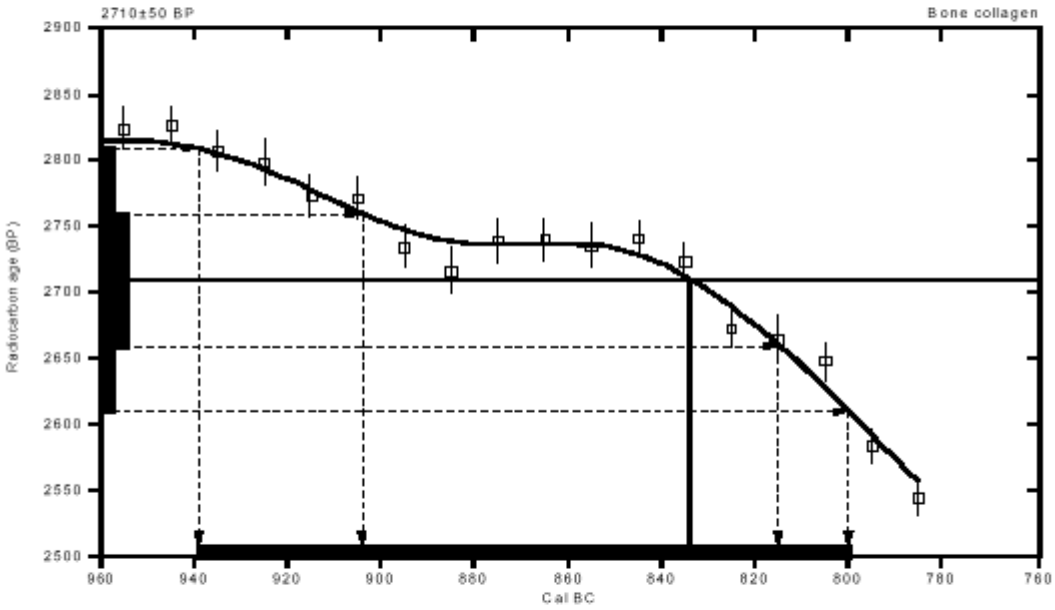
Conventional radiocarbon age: **2710±50 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 940 to 800 (Cal BP 2890 to 2750)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 830 (Cal BP 2780)

1 Sigma calibrated result: (68% probability) Cal BC 900 to 820 (Cal BP 2850 to 2760)



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INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, Radiocarbon 40(3), p1041-1083

Mathematics

A Simplified Approach to Calibrating C14 Dates

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-26.5:lab. mult=1)

Laboratory number: **Beta-184264**

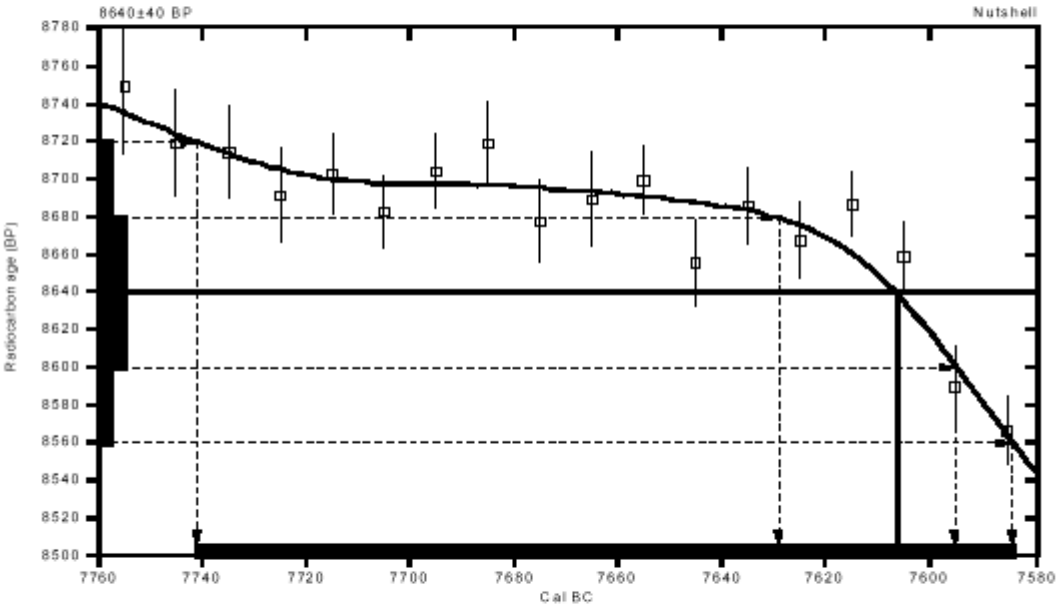
Conventional radiocarbon age: **8640±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 7740 to 7580 (Cal BP 9690 to 9530)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 7610 (Cal BP 9560)

1 Sigma calibrated result: (68% probability) Cal BC 7630 to 7600 (Cal BP 9580 to 9540)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.1:lab. mult=1)

Laboratory number: **Beta-184265**

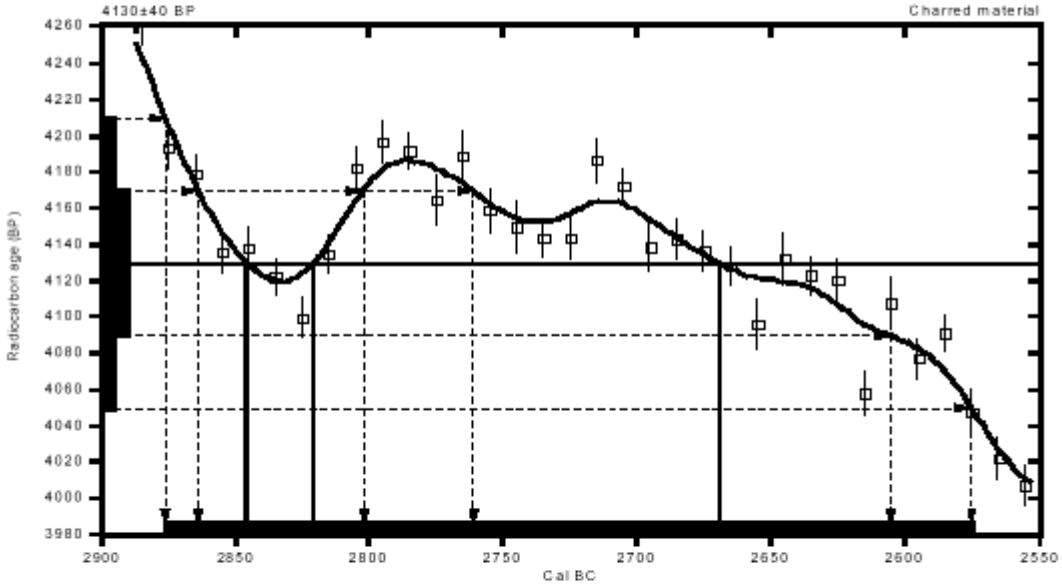
Conventional radiocarbon age: **4130±40 BP**

2 Sigma calibrated result: (95% probability) **Cal BC 2880 to 2580 (Cal BP 4830 to 4520)**

Intercept data

Intercepts of radiocarbon age with calibration curve: Cal BC 2850 (Cal BP 4800) and
Cal BC 2820 (Cal BP 4770) and
Cal BC 2670 (Cal BP 4620)

1 Sigma calibrated results: (68% probability) Cal BC 2860 to 2800 (Cal BP 4810 to 4750) and
Cal BC 2760 to 2600 (Cal BP 4710 to 4560)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-184261**

Conventional radiocarbon age[1]: **1870±60 BP**

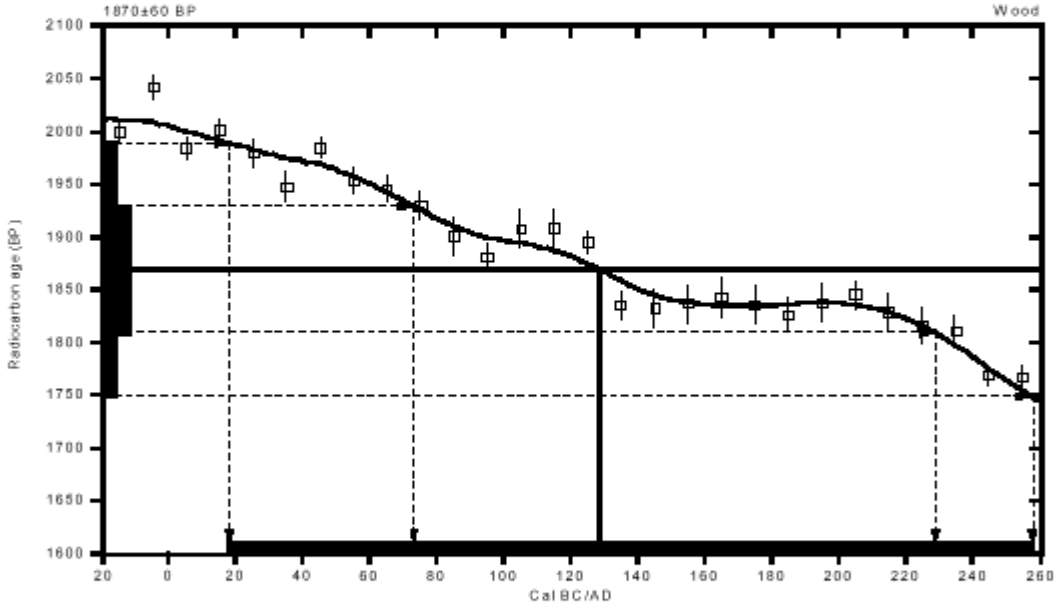
2 Sigma calibrated result: (95% probability) **Cal AD 20 to 260 (Cal BP 1930 to 1690)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 130 (Cal BP 1820)

1 Sigma calibrated result: (68% probability) Cal AD 70 to 230 (Cal BP 1880 to 1720)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-184263**

Conventional radiocarbon age[1]: **2940±60 BP**

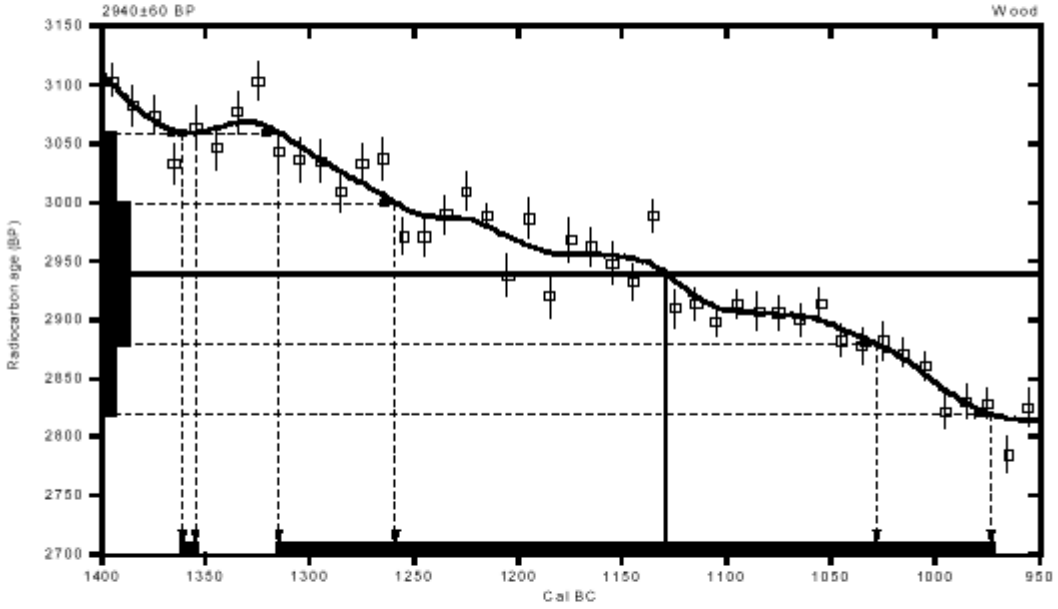
2 Sigma calibrated results: (95% probability) **Cal BC 1360 to 1360 (Cal BP 3310 to 3300) and Cal BC 1320 to 970 (Cal BP 3260 to 2920)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1130 (Cal BP 3080)

1 Sigma calibrated result: (68% probability) Cal BC 1260 to 1030 (Cal BP 3210 to 2980)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-184266**

Conventional radiocarbon age[1]: **3210±90 BP**

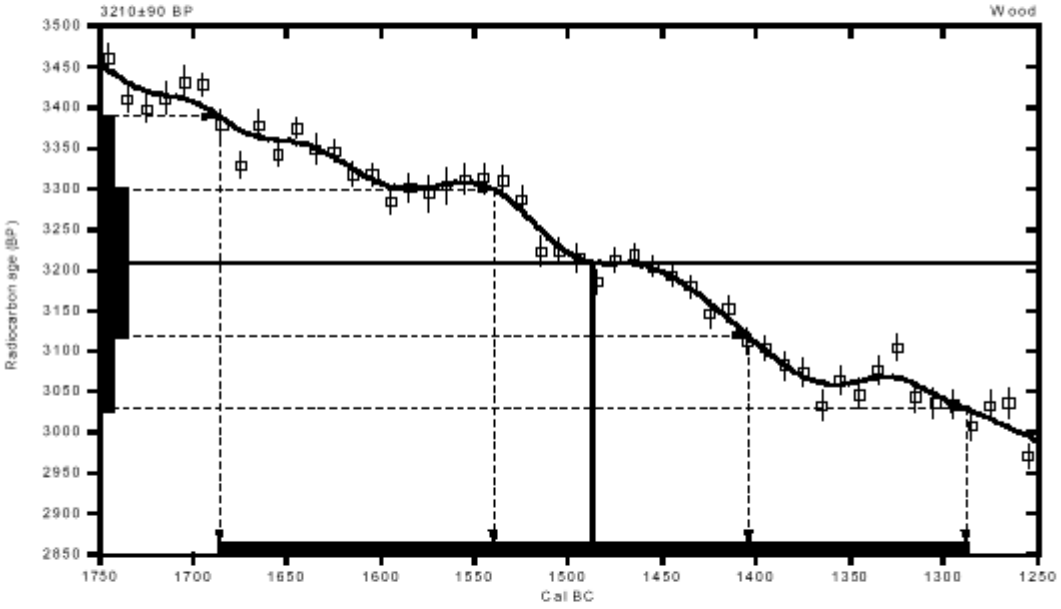
2 Sigma calibrated result: (95% probability) **Cal BC 1690 to 1290 (Cal BP 3640 to 3240)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 1490 (Cal BP 3440)

1 Sigma calibrated result: (68% probability) Cal BC 1540 to 1400 (Cal BP 3490 to 3350)



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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: est. C13/C12=-25:lab. mult=1)

Laboratory number: **Beta-184267**

Conventional radiocarbon age[1]: **2700±90 BP**

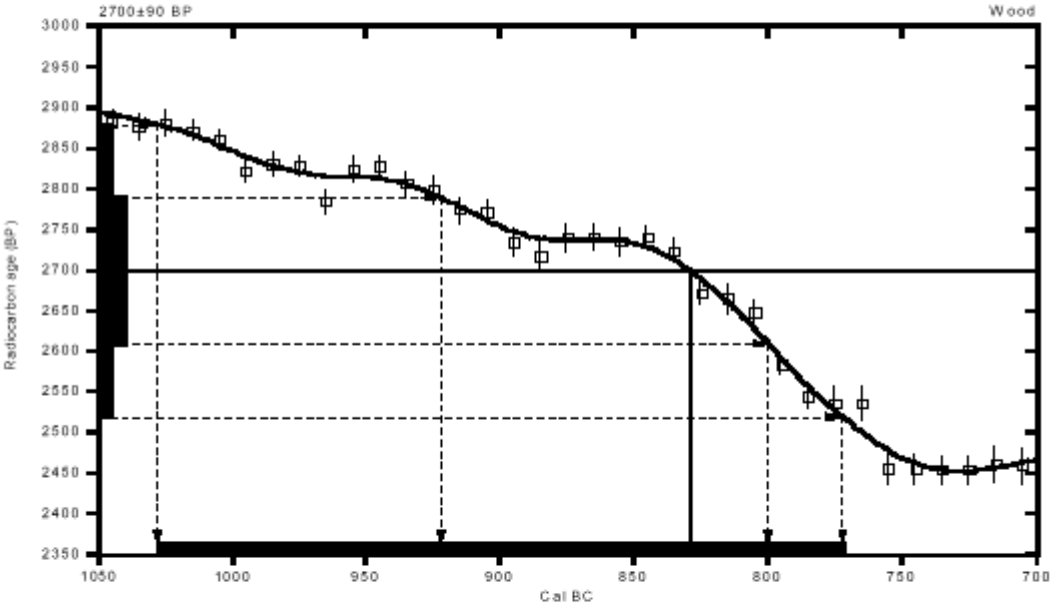
2 Sigma calibrated result: (95% probability) **Cal BC 1030 to 770 (Cal BP 2980 to 2720)**

[1] C13/C12 ratio estimated

Intercept data

Intercept of radiocarbon age with calibration curve: Cal BC 830 (Cal BP 2780)

1 Sigma calibrated result: (68% probability) Cal BC 920 to 800 (Cal BP 2870 to 2750)



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Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1031	19	flake (T)	L.Mes/E. Neo		yes	yes		cort		feath	flake from type A or B1 blade core; poss worked on an anvil
1031	19	chip									
1032	19	flake (S)		no	yes					hinge	medial & distal frag of core prep (decortication) flake
1193	16	flake (T)	L.Neo/BA	no	yes					feath	dist frag large flake from multiple platform core;
1193	16	chip			yes						
1193	16	chunk			partly						poss detached from reused core
1284	17	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	step	small flake prob from type A core; slight post-dep damage to margins
1284	17	core	BA/IA		yes						exhausted pebble core, type Cb; 9+ irregular flakes detached
1942	78	flake (T)	L.Neo/BA	yes	yes			comp	pron	feath	dorsal scars indicate removal of similar flakes with pron bulbs = hard hammer
2050	85	flake (T)		yes				flat	diffuse	hinge	small squat flake removing edge of flaked flake, from creation of bifacial tool?
2053	86	blade (T)	L.Mes/E. Neo	no	yes					feath	dist frag of small blade; post-dep damage
2061	87	flake (S)			yes			abrad	diffuse	feath	small irreg flake, prob from type A core; some post-dep damage
2067	90	side & end scraperL	L.Neo/EBA	yes	yes		yes				thick flake, bulb & platf detached; acute to semi-abrupt retouch
2092	95	flake (S)		yes	yes			cort	diffuse	feath	v. small flake
2151	133	blade-like flake (S)	L.Mes/E. Neo		yes					step	small flake from blade core; platf & bulb detached, prob due to nat fault
2151	133	flake (S)	L.Neo/EBA	yes	yes			flat	pron	step	relatively squat decortication flake - core prep
2173	131	chunk			yes	yes					all facets have surviving flake surfaces
2177	131	flake (T)		no	yes						dist frag of truncated flake; post-dep damage has removed prox end
TP 11	134	core	L.Neo/BA			poss					exhausted pebble core, type Cb; v small flakes detached
TP 11	134	flake (S)	L.Neo/BA	no	yes			cort	pron		proc frag small irreg flake
TP 13	134	blade (T)	E.Neo?	no	partly		poss u/w			feath	dist frag larger blade; poss use-wear dist end 1 lat edge; post-dep damage
TP17	134	blade-like flake (T)	L.Mes/E. Neo	no				abrad	diffuse		dorsal scars indicate blade removals
TP17	134	flake (T)		yes	yes			abrad	diffuse	step	small rod-like flake from type A core
TP17	134	core fragment	L.Mes/E. Neo		yes						small type A2 pebble core, with blade removals; some post-dep damage
TP17	134	chip				yes					granular structure
TP19	134	flake (S)	L.Mes/E. Neo	yes	partly			sm. flat	v.sm.pr	feath	large area of abraded, rounded cortex; from type A core
TP19	134	flake (T)		no	yes					hinge	distal frag very small flake
TP5A	133	utlilsed flake? (S)	BA/IA	no	partly		poss				med & dist frag of thick irreg flake; flakes removed from dist end ventral surf.
U/S	23	flake (S)			yes			flat	sm.pr	feath	mishit (insipient cone of percussion); from type A core; post-dep damage
total: **29**			LM/EN **7**		yes **20**	yes **3**	ret **1**	flat **4**	diff **3**	feath **9**	
			EN **1**		partly **4**	poss **1**	poss **3**	abr **3**	smpr **1**	hng **3**	
			LN/EBA **2**					comp**1**	vspr **1**	stp **4**	
			LN/BA **4**				pos u/w**1**	crt **3**	pron **3**	plng	
			BA/IA **2**								

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1003	38	flake (S)		no	yes	yes	yes	flat	diffuse		prox frag large flake; acute retouch 1 lat edge; calcined & pot lids detached
1050	40	blade (S)	L.Mes/E. Neo	no						feath	distal frag of blade; slight post-dep damage
1050	40	chip									
1057	34	blade (T)	L.Mes/E. Neo	no	yes						medial frag of small blade
1057	34	chip			yes	yes					granular structure/calcined, pot lids detached
1057	34	chip			yes						
1063	38	chunk				yes					heavily burnt, granular structure; some flake surfaces survive
1066	38	blade-like flake (T)	L.Mes/E. Neo	yes	yes			abrad	diffuse	feath	Wolds flint; irreg b-l flake with pronounced lat projection near distal end
1082	41	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	hinge	slight post-dep damage to margins
1082	41	flake (T)		no				comp	pron		prox frag of irreg flake; evidence of platform prep; poss inscipient cone
1082	41	flake (S)		no	partly					feath	distal frag of irreg flake
1083	41	blade-like flake (T)	L.Mes/E. Neo	yes	yes			comp	diffuse	step	b-l flake with some evidence of platf prep; post-dep damage to margins
1093	35	utilised blade (S)	L.Mes/E. Neo	no			yes			feath	platf detached; retouch/use-wear along 1 lat edge
1093	35	blade (P)	L.Mes/E. Neo	no						feath	distal frag of small blade
1093	35	flake (S)	L.Mes/E. Neo	yes				flat	diffuse	step	large, thick, irreg flake from blade core; irreg waste
1093	35	side & end scraper		yes			yes	cort			large, thick flake; flaked on ventral surface; semi-abrupt retouch to distal end
1093	35	core frag	L.Neo/BA		partly						small frag with relatively thick abraded cortex; produced small squat flakes
1093	35	flake (T)		yes				comp	sm.pr	feath	poss thinning flake from tool production
1093	35	flake (S)	L.Neo/BA	yes	partly			flat		feath	irreg flake, with bulb detached; recorticated surface suggests reused core
1093	35	flake (S)		no						feath	distal frag of irreg flake
1093	35	chunk			yes	yes					heavily burnt, granular structure/calcined
1093	35	chunk			partly						
1093	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093	35	chip			yes	yes					heavily burnt, granular structure
1093	35	chip			yes	yes					heavily burnt, granular structure
1093	35	chip			yes	yes					heavily burnt, granular structure
1093	35	chip			yes						
1093	35	chip			yes						
1093	35	chip									
1093	35	chip									
1101	38	utilised flake (T)	Neo/EBA	yes	partly		yes	comp	pron	feath	squat irreg flake; irreg acute retouch along distal end - cutting flake
1103	38	blade-like flake (S)	L.Mes/E. Neo	yes				comp	diffuse	feath	
1103	38	blade (P)	L.Mes/E. Neo	no	partly					feath	distal frag of blade, with cortical dorsal surface
1103	38	flake (S)		yes				comp	sm.pr	step	small, squat flake; poss platf prep, as removed scar of step fracture
1103	38	flake (S)		yes	yes			comp	diffuse	hinge	small squat flake; irreg waste

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1103	38	core	L.Mes/E. Neo	no	yes						small exhausted type A2 blade core; area detached by post-dep damage
1157	34	obliquely bl blade	L.Mes	yes			yes			feath	broader in middle, type B1 core; platf removed by abrupt oblique retouch
1159	34	blade (T)	L.Mes/E. Neo	yes	yes		yes	flat	diffuse	feath	small area of semi-abrupt retouch or use-wear, medial section of 1 lat edge
1160	34	blade (S)	L.Mes/E. Neo	no	yes		poss u/w			feath	medial & distal frag; poss use-wear along part of 1 lat edge
1160	34	blade-like flake (P)	L.Mes/E. Neo	no	partly			flat	sm.pr		prox & medial frag of cortical b-l flake; thin rounded & abraded cortex
1160	34	blade-like flake (T)	L.Mes/E. Neo	no						feath	distal frag of b-l flake, with dorsal scars of previous blade removals
1160	34	flake (S)		yes	yes			cort	diffuse	feath	irreg flake (poss from blade core); slight post-dep damage
1160	34	flake (S)		no	yes					feath	distal frag
1160	34	chunk			yes						post-dep damage
1160	34	chip			partly	yes					small frag of burnt flake
1161	34	blade (T)	L.Mes/E. Neo	no			u/w	comp	v.sm.pr		prox & medial frag of blade; use-wear prox end 1 lat edge
1161	34	blade-like flake (T)	L.Mes/E. Neo	yes			yes	flat	sm.pr	feath	b-l flake tapering at distal end; abrupt retouch/use-wear dist end 1 lat edge
1161	34	backed blade (S)	L.Mes	yes	partly		yes	comp	diffuse	feath	small blade with abrupt retouch 1 lat edge & acute retouch/use-wear other
1161	34	microlith (T)	L.Mes		yes		yes				narrow-blade, abrupt retouch 1 lat edge & obliq blunting prox end = type 5?
1161	34	blade-like flake (S)	L.Mes/E. Neo	yes	yes			comp	diffuse	feath	large irreg rod-like flake
1161	34	flake (T)		yes	yes	yes		flat	diffuse	feath	irreg flake, some post-dep damage
1161	34	core frag	L.Mes/E. Neo		partly						piece of blade core (prob type A2) with small are of platf edge
1161	34	flake (S)		no						hinge	medial &distal frag irreg flake; thin, rounded, abraded cortex
1161	34	flake (S)		yes				comp	sm.pr	feath	
1161	34	core frag	L.Mes/E. Neo								small cortical element of type B blade core (small blades)
1161	34	core	L.Mes/E. Neo		yes						exhausted type A2 blade core; one side entirely cortical: thin & abraded
1161	34	core	L.Mes/E. Neo		yes						type A2 blade core
1161	34	utilised flake (S)	L.Neo/BA	yes			yes	cort		hinge	large irreg flake, irreg abrupt retouch mid section 1 lat edge
1161	34	utilised flake (T)		no			u/w	flat	pron		prox & medial frag of flake; use-wear/minor retouch along 1 lat edge
1161	34	utilised flake (S)	L.Neo/BA	yes			yes	comp	pron	feath	abrupt retouch along prox end, poss use-wear long distal end
1161	34	scraper	L.Neo/BA	yes			yes				large, thick irreg flake; semi-abrupt & acute retouch along much of circumf
1161	34	core	L.Mes/E. Neo		yes						exhausted type A2 blade core
1161	34	oblique arrowhead	EBA	yes	yes		yes				distal frag of truncated flake; abruptly retouched (convex) transverse edge
1161	34	flake (P)		yes				cort	diffuse	feath	small cortical flake, rounded pebble, area of crushed cortex (hammerstone?)
1161	34	flake (T)		yes				flat	diffuse	feath	small irreg flake; irreg waste
1161	34	flake (S)		yes				flat	sm.pr	feath	irreg waste
1161	34	flake (S)		yes				cort	diffuse	feath	irreg waste
1161	34	flake (P)		no	yes	yes				feath	distal frag of broad flake; heavily burnt, granular structure/calcined
1161	34	flake (S)	L.Neo/BA	yes	yes			cort	pron	feath	small, squat flake; irreg waste
1161	34	blade-like flake (S)	L.Mes/E. Neo	yes				comp	diffuse	feath	small b-l flake from blade core

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1161	34	blade-like flake (T)	L.Mes/E. Neo	no	yes					feath	distal frag of b-l flake
1161	34	flake (P)		no	yes			cort	sm.pr		prox frag of small cortical flake
1161	34	flake (S)		yes				cort	sm.pr	feath	very small squat flake; irreg waste, poss platf prep
1161	34	flake (T)		no	partly					feath	distal frag possible tinning flake
1161	34	knife? (T)		no	partly	yes	yes				convex edge abruptly retouched, straight edge unmodified
1161	34	utilised flake (T)		no	yes	yes	yes				small frag of heavily burnt flake, calcined; 1 edge has area of abrupt retouch
1161	34	chunk			yes						
1161	34	chunk			partly						large ireg frag of flint, with numerous flake surfaces
1161	34	chunk									
1161	34	chunk									
1161	34	chunk									
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure, pot lids detached
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure
1161	34	chip			yes	yes					heavily burnt, calcined/granular structure
1161	34	chip			yes	yes					heavily burnt, granular structure, pot lids detached
1161	34	chip			yes	yes					
1161	34	chip			yes	yes					
1161	34	chip			yes						
1161	34	chip			yes						
1161	34	chip			yes						
1161	34	chip			yes						
1161	34	chip			yes						
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1161	34	chip									
1161	34	chip									
1161	34	chip									

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1247	26	end scraper (S)	L.Mes/E. Neo	yes	yes	poss	yes	flat	diffuse	feath	blade-like flake, with semi-abrupt retouch along distal end
1637	145	blade (T)	L.Mes/E. Neo	no	partly					hinge	medial & distal frag of small blade
1637	145	flake (T)		no	partly					feath.	distal fragment of relatively broad flake
1637	145	chunk			yes						
1637	145	flake (S)			yes					feath.	v small flake
1637	145	blade-like flake (S)	E.Neo	yes	partly			flat	diffuse	feath	large blade-like flake
1637	145	flake (S)	L.Mes/E. Neo	yes	partly	yes		comp.	diffuse	feath	struck from a blade core; heavily burnt with altered matrix; irreg waste
1637	145	flake (S)	L.Mes/E. Neo	yes	partly			flat	diffuse	hinge	irreg waste; prob from blade core; Wolds flint
1637	145	c.r. flake (T)		no	partly					feath	distal frag of core rejuvenation flake preserving part of previous platf edge
1637	145	flake (T)		yes	yes			flat	sm.pr	feath	small flake; poss Wolds flint
1637	145	flake (T)		yes	yes			comp.	sm.pr	feath	irreg waste; Wolds flint
1637	145	flake (P)		no	partly					feath	distal frag of irreg flake
1637	145	blade (T)	L.Mes/E. Neo	no				flat			prox frag of small blade
1637	145	blade (S)	L.Mes/E. Neo	no						feath	distal frag of small blade
1637	145	blade (S)	L.Mes/E. Neo	no				flat			prox frag of blade; v thin, abraded cortex
1637	145	blade (T)	L.Mes/E. Neo	no				flat			prox frag of small blade
1637	145	chip									
1637	145	chip			partly						
1637	145	chip			yes						
1639	146	blade (T)	L.Mes/E. Neo	yes				flat	diffuse	feath	slight post-dep damage
1639	146	blade-like flake (T)	L.Mes/E. Neo	no	partly					step	medial & distal frag of small b-l flake
1639	146	blade-like flake (T)	L.Mes/E. Neo	yes				flat	diffuse	feath	slight post-dep damage
1639	146	blade (T)	L.Mes/E. Neo	yes		yes	yes			step	retouch/use-wear to prox end 1 lat edge; slightly irreg blade
1639	146	blade (S)	L.Mes/E. Neo	no						feath	medial & distal frag
1639	146	blade (S)	L.Mes/E. Neo	no			poss				medial frag; poss abrupt retouch along part of 1 lat edge
1639	146	blade-like flake (S)	L.Mes/E. Neo	yes	yes	yes		comp	diffuse	feath	heavily burnt, calcined/granular structure, pot lids detached
1639	146	blade-like flake (S)	L.Mes/E. Neo	yes				comp	diffuse	step	
1639	146	blade-like flake (S)	L.Mes/E. Neo	no	yes	yes				feath	medial & distal frag; heavily burnt, calcined/granular structure
1639	146	blade (T)	L.Mes/E. Neo	no	yes	yes		flat	diffuse		prox frag; heavily burnt, granular structure, pot lids detached
1639	146	blade (T)	L.Mes/E. Neo	no				flat	sm.pr		prox frag
1639	146	blade (S)	L.Mes/E. Neo	no	yes						medial frag
1639	146	blade (T)	L.Mes/E. Neo	no	partly					feath	distal frag
1639	146	blade (S)	L.Mes/E. Neo	no	yes	yes					medial frag; heavily burnt, calcined/granular structure, pot lids detached
1639	146	flake (S)	L.Mes/E. Neo	yes	partly	poss		cort	diffuse	feath	small platform prep flake; poss burnt = internal fractures
1639	146	blade (S)	L.Mes/E. Neo	no	yes	yes					medial frag; post-dep damage

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1639	146	blade (T)	L.Mes/E. Neo	no	yes			comp	diffuse		prox frag; post-dep damage
1639	146	flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath	irreg, parallel-sided flake from type B1 core; removing scar of step fracture
1639	146	flake (S)	L.Mes/E. Neo	yes		yes		flat	sm.pr	plunge	from type B1 core; distal end has large section ofplatform edge; granular str
1639	146	core	L.Mes/E. Neo		partly						exhausted type B1 blade core, few flakes = final removals
1639	146	flake (T)		yes	yes	yes		comp	diffuse	hinge	irreg flake; heavily burnt, calcined/granular structure; flaked after burning
1639	146	flake (T)		no	yes	yes		flat		feath	irreg flake, part of prox end detached; heavily burnt, calcined/granular structure
1639	146	flake (S)		yes				cort	diffuse	feath	irreg flake, largely cortical; thin abraded cortex
1639	146	flake (T)		yes		yes		flat	diffuse	hinge	v small flake, poss platform edge prep; burnt, with internal fractures
1639	146	end scraper (T)	L.Mes/E. Neo	yes	yes		yes	comp	diffuse	feath	small flake from blade core; semi-abrupt retouch on distal end, facets worn
1639	146	chunk				yes					granular structure, pot lids detached
1639	146	chunk				yes					granular structure; thin, rounded, abraded cortex
1639	146	chunk				yes					
1639	146	chunk									
1639	146	chunk			yes	yes					granular structure, pot lids detached
1639	146	chunk			yes	yes					granular structure, pot lids detached
1639	146	chunk			yes	yes					
1639	146	chunk			partly						thin rounded, abraded cortex
1639	146	chip			yes	yes					granular structure, pot lids detached
1639	146	chip			yes	yes					granular structure, pot lids detached
1639	146	chip			yes	yes					
1639	146	chip									
1641	146	blade-like flake (T)	E.Neo	yes			poss u/w	comp			large flake; poss use-wear 1 lat edge; bulb removed by flaking
1641	146	flake (S)		yes				flat	v. sm.pr	feath.	small squat flake
1641	146	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath.	irregular flake from type B1 core
1641	146	c.r. flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath.	irreg flake that has removed part of edge of (type A2?) blade core
1641	146	blade (S)	L.Mes/E. Neo	yes	yes			comp.	diffuse	feath.	small blade, with cortical distal end
1641	146	blade (T)	L.Mes/E. Neo	no	partly						medial frag blade
1641	146	blade (T)	L.Mes/E. Neo	no	yes					feath.	distal frag blade
1641	146	chip			yes	yes					heavily burnt, granular structure
1641	146	chip			yes	yes					heavily burnt, granular structure
1641	146	chip			yes	yes					heavily burnt, granular structure
1641	146	chip			yes	yes					
1641	146	chip			yes	yes					
1641	146	chip			yes	yes					
1641	146	chip			yes						
1641	146	chip			partly						
1641	146	blade (T)	L.Mes/E. Neo	no		yes					medial frag; heavily burnt, granular structure
1641	146	blade (T)	L.Mes/E. Neo	no		yes				hinge	distal frag; heavily burnt, granular structure

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1641	146	chip			partly						
1641	146	flake (P)		yes	yes			flat	diffuse	feath.	thin, abraded, rounded cortex
1641	146	flake (T)		yes		yes		flat	diffuse	feath.	small squat flake; heavily burnt, calcined, granular structure
1641	146	blade-like flake (S)	L.Mes/E. Neo	no	partly					feath.	distal frag
1641	146	blade (T)	L.Mes/E. Neo	no	yes			flat	v.sm.pr		prox frag blade
1641	146	flake (T)		yes				flat	v.sm.pr	hinge	v small flake; platform edge prep
1647	148	blade (S)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	feath	
1647	148	blade (S)	L.Mes/E. Neo	yes				flat	diffuse	feath	
1647	148	blade (T)	L.Mes/E. Neo	no	yes			flat	sm.pr		prox & medial frag; crushing along one lat edge prior to creation of blade
1647	148	blade (T)	L.Mes/E. Neo	no	partly					feath	distal frag of blade
1647	148	blade (S)	L.Mes/E. Neo	no	yes					feath	distal frag; breakage is recent damage
1647	148	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	
1647	148	flake (S)	L.Neo/BA	yes	yes			cort	pron	feath	squat flake; irreg waste
1647	148	flake (S)	L.Neo/BA	yes				comp	diffuse	feath	squat irreg flake; irreg waste; thin, abraded cortex
1647	148	flake (S)		yes	yes			flat	diffuse	feath	squat irreg flake; largely cortical; irreg waste
1647	148	flake (T)	L.Mes/E. Neo	yes	yes	yes		comp	v.sm.pr	feath	small platform prep flake; burnt with pot lids detached
1647	148	flake (S)		no	partly					feath	scars on dorsal surface suggest thinning flake from tool manufacture
1647	148	flake (T)	Neo?	yes	partly			flat	pron	feath	dorsal scars indicate parallel sided flakes (not blades)
1647	148	flake (S)		yes	yes			flat	diffuse	feath	irreg waste
1647	148	flake (S)		yes				cort	diffuse		v irreg flake; thin, abraded/crushed cortex; irreg waste
1647	148	flake (S)	L.Neo/BA	yes	yes			cort	diffuse	feath	irreg flake, with scars indicating similar broad flake removals
1647	148	flake (S)		no						hinge	distal frag
1647	148	core									exhausted type B3 pebble core; small flake removals
1647	148	core frag/scraper	BA				yes				large irreg core frag, with abrupt/semi-abrupt invasive retouch on 1 edge
1647	148	chunk									large piece irreg waste; thin, rounded, abraded cortex
1647	148	chunk									thin, rounded abraded cortex
1647	148	chip				yes					prob flake frag heavily burnt with pot lids detached
1655	143	blade (T)	L.Mes/E. Neo	no				comp.	v.sm.pr		prox & medial frag of small blade, with platform edge prep
1655	143	flake (S)		no						feath.	platform detached; irreg waste
1655	143	flake (S)	L.Mes/E. Neo	yes				flat	v.sm.pr	hinge	core trimming flake; indirect percussion
1655	143	chip			partly						
1655	143	blade (S)	L.Mes/E. Neo	no				flat	v.sm.pr		prox frag of small blade, with platform edge prep
1655	143	flake (S)		yes	yes			flat	pron.	step	core trimming flake
1655	143	flake (T)		no	yes					feath.	distal frag of small flake; poss worked on an anvil
1655	143	flake (T)		yes		poss		flat	diffuse	feath.	v small platf prep flake; possibly burnt (has 'greasy lustre')
1687		chip			yes	yes					
1698	144	blade (T)	L.Mes/E. Neo	yes	yes			abrad	diffuse	feath	
1698	144	backed blade (T)	L.Mes	yes			yes	comp	diffuse	feath	abrupt serial retouch along middle 1 lat edge & prox end of other; small blade
1698	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly			comp	sm.pr	feath	large b-l flake; scars of several blade removals: single platf?
1698	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly			flat	v. sm.pr	feath	large b-l flake - prob from type B1 core

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1698	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			comp	v. sm.pr	feath	small b-l flake
1698	144	backed blade (T)	L.Mes	no			yes			feath	distal frag of blade with abrupt serial retouch along 1 lat edge
1698	144	blade-like flake (T)	L.Mes/E. Neo	yes				comp	diffuse	feath	small b-l flake - rod like cross section
1698	144	core	L.Mes/E. Neo		yes						small, exhausted type A2 blade core; very thin abraded cortex
1698	144	blade (T)	L.Mes/E. Neo	no	yes					feath	medial & distal frag, small blade
1698	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	small, slightly irreg b-l flake
1698	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	struck from blade core, evidence of platform prep; irreg waste
1698	144	flake (S)	L.Mes/E. Neo	yes				comp	v.sm.pr	feath	decoortication flake from blade core; irreg waste
1698	144	flake (S)		yes	partly			flat	pron	feath	irreg waste, poss platform prep
1698	144	flake (T)	L.Mes/E. Neo	yes				comp	flat	hinge	from blade core, poss platform prep; irreg waste
1698	144	flake (S)		yes	yes			comp	diffuse	feath	small, largely cortical flake; irreg wast
1698	144	flake (S)	L.Mes/E. Neo	yes	partly			flat	v.sm.pr	step	core trimming/platform prep flake from blade core; irreg waste
1698	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	irreg waste, poss platform prep; from blade core
1698	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly			flat	v.sm.pr	hinge	small b-l flake, largely cortical: core prep
1698	144	flake (S)	L.Mes/E. Neo	yes				comp	sm.pr	step	small flake from blade core; irreg waste
1698	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	hinge	small flake from blade core, poss platform prep
1698	144	flake (S)		yes	partly			flat	v.sm.pr	feath	small irreg flake, poss platf prep
1698	144	flake (T)		yes	partly	yes		flat	sm.pr	feath	heavily burnt, granular structure, pot lids detached
1698	144	blade (T)	L.Mes/E. Neo	no	yes						medial frag of blade
1698	144	blade (T)	L.Mes/E. Neo	no	yes					feath	medial & distal frag of small blade
1698	144	flake (T)		yes	yes			flat	sm.pr	feath	small, squat, irreg flake, poss platform prep
1698	144	flake (T)		yes	yes			comp	diffuse	feath	small, squat, irreg flake, poss platform prep
1698	144	flake (S)		yes	yes			flat	sm.pr	step	small flake
1698	144	flake (T)	L.Neo/BA	no	yes			comp	pron		prox frag of broad flake
1698	144	flake (T)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath	from blade core; irreg waste
1698	144	flake (P)		yes	partly			comp	diffuse	feath	decortication flake - pebble core, with thin abraded & rounded cortex
1698	144	flake (T)		no	yes					step	distal frag of blade or flake
1698	144	flake (T)		yes	yes		poss	flat	diffuse	hinge	small, squat, irreg flake; poss irreg abrupt retouch along distal end
1698	144	core frag	L.Mes/E. Neo		yes						part of type B3 blade core; evidence of significant platf prep
1698	144	flake (T)		yes	yes			flat	diffuse	step	large irreg flake; irreg waste; Wolds flint
1698	144	chunk			yes						
1698	144	chunk			yes						thin, rounded, abraded cortex
1698	144	chunk			partly						thin, rounded, abraded cortex
1698	144	chunk			partly						thin, rounded, abraded cortex
1698	144	chunk				yes					granular structure; majority of surface cortical - from round pebble
1698	144	chip			yes	yes					granular structure, pot lids detached
1698	144	chip			yes	yes					granular structure, pot lids detached

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1698	144	chip			yes	yes					granular structure, pot lids detached
1698	144	chip			yes	yes					granular structure, pot lids detached
1698	144	chip			yes	yes					
1698	144	chip			yes	yes					
1698	144	chip			yes						
1698	144	chip			yes						
1698	144	chip			yes						
1698	144	chip			yes						
1698	144	chip									
1702	144	blade (S)	L.Mes/E. Neo	no	partly			flat	diffuse		prox & medial frag small blade
1702	144	blade (T)	L.Mes/E. Neo	yes	partly			comp	v.sm.pr	step	
1702	144	flake (S)						cort.	pron.	feath	broad irreg flake
1702	144	blade-like flake (S)	L.Mes/E. Neo	no	partly					feath	distal frag of large b-l flakes, with previous blade removal scars
1702	144	flake (S)	L.Neo/BA	yes				flat	pron.	feath	squat flake; thin, rounded, abraded cortex
1702	144	flake (S)	L.Neo/BA	no				flat	diffuse	feath	squat flake, broken in half laterally; thin, rounded, abraded cortex
1702	144	flake (S)		yes				flat	pron.	feath	irreg waste
1702	144	blade (T)	L.Mes/E. Neo	no	partly					feath	distal frag of blade, from type B1 core
1702	144	flake (S)		no						feath	distal frag
1702	144	flake (T)		yes				flat	pron.	feath	small squat flake
1702	144	flake (T)	L.Mes/E. Neo	yes	yes			comp	diffuse	hinge	irreg flake; scars indicate platform prep
1702	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	small flake, platf edge prep, or trimming
1702	144	blade-like flake (S)	L.Mes/E. Neo	no			poss		v.sm.pr		prox & medial frag small b-l flake; poss abrupt retouch of prox end
1702	144	blade-like flake (S)	L.Mes/E. Neo	yes	yes			comp	diffuse	feath	
1702	144	flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	small flake, platf edge prep, or trimming
1702	144	flake (T)		yes				comp	pron.	feath	small flake, irreg waste
1702	144	blade-like flake (T)	L.Mes/E. Neo	no	yes					plunge	dist frag
1702	144	flake (T)		no						feath	distal frag small flake, irreg waste
1702	144	flake (P)		no						hinge	distal frag, irreg waste
1702	144	blade (T)	L.Mes/E. Neo	no		yes					medial frag of blade
1702	144	blade (T)	L.Mes/E. Neo	no		yes					medial frag of blade
1702	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag of blade
1702	144	flake (T)		yes	yes			flat	diffuse	feath	irreg waste
1702	144	flake (T)	L.Neo/BA	yes	yes			flat	pron.	feath	large, irreg, squat flake; irreg waste; Wolds flint with fossil cast
1702	144	c.r. flake (S)	L.Mes/E. Neo	yes			yes	cort	diffuse	feath	bending flake; sect of platf from blade core; retouch/use-wear to distal end
1702	144	chunk									

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1702	144	chunk				yes					heavily burnt, granular structure, with pot lids detached
1702	144	chip			yes	yes					heavily burnt, granular structure/calcined, with pot lids detached
1702	144	chip			yes	yes					
1702	144	chip			yes						
1702	144	chip									
1702	144	blade (T)	L.Mes/E. Neo	no	yes					hinge	distal frag of blade
1703	144	blade (S)	L.Mes/E. Neo	no	yes			cort.	diffuse		prox & medial frag of small blade
1703	144	blade (S)	L.Mes/E. Neo	yes				flat	v.sm.pr	feath	platf edge prep
1703	144	blade-like flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	v small flake, with previous blade removals
1703	144	flake (P)		yes	partly			flat	pron.	feath	small squat flake
1703	144	flake (S)		no						feath	dist frag of irreg flake; poss from used core
1703	144	flake (T)		no						feath	dist frag of small flake
1703	144	flake (S)		no				comp.	diffuse		prox frag of flake; concave platf = poss trimming flake from bifacial working
1703	144	utilised flake (S)	L.Mes/E. Neo	yes	partly		u/w	flat	v.sm.pr	step	from blade core; use-wear &gloss on rounded prox/medial area of 1 lat edge
1703	144	flake (T)		yes	yes			flat	v.sm.pr	hinge	v small squat flake; poss platform edge prep
1703	144	chip			yes						
1703	144	chip			partly						
1703	144	chip									
1703	144	chip			yes						
1703	144	chip			yes	yes					heavily burnt, granular structure
1703	144	chip			yes	yes					
1704	144	blade (T)	L.Mes/E. Neo	yes	partly			comp	v.sm.pr	feath	
1704	144	blade (S)	L.Mes/E. Neo	yes		yes		flat	diffuse	feath	heavily burnt; granular structure
1704	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly	yes		cort	diffuse	feath	heavily burnt; granular structure
1704	144	blade-like flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath	
1704	144	utilised blade (T)	L.Mes/E. Neo	no	yes		yes			feath	semi-abrupt retouch along prox half 1 lat edge, facets worn
1704	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag
1704	144	blade (T)	L.Mes/E. Neo	no				flat	v.sm.pr		prox frag; platform edge prep
1704	144	blade (T)	L.Mes/E. Neo	no	yes						medial frag
1704	144	blade (T)	L.Mes/E. Neo	no	yes					feath	distal frag
1704	144	blade (T)	L.Mes/E. Neo	no	yes					feath	distal frag
1704	144	blade (T)	L.Mes/E. Neo	no	yes	yes				feath	distal frag
1704	144	blade (T)	L.Mes/E. Neo	no	yes					feath	distal frag
1704	144	blade (S)	L.Mes/E. Neo	no						hinge	distal frag
1704	144	flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	irreg cortical flake from blade core

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1704	144	flake (T)		yes	yes			flat	sm.pr	step	irreg waste
1704	144	flake (T)		yes				comp	pron	feath	irreg waste; poss from blade core
1704	144	flake (T)	L.Mes/E. Neo	yes	partly			comp	sm.pr	feath	irreg waste, struck from blade core
1704	144	flake (S)	L.Mes/E. Neo	yes				cort	sm.pr	feath	irreg waste, poss platform prep - evidence of prior platform prep
1704	144	flake (S)		yes	yes			comp	diffuse	feath	small squat flake; irreg waste
1704	144	flake (S)		yes				comp	diffuse	feath	irreg waste
1704	144	flake (P)		no	yes					feath	distal frag
1704	144	flake (T)		yes				comp	sm.pr	feath	poss platform prep
1704	144	flake (S)		yes	yes			comp	diffuse	feath	irreg waste
1704	144	flake (T)		yes				abrad	sm.pr	hinge	irreg waste
1704	144	flake (T)		yes				flat	v.sm.pr	feath	poss platform prep
1704	144	blade-like flake (S)	L.Mes/E. Neo	no	partly			flat	diffuse		prox frag b-l flake
1704	144	flake (T)	L.Neo/BA	yes	partly			flat	pron	feath	broad, irreg flake
1704	144	flake (S)	L.Neo/BA	yes	partly			cort	diffuse	hinge	broad, irreg flake; previous removal created step fracture
1704	144	flake (T)	L.Neo/BA	yes	yes	yes		comp	diffuse	feath	broad, irreg flake; heavily burnt, granular structure, pot lids detached
1704	144	core fragment	L.Mes/E. Neo								part of type B or C blade core, with part of 1 platf edge
1704	144	flake (S)		yes				flat	flat	step	v large irreg flake
1704	144	chunk			yes						
1704	144	chunk			yes	yes					heavily burnt, granular structure
1704	144	chunk			partly	yes					heavily burnt, granular structure
1704	144	chunk									
1704	144	chip			partly						
1704	144	chip			yes	yes					heavily burnt, granular structure
1704	144	chip	L.Mes/E. Neo								rod like frag struck from blade core
1704	144	chip									
1704	144	chip									
1704	144	blade (T)	L.Mes/E. Neo	yes				comp	v.sm.pr	feath	v small blade
1704	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath	small b-l flake
1704	144	blade (S)	L.Mes/E. Neo	no	partly	yes					medial frag; heavily burnt, granular structure
1704	144	blade (T)	L.Mes/E. Neo	no	yes	yes		flat	diffuse		prox frag; heavily burnt, granularstructure/calcined
1704	144	blade (T)	L.Mes/E. Neo	no							medial frag small blade
1704	144	flake (T)		no				comp		feath	prox frag
1704	144	flake (T)		yes	yes			flat	sm.pr	feath	small squat flake
1704	144	flake (S)		yes				comp	diffuse	feath	small squat flake
1704	144	blade (T)	L.Mes/E. Neo	no	yes			comp	diffuse		prox frag

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1704	144	flake (S)		yes		yes		flat	diffuse	hinge	small irreg flake; heavily burnt, granular structure
1704	144	flake (T)		yes	yes	yes		comp	diffuse	feath	v small flake - like scale flake
1704	144	flake (T)		yes	partly			flat	diffuse	step	v small flake
1704	144	flake (T)		yes	partly			comp	diffuse	feath	v small flake
1704	144	flake (S)		yes	partly			flat	diffuse	feath	small flake
1704	144	chip			partly						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes						
1704	144	chip			yes	yes					heavily burnt, granularstructure/calcined, pot lids detached
1704	144	chip			yes	yes					heavily burnt, granularstructure/calcined, pot lids detached
1704	144	chip			yes	yes					heavily burnt, granularstructure/calcined
1704	144	chip			yes	yes					heavily burnt, granularstructure/calcined
1704	144	chip			yes	yes					heavily burnt, granularstructure/calcined
1704	144	chip			yes	yes					pot lids detached
1704	144	chip			yes	yes					
1704	144	chip			yes	yes					
1704	144	chip			yes	yes					
1704	144	chip			yes	yes					
1704	144	chip									
1704	144	chip									
1704	144	chip									
1704	144	chip									
1704	144	chip									
1704	144	chip									
1704	144	chip									
1705	144	blade-like flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath.	thin, abraded, rounded cortex; from type A blade core
1705	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly			comp	diffuse	step	previous blade removals from type B1 core
1705	144	flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath.	irreg waste from type B3 blade core

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1705	144	blade-like flake (S)	L.Mes/E. Neo	yes	yes			abrad	diffuse	feath.	tapering blade-like flake
1705	144	flake (T)		yes				flat	diffuse	hinge	some damage to ventral surface
1705	144	chunk			yes						
1705	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	
1705	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly					feath	medial & distal frag
1705	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly					feath	medial & distal frag
1705	144	flake (S)		yes				flat	diffuse	feath	
1705	144	chip									
1705	144	chip									
1705	144	chip			yes						
1705	144	chip			yes						
1705	144	chip			yes						
1705	144	flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	small flake - platform edge prep; from blade core
1705	144	chip			yes	yes					heavily burnt, granular structure
1705	144	blade (T)	L.Mes/E. Neo	no	yes						medial frag
1705	144	blade-like flake (T)		yes	yes			flat			v v small blade/scale flake
1705	144	blade (T)	L.Mes/E. Neo	no	yes					hinge	distal frag of v small blade
1705	144	sharpening flake		yes				comp	diffuse	hinge	has removed the abruptly retouched edge of a scraper
1706	144	chip			yes						
1706	144	chip				yes					poss fragment of primary flake; heavily burnt with granular structure
1706	144	flake (T)		no	yes	yes					medial frag of small burnt flake
1706	144	chip			yes	yes					heavily burnt - calcined & granular structure
1706	144	flake (S)		no	yes						distal frag of small flake
1706	144	flake (T)		yes				flat	pron.	feath.	small squat flake; some crushing along platform edge
1706	144	flake (S)		yes	partly			flat	pron.	feath.	small flake, poss from prep of platform edge
1706	144	chip			yes	yes					
1706	144	chip			yes	yes					
1706	144	chip									prob medial frag of thin flake or blade
1706	144	chip			yes						
1707	144	blade-like flake (T)	L.Mes/E. Neo	yes				flat	v.sm.pr	hinge	
1707	144	flake (S)		no		yes		flat		hinge	v heavily burnt, granular structure; irreg waste
1707	144	flake (S)	L.Mes/E. Neo	no	partly					feath.	distal frag of flake from type B1 core
1707	144	chunk			yes						
1707	144	flake (T)		no		yes					medial frag of heavily burnt flake (poss large blade)
1707	144	blade (T)	L.Mes/E. Neo	no	yes	yes		flat			prox frag; burnt, with bulb having detached on pot lid

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1707	144	flake (T)		yes	partly			comp.	diffuse	feath.	irreg waste
1707	144	flake (T)	L.Mes/E. Neo	yes	partly			flat	v.sm.pr.	feath.	very small platform edge prep flake; indirect percussion
1707	144	flake (T)	L.Mes/E. Neo	yes				flat	v.sm.pr.	feath.	very small platform edge prep flake; indirect percussion
1707	144	flake (T)	L.Mes/E. Neo	yes	yes	yes		flat	diffuse	feath.	very small platform edge prep flake; granular structure
1707	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag small blade
1707	144	blade (S)	L.Mes/E. Neo	no				flat	diffuse		prox frag small blade
1707	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag small blade
1707	144	chip			yes	poss					
1707	144	chunk			partly						irreg waste; large irregular flakes detached from same core
1709	144	blade (T)	L.Mes/E. Neo	no	partly			flat	v.sm.pr.		prox & medial frag small blade
1709	144	blade (T)	L.Mes/E. Neo		partly			flat	v.sm.pr.	hinge	v small blade
1709	144	blade-like flake (T)	L.Mes/E. Neo		partly	yes		flat	v.sm.pr.	feath.	v small blade-like flake removing 'corner' from platform edge
1709	144	blade (T)	L.Mes/E. Neo	no						feath.	distal frag of small blade
1709	144	blade (T)	L.Mes/E. Neo	no		yes		flat	v.sm.pr.		prox frag small blade
1709	144	blade (T)	L.Mes/E. Neo	no						feath.	distal frag of small blade
1709	144	blade (T)	L.Mes/E. Neo	no						feath.	distal frag of small blade
1709	144	blade (T)	L.Mes/E. Neo	no	yes	yes				feath.	distal frag of small blade; heavily burnt & pot lids detached
1709	144	blade (T)	L.Mes/E. Neo	no	yes					feath.	distal frag of small blade
1709	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag blade
1709	144	blade (T)	L.Mes/E. Neo	no							prox frag small blade, with platform detached
1709	144	blade (T)	L.Mes/E. Neo	no							prox frag small blade, with platform detached
1709	144	flake (T)		yes				flat	pron.	feath.	small platform edge prep flake
1709	144	chip									
1709	144	chip			yes						
1709	144	chip			yes						
1709	144	chip			yes	yes					
1709	144	chip			yes	yes					
1709	144	chip			yes						
1709	144	chip			yes						
1709	144	chip			yes						
1709	144	chip			yes						
1709	144	chip			partly						
1709	144	chip			yes	yes					
1709	144	chip			yes	yes					
1709	144	flake (S)		yes				flat	diffuse	feath.	irregular waste

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1709	144	chunk									large piece detached from pebble core
1709	144	chunk				yes					large piece detached from pebble core
1709	144	flake (S)		no	partly			flat	pron.		prox frag of large flake from early stages of core prep
1709	144	flake (P)		yes	partly			cort.	diffuse	feath.	
1709	144	flake (S)		yes						feath.	platf detached; long irregular flake; rounded abraded cortex
1709	144	c.r. flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath.	core rejuvenation flake (following step fracture)
1709	144	blade (T)	L.Mes/E. Neo	no	partly	yes		flat	v.sm.pr.		prox frag blade
1709	144	blade (T)	L.Mes/E. Neo	no	yes	yes		flat	v.sm.pr.		prox frag blade
1709	144	blade (S)	L.Mes/E. Neo	no	yes	yes					medial frag small blade
1709	144	flake (S)		yes	yes			cort.	pron.	feath.	small platform edge prep flake
1709	144	blade (T)	L.Mes/E. Neo	no	yes						prox frag small blade, with platform detached
1709	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	feath.	v small tapering blade-like flake
1709	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag blade
1709	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath.	small platform edge prep flake
1709	144	flake (T)		yes	yes			flat	diffuse	feath.	small platform edge prep flake
1709	144	blade (T)	L.Mes/E. Neo	no						feath.	distal frag blade
1709	144	flake (T)		yes	yes			flat	diffuse	feath.	v small platform edge prep flake
1709	144	flake (S)		no	yes	yes					medial frag heavily burnt flake, with granular structure
1709	144	flake (T)		yes	yes			comp.	diffuse	step	small squat flake; dorsal scars suggest from blade core
1715	144	blade-like flake (S)	L.Mes/E. Neo	no		yes		comp	diffuse		prox & medial fragment of flake; heavily burnt, granular structure
1715	144	blade (T)	L.Mes/E. Neo	no	partly					feath.	medial & distal frag of small blade
1715	144	chunk			yes	yes					heavily burnt, granular structure and pot lids detached
1715	144	flake (S)		yes	yes			flat	diffuse	feath.	small flake; irreg waste
1715	144	flake (T)		no	yes	yes				feath.	medial & distal frag of small blade-like flake
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	sm.pr	feath.	v small blade-like flake
1715	144	blade (T)	L.Mes/E. Neo	no	yes						medial frag blade
1715	144	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag blade
1715	144	chip			partly						
1715	144	chip			partly						
1715	144	chip			partly						
1715	144	chip			yes						
1715	144	chip			yes	yes					
1715	144	chip			yes	yes					
1715	144	chip			yes	yes					
1715	144	blade (T)	L.Mes/E. Neo	no	yes	yes					medial frag blade; heavily burnt, granular structure

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1715	144	chip			partly						poss fragment of blade, or blade-like flake
1715	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	hinge	small flake, prob from prep of platform edge
1715	144	flake (T)		no	yes			flat	diffuse		prox frag of flake
1715	144	flake (T)		no	yes			flat	v.sm.pr		distal end detached; v small blade-like/scale flake
1715	144	blade (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	slight post-dep damage to margins
1715	144	blade (S)	L.Mes/E. Neo	yes	yes			comp	v.sm.pr	feath	from type A blade core
1715	144	blade (T)	L.Mes/E. Neo	yes	partly			abrad	diffuse	feath	slight post-dep damage to margins
1715	144	blade (T)	L.Mes/E. Neo	no	partly					feath	medial & distal frag small blade
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	irreg distal end; from type B1 core
1715	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath	irreg b-l flake; Wolds flint
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly			comp	sm.pr	step	relatively thick parallel-sided flake; from type B1 core
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	partly			flat	v.sm.pr	feath	irreg b-l flake from type B1 core
1715	144	core frag	L.Mes/E. Neo		partly						irreg frag from large core: blade core, prob of type A
1715	144	flake (S)	L.Mes/E. Neo	yes	partly			flat	sm.pr	feath	large flake removing one face of type B1 blade core (incl scar of step fract)
1715	144	blade (T)	L.Mes/E. Neo	no	yes					hinge	distal frag blade
1715	144	core	L.Mes/E. Neo		partly						type B1 blade core
1715	144	flake (T)		no				comp	sm.pr		prox frag squat, irreg flake; irreg waste
1715	144	flake (S)		yes	yes			comp	sm.pr	feath	squat, irreg flake; irreg waste
1715	144	flake (T)	L.Mes/E. Neo	yes	yes			comp	diffuse	hinge	small squat flake from blade core
1715	144	flake (S)		yes	yes			flat	v.sm.pr	feath	very irreg flake, with lumpy cortical surface; irreg waste
1715	144	core	L.Mes/E. Neo		partly						very small, exhausted type B3 blade core
1715	144	flake (P)		yes	partly			cort	diffuse	feath	tapering end of thin flint pebble
1715	144	flake (S)	L.Mes/E. Neo	yes	yes			flat		hinge	irreg flake: largely cortical, but 2 small blade scars; post-dep damage to bulb
1715	144	blade-like flake (S)	L.Mes/E. Neo	no	yes						medial frag of b-l flake
1715	144	core	L.Mes/E. Neo		partly						very small, exhausted type A2 blade core
1715	144	core	L.Mes/E. Neo		yes						exhausted type B1 blade and flake core; thin rounded abraded cortex
1715	144	core fragment	L.Mes/E. Neo		yes						part of a small, exhausted type B3 blade core
1715	144	flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	irreg flake from blade core
1715	144	flake (P)		no	yes					feath	medial & distal frag cortical flake
1715	144	flake (T)		yes	yes			flat	pron	feath	small squat flake
1715	144	blade (S)	L.Mes/E. Neo	no	yes					feath	distal frag blade
1715	144	flake (S)		yes	yes			comp	diffuse	feath	small irreg flake, largely cortical
1715	144	flake (T)		yes	partly			comp	diffuse	feath	very irreg small squat flake; poss from blade core?
1715	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	hinge	small flake from blade core, evidence of platf edge prep
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes	yes		comp		hinge	heavily burnt, granular structure/calcined, pot lids detached

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1715	144	flake (T)		yes	yes			flat	diffuse	feath	small squat flake
1715	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes	yes		comp	diffuse	feath	small b-l flake, tapers toward distal end
1715	144	flake (T)		yes	yes			flat	diffuse	feath	small, squat, irreg flake; irreg waste
1715	144	utilised flake (S)		yes	partly		yes	cort	diffuse	feath	large thick irreg flake, with part of platf edge; abrupt retouch along distal end
1715	144	chunk			yes	yes					heavily burnt, granular structure and pot lids detached
1715	144	chunk			yes						large irreg piece of fossiliferous flint, with several flake scars
1715	144	chunk			yes						largely cortical, thin, rounded, abraded cortex
1715	144	chunk			partly						largely cortical, thin, rounded, abraded cortex
1715	144	chunk			partly						
1715	144	chip			yes	yes					heavily burnt, granular structure/calcined, pot lids detached
1715	144	chip			yes	yes					heavily burnt, granular structure/calcined
1715	144	chip			yes						
1715	144	chip			yes						
1715	144	chip			yes						
1715	144	chip			partly						
1715	144	chip			partly						
1715	144	chip			partly						
1715	144	chip									
1715	144	chip									
1716	144	core	L.Mes/E. Neo								small exhausted blade core, type B1; pebble with thin abraded cortex
1716	144	blade (T)	L.Mes/E. Neo	yes			u/w	comp.	v.sm.pr	feath	use-wear along both lat edges; plat edge prep
1716	144	blade (S)	L.Mes/E. Neo	no							medial frag of blade
1716	144	flake (T)	L.Mes/E. Neo	yes	yes			comp.	v.sm.pr	feath	poss thinning flake from bifacial working
1716	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes		prob u/w	flat	diffuse	feath	prob use-wear to prox end of 1 lat edge
1716	144	blade (T)	L.Mes/E. Neo	yes	partly			comp.	v.sm.pr	feath	small blade; slight post-dep damage
1716	144	blade (T)	L.Mes/E. Neo	no				flat	v.sm.pr		prox frag
1716	144	blade (T)	L.Mes/E. Neo	no				comp.	diffuse		prox frag
1716	144	flake (T)		yes	partly			comp.	diffuse	feath	small irreg flake - irreg waste
1716	144	blade (T)	L.Mes/E. Neo	no				cort.	diffuse		prox frag
1716	144	blade-like flake (S)	L.Mes/E. Neo	yes	yes			cort.	flat	feath	heavily patinated flake
1716	144	blade-like flake (T)	L.Mes/E. Neo	yes				comp.	diffuse	feath	v small blade-like flake
1716	144	flake (S)		yes				comp.	diffuse	hinge	small squat flake
1716	144	flake (S)		yes				cort.	diffuse	feath	v small platf prep, or trimming flake
1716	144	flake (T)		yes	yes			flat	diffuse	hinge	v small platf prep, or trimming flake (sub-rect like scale flake)
1716	144	utilised flake (T)		yes			u/w	comp.	diffuse	hinge	squat flake, with pronounced hinged term, half of which has use-wear

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1716	144	blade (T)	L.Mes/E. Neo	no				comp.	v.sm.pr		prox frag
1716	144	blade (T)	L.Mes/E. Neo	no						hinge	distal frag
1716	144	misc scraper	L.Mes/E. Neo	yes			yes	comp	diffuse	feath	thick flake/blade core frag; abrupt retouch 1 lat edge, use-wear dist end
1716	144	chunk			yes	yes					very heavily burnt, calcined with granular structure
1716	144	chip			yes						
1716	144	chip									poss distal frag of flake
1716	144	chip									
1716	144	chip									
1716	144	chip									
1716	144	chip									
1721	144	blade-like flake (S)	L.Mes/E. Neo	yes				flat		hinge	large blade-like flake, with part of platf edge from blade core
1721	144	chunk			partly						large piece of irreg waste, poss medial & distal end of large flake
1721	144	flake (S)			yes			flat	diffuse	feath	irreg waste
1721	144	flake (S)		yes				cort.	diffuse	feath	small flake
1721	144	flake (S)		no						feath	distal frag of flake
1721	144	flake (P)		yes				flat	diffuse	feath	v small flake
1721	144	chip									
1721	144	chip									
1721	144	chip			yes						
1721	144	chip			yes	yes					
1721	144	chip			yes	yes					
1721	144	blade (T)	L.Mes/E. Neo	no						hinge	distal frag of small blade
1721	144	flake (T)		no	yes			flat	diffuse		prox frag
1754	144	core frag	L.Mes/E. Neo								frag of blade core - type A, flat platform; pebble - thin, rounded cortex
1754	144	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	small platform prep flake
1754	144	flake (P)		yes				cort	flat	hinge	
1754	144	flake (T)	L.Mes/E. Neo	yes				comp	v.sm.pr	feath	small platform prep flake, removing spurred step fracture scar
1754	144	blade-like flake (S)	L.Mes/E. Neo	yes				cort	diffuse	feath	from small blade core
1754	144	blade-like flake (T)	L.Mes/E. Neo	yes		yes		comp	diffuse	feath	granular structure; from blade core, removed step on platform edge
1754	144	blade-like flake (S)	L.Mes/E. Neo	no	yes	yes				hinge	medial & distal frag; calcined/granular structure, pot lids detached
1754	144	flake (S)	L.Mes/E. Neo	yes	partly	yes		comp	diffuse	feath	pot lid detached; thin abraded cortex
1754	144	flake (P)		yes	partly			cort	pron	feath	cortex, thin abraded and crushed (from pebble used as hammer?)
1754	144	blade-like flake (S)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	feath	from blade core
1754	144	blade (T)	L.Mes/E. Neo	no	yes			flat	sm.pr		prox frag; post-dep damage detached distal end
1754	144	blade (T)	L.Mes/E. Neo	no		yes		flat	diffuse		prox frag; heavily burnt, pot lids detached

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1754	144	blade (T)	L.Mes/E. Neo	no		yes		comp	diffuse		prox frag; heavily burnt, granular structure
1754	144	blade (T)	L.Mes/E. Neo	no				flat	v.sm.pr		prox frag
1754	144	blade (T)	L.Mes/E. Neo	no	partly			flat	diffuse		prox frag
1754	144	flake (S)		yes	partly	yes		comp	sm.pr	feath	small flake; heavily burnt, granular structure, pot lids detached
1754	144	flake (S)		yes				cort	diffuse	step	small flake, cortical - ealry stages of core reduction
1754	144	flake (S)	L.Mes/E. Neo	yes	partly	yes		comp	sm.pr	hinge	small flake; heavily burnt, granular structure, pot lids detached
1754	144	flake (S)		no	yes			comp	v.sm.pr		prox frag small flake
1754	144	flake (S)		no				cort	diffuse		prox frag flake or blade
1754	144	flake (T)		yes	yes			comp	v.sm.pr	feath	v small flake, plaform prep flake?
1754	144	blade-like flake (T)	L.Mes/E. Neo	no	yes			comp	diffuse	feath	v small b-l flake, poss plaform prep
1754	144	flake (T)		yes	partly			flat	diffuse	hinge	v small flake, plaform prep flake?
1754	144	flake (S)		no				cort	diffuse		prox frag small flake or blade
1754	144	flake (T)		yes				flat	diffuse	feath	v small flake, plaform prep flake?
1754	144	flake (P)		yes				flat	sm.pr	feath	v small primary flake - platform prep?
1754	144	core frag (S)			partly						small piece with section of platform edge; flaked bifacially
1754	144	chunk									thin abraded cortex
1754	144	chip			yes	yes					heavily burnt, granular structure, pot lids detached
1754	144	chip			yes	yes					heavily burnt, granular structure, pot lids detached
1754	144	chip			yes	yes					heavily burnt, granular structure, pot lids detached
1754	144	chip			yes	yes					heavily burnt, granular structure, pot lids detached
1754	144	chip			yes	yes					
1754	144	chip			yes	yes					
1754	144	chip			yes						
1754	144	chip			yes						
1754	144	chip			yes						
1754	144	chip				yes					heavily burnt, granular structure, pot lids detached
1754	144	chip									
1754	144	chip									
1754	144	chip									
1754	144	chip									
1754	144	chip									
1774	152	flake (T)	L.Mes/E. Neo	yes			poss u/w	flat	diffuse	feath	flake from blade core; slight abrasion along both lat edges (poss use-wear)
1776	152	blade-like flake (T)	L.Mes/E. Neo	no	partly					feath	distal frag of large blade, or blade-like flake
1776	152	chip				poss					thin abraded cortex
1776	152	chip				yes					heavily burnt, granular structure

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1776	152	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	detached from blade core
1776	152	chip			partly						prob from blade core - series parallel sided scars all over
1776	152	core	L.Mes/E. Neo								type Ca: two opposed platforms and one at right angles; blade removals
1776	152	end scraper	Neo	yes	partly			comp.	diffuse		broad, ridged flake; abrupt serial retouch along distal end; Wolds flint
1776	152	utilised flake (S)		yes			u/w	flat	diffuse	feath	1 lat edge thick & flat; other lat edge/dist end curved & blunted by use-wear
1022 A	36	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	sm.pr	feath	large b-l flake from type B1 blade core
1057 A	34	utilised blade (S)	L.Mes/E. Neo	yes			u/w	abrad	sm.pr	feath	abraded platf edge; use-wear/spalls detached along 1 lat edge
1057 A	34	blade (S)	L.Mes/E. Neo	no	partly					feath	medial & distal frag
1057 A	34	blade-like flake (S)	L.Mes/E. Neo	yes	yes			comp.	diffuse	feath	
1057 A	34	blade-like flake (T)	L.Mes/E. Neo	no	yes			comp.	diffuse		prox frag of small b-l flake
1057 A	34	flake (T)	L.Neo/BA	no	yes		yes	comp	pron	hinge	squat flake with irreg, abrupt retouch along platform edge; post dep damage
1093 a	35	end scraper (S)	L.Mes/E. Neo	yes	partly		yes	flat	diffuse		irreg b-l flake; minimal retouch to distal end
1093 a	35	blade-like flake (S)	L.Mes/E. Neo	yes	partly	yes		flat	sm.pr	feath	granular structure, with pot lid detached
1093 a	35	blade-like flake (T)	L.Mes/E. Neo	yes	yes	yes		comp	diffuse	feath	v small b-l flake; burnt - has 'greasy lustre'
1093 a	35	blade-like flake (T)	L.Mes/E. Neo	yes	yes			comp	diffuse	hinge	some post-dep damage
1093 a	35	blade (T)	L.Mes/E. Neo	no	yes					feath	distal frag of small blade
1093 a	35	blade-like flake (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox & medial frag of large b-l flake; Wolds flint
1093 a	35	flake (S)	L.Neo/BA	yes				flat	pron	hinge	irreg squat flake, similar previous removals; hard hammer
1093 a	35	flake (T)	L.Neo/BA	yes	yes			flat	sm.pr	step	large v irreg flake
1093 a	35	flake (S)	L.Neo/BA	yes	partly			flat	sm.pr	feath	irreg flake, similar previous removals; hard hammer
1093 a	35	flake (T)	L.Neo/BA	yes	yes			flat	v.sm.pr	feath	irreg flake, similar previous removals
1093 a	35	flake (P)	L.Neo/BA	yes				flat	pron	hinge	irreg squat cortical flake; hard hammer
1093 a	35	flake (S)	L.Neo/BA	no				comp	pron		prox frag irreg squat flake, similar previous removals; hard hammer
1093 a	35	flake (T)	L.Neo/BA	yes	yes			flat	sm.pr	hinge	irreg squat flake, similar previous removals
1093 a	35	blade-like flake (S)	L.Mes/E. Neo	no	yes	yes		flat	diffuse		prox frag of b-l flake; heavily burnt, granular structure/calcined
1093 a	35	blade-like flake (T)	L.Mes/E. Neo	no	yes	yes		comp	diffuse		prox frag of b-l flake; heavily burnt, granular structure
1093 a	35	flake (T)		yes	yes			comp	diffuse	feath	irreg flake; dorsal scars suggest flakes & blade removals
1093 a	35	flake (T)		yes	yes			flat	diffuse	feath	irreg flake; dorsal scars suggest flakes & blade removals; inscipient cone
1093 a	35	flake (S)		yes	yes			flat	diffuse	feath	irreg flake; Wolds flint
1093 a	35	flake (S)		yes	partly			cort	diffuse	feath	irreg flake
1093 a	35	flake (T)		yes	partly			flat	diffuse	feath	irreg flake
1093 a	35	flake (T)		no	yes					feath	medial & distal frag irreg flake
1093 a	35	flake (T)	L.Neo/BA	yes	yes			comp	diffuse	step	irreg squat flake, similar previous removals
1093 a	35	flake (T)		yes	yes			flat	sm.pr	feath	irreg flake; prob Wolds flint
1093 a	35	flake (T)		yes				comp	diffuse	hinge	small, thin irreg flake

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1093 a	35	flake (T)		yes	partly			comp	diffuse	hinge	v small, thin irreg flake
1093 a	35	flake (T)		yes				comp	diffuse	feath	small, thin irreg flake
1093 a	35	end & side scraper	L.Neo/EBA	yes			yes			feath	thick flake, platf detached; fine thumbnail type scale flaking & serial retouch
1093 a	35	end scraper	L.Neo/BA	yes	partly		yes	comp		feath	crude thumbnail type on irreg flake; semi-abrupt retouch along dist end
1093 a	35	scraper frag (T)		no	yes		yes				lateral margin of broken flake, with irreg serial retouchto lat/distal edges
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes	yes					heavily burnt, granular structure/calcined
1093 a	35	chip			yes						
1093 a	35	chip			yes						
1093 a	35	chip			yes						
1093 a	35	chip									
1093 a	35	chip									
1700 (3)	144	blade-like flake (S)	L.Mes/E. Neo	yes	partly			flat	diffuse	hinge	small irreg b-l flake; from env sample
1700 (3)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			partly						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			partly						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			partly						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			partly						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip			partly						very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip									very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip									very small squills and spalls detached during knapping; from env sample
1700 (3)	144	chip									very small squills and spalls detached during knapping; from env sample
1700 (8)	144	blade-like flake (T)	L.Mes/E. Neo	no	yes					feath	distal frag of b-l flake; from env sample
1700 (8)	144	chip									very small squills and spalls detached during knapping; from env sample
1700 (8)	144	chip									very small squills and spalls detached during knapping; from env sample
1702 A	144	core	L.Mes/E. Neo		partly						type B1 blade core; small area of thin abraded cortex
1702 A	144	blade-like flake	L.Mes/E. Neo	yes	partly		prob u/w	flat	pron.	feath	prob use-wear on prox end 1 lat edge & dist end of other
1702 A	144	flake (S)		yes				comp.	pron.	feath	squat flake, early stages of core prep

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1702 A	144	flake (S)	L.Mes/E. Neo	yes				cort	v.sm.pr	feath	blade type removal; early stages of core prep
1702 A	144	blade-like flake (S)	L.Mes/E. Neo	no						feath	distal frag; largely cortical
1702 A	144	flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath	thick irreg flake, struck from blade core - preserves portion of platform edge
1702 A	144	blade (S)	L.Mes/E. Neo	no						feath	distal frag; largely cortical
1702 A	144	flake (T)	L.Mes/E. Neo	yes				comp.	diffuse	hinge	thick squat flake struck from blade core
1702 A	144	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	small flake, platf edge prep, or trimming
1702 A	144	flake (T)	L.Mes/E. Neo	yes				comp.	diffuse	hinge	small flake, platf edge prep, or trimming
1702 A	144	blade-like flake (S)	L.Mes/E. Neo	yes				cort	diffuse	step	small flake, platf edge prep, or trimming
1702 A	144	blade-like flake (T)	L.Mes/E. Neo	no	partly					feath	distal frag of small flake, platf edge prep, or trimming
1702 A	144	blade (T)	L.Mes/E. Neo	no	yes						medial frag
1702 A	144	blade-like flake (T)	L.Mes/E. Neo	no	yes			comp.	diffuse		prox frag small flake, platf edge prep, or trimming
1702 A	144	flake (T)		yes				comp.	diffuse	hinge	small squat flake
1702 A	144	backed blade (S)	L.Mes	yes			yes			feath	abrupt retouch on 1 lat edge/prox end of other; platf removed; broad dist end
1702 A	144	chunk			yes						irreg waste; thin, rounded, abraded cortex
1702 A	144	chunk									irreg waste; thin, rounded, abraded cortex
1702 A	144	chunk									irreg waste; thin, rounded, abraded cortex
1702 A	144	chip			yes						
1702 A	144	chip									
1702 B	144	chunk				yes					irreg waste, heavily burnt with pot lids on all surfaces
1702 B	144	flake (S)	L.Neo/BA	yes	yes			cort.	pron.	feath.	thick, squat flake, with 2 similar flakes previously detached
1702 B	144	blade-like flake (S)	L.Mes/E. Neo	no							medial frag; previous removals = small blades
1702 B	144	blade-like flake (S)	L.Mes/E. Neo	no						plunge	small blade, with large plunging termination; platf detached
1702 B	144	blade (S)	L.Mes/E. Neo	no		yes					medial frag of heavily burnt blade
1702 B	144	flake (T)	L.Mes/E. Neo	yes				flat	v.sm.pr.	feath.	small platform edge prep flake
1702 B	144	blade (T)	L.Mes/E. Neo	no				flat	v.sm.pr.		prox frag small blade
1702 B	144	chip				yes					heavily burnt, granular structure
1702 B	144	truncated blade (T)	L.Mes	no			yes				blade frag, platf removed; distal end detached obliquely by abrupt retouch
1702 B	144	blade (T)	L.Mes/E. Neo	no	partly	yes					medial frag of heavily burnt blade, with pot lids detached
1754 (4)	144	chip			yes	yes					very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip			yes						very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1754 (4)	144	chip									very small squills and spalls detached during knapping; from env sample
1778 (6)	152	blade-like flake (T)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath	from env sample
1778 (6)	152	blade-like flake (T)	L.Mes/E. Neo	no	partly	yes					medial frag of b-l flake; heavily burnt, granular structure; from env sample
total: **905**		side & end scraper	Neo/BA	yes	yes		yes	flat	pron		primary flake, with irreg abrupt retouch along both late edges & distal end
u/s	28	flake (S)		yes	yes			cort	diffuse	feath	small, squat flake; slight post-dep damage
u/s	28	flake (S)	L.Neo/BA	yes	yes		prob	flat	pron	feath	small, squat flake; prob retouch along distal end; slight post-dep damage
u/s	30	flake (S)	Neo	yes	yes			cort	flat	feath	large irreg flake; dorsal scars suggest blade & flake removals
u/s	30	flake (T)	L.Neo/BA	yes	yes			flat	diffuse	feath	thick irreg flake; post-dep damage to flake margins
u/s	31	chip			yes						
u/s	31	backed blade (T)	L.Mes	yes	yes		yes				1 lat edge/distal end abruptly retouched, platf removed by oblique blunting
u/s	33	core	L.Mes/E. Neo		partly						small, exhausted type B1 blade core
u/s	33	blade-like flake (T)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath	
u/s	33	flake (S)		yes				cort	diffuse	feath	small cortical flake
u/s	33	flake (T)		yes	yes			flat	diffuse	feath	small irreg flake; irreg waste
u/s	33	utilised flake (T)	L.Mes/E. Neo	yes	yes		yes	flat	sm.pr	feath	flake from blade core; acute retouch/use-wear along 1 lat edge
u/s	33	blade-like flake (S)	L.Mes/E. Neo	yes	yes			comp	diffuse	hinge	
u/s	34	blade (S)	L.Mes/E. Neo	yes				comp	v.sm.pr	feath	
u/s	34	blade (T)	L.Mes/E. Neo	no	yes					feath	

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
u/s	34	blade-like flake (T)	L.Mes/E. Neo	yes				comp	v.sm.pr	feath	dorsal scars suggest from type B2 core; slight post-dep damage to margins
u/s	34	blade (T)	L.Mes/E. Neo	yes	partly			abrad	v.sm.pr	feath	
u/s	34	blade-like flake (T)	L.Mes/E. Neo	no	yes			comp	diffuse		prox & medial frag in coarse grained, chalky flint
u/s	34	blade-like flake (S)	L.Mes/E. Neo	yes				flat	diffuse	feath	
u/s	34	blade (T)	L.Mes/E. Neo	no				flat	diffuse		prox frag: deliberately broken to detach platf
u/s	34	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox frag: deliberately broken to detach platf
u/s	34	blade (T)	L.Mes/E. Neo	no	yes	yes		comp	diffuse		prox frag: deliberately broken to detach platf; granular structure/calcined
u/s	34	blade (T)	L.Mes/E. Neo	no	partly			flat	sm.pr		prox frag: deliberately broken to detach platf
u/s	34	blade (T)	L.Mes/E. Neo	no	yes	yes		comp	flat		prox & medial frag of small blade; calcined, with pot lids detached
u/s	34	blade (T)	L.Mes/E. Neo	no	yes	yes		comp	diffuse		prox & medial frag of small blade; granular structure/calcined
u/s	34	blade (T)	L.Mes/E. Neo	no	yes			flat	diffuse		prox & medial frag of small blade
u/s	34	blade-like flake (T)	L.Mes/E. Neo	yes	partly			comp	diffuse	feath	v small b-l flake, tapering toward distal end
u/s	34	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	relatively squat flake from blade core
u/s	34	core scraper	L.Mes/E. Neo								abrupt retouch around 2/3 of platf edge of exhausted type A1 blade core
u/s	34	blade-like flake (T)	L.Mes/E. Neo	no	yes					feath	distal frag of blade/b-l flake
u/s	34	blade-like flake (T)	L.Mes/E. Neo	no	yes	yes		flat	diffuse		prox frag of b-l flake; heavily burnt with granular structure
u/s	34	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	small b-l flake, tapers toward distal end
u/s	34	flake (T)	L.Mes/E. Neo	yes	yes	yes		comp	diffuse	feath	small parallel sided flake from blade core
u/s	34	flake (S)		yes	yes			flat	diffuse	feath	large flake with thin, abraded cortex; irreg waste
u/s	34	flake (P)		yes				cort	diffuse	hinge	large flake taking off curved surface of pebble
u/s	34	flake (S)		yes	partly			cort	sm.pr	hinge	large irreg flake; irreg waste
u/s	34	flake (S)		yes				flat	diffuse	feath	irreg waste
u/s	34	flake (T)		yes	yes			flat	pron	feath	large irreg flake, prob from blade core; irreg waste
u/s	34	flake (S)		no	yes			flat	sm.pr		prox frag irreg flake; irreg waste; thin abraded cortex
u/s	34	flake (S)	L.Mes/E. Neo	yes	yes	poss		comp	sm.pr	hinge	inscipient cone of percussion (miss-hit); signif platf edge prep; irreg waste
u/s	34	flake (P)		yes	yes			comp	diffuse	feath	irreg waste
u/s	34	flake (S)		yes	yes			comp	diffuse	feath	irreg waste
u/s	34	flake (S)	L.Mes/E. Neo	yes	yes			comp	diffuse	feath	signif platf edge prep; irreg waste
u/s	34	flake (T)		yes	yes			comp	sm.pr	step	small irreg flake, prob from blade core
u/s	34	flake (T)	L.Mes/E. Neo	yes	yes			flat	sm.pr	feath	irreg flake from blade core, signif platf edge prep
u/s	34	flake (T)	L.Mes/E. Neo	no	yes					feath	medial and distal frag of irreg flake from blade core; post-dep damage
u/s	34	flake (T)		yes	yes	yes		flat	diffuse	feath	heavily burnt: calcined, irreg waste (poss from blade core)
u/s	34	blade-like flake (S)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	
u/s	34	flake (T)		yes	yes			comp	diffuse	feath	small irreg flake, poss platf prep
u/s	34	flake (S)	Neo/BA	yes	yes			flat	diffuse	hinge	irreg waste

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
u/s	34	flake (T)	L.Mes/E. Neo	no	yes					hinge	distal frag of flake/b-l flake; dorsal scars indicate parallel-sided removals
u/s	34	blade (S)	L.Mes/E. Neo	no	yes	yes		comp	diffuse		prox frag: deliberately broken to detach platf; granular structure/calcined
u/s	34	flake (S)		yes				comp	diffuse	feath	irreg waste
u/s	34	flake (P)		yes				cort	sm.pr	feath	small cortical flake
u/s	34	flake (P)		yes	yes			flat	diffuse	hinge	v small squat flake
u/s	34	flake (T)	L.Mes/E. Neo	yes	yes			flat	diffuse	feath	small flake from blade core, poss trimming of platf?
u/s	34	flake (T)		yes	yes			flat	diffuse	feath	v small flake
u/s	34	flake (T)		yes	yes			comp	v.sm.pr	feath	v small flake
u/s	34	flake (S)		no	yes			comp	diffuse		prox & medial frag of small flake
u/s	34	flake (P)		yes	yes			flat	diffuse	feath	v small flake
u/s	34	utilised flake (S)		no			yes	flat	diffuse		prox & medial frag; retouch creating slight notch 17mm wide along 1 lat edge
u/s	34	utilised flake (S)		yes			yes	flat	diffuse	feath	abrupt retouch dist end, acute retouch/use-wear along 1 lat edge
u/s	34	end scraper	BA	yes	yes		yes	comp	pron		
u/s	34	dagger/laurel leaf	E-M.Neo/EBA	no			yes				large flake, some bifacial working, prob broken in production
u/s	34	chunk			yes						large piece of irreg waste; flake surfaces & thin abraded cortex
u/s	34	chunk			yes	yes					heavily burnt, calcined/granular structure
u/s	34	chunk									
u/s	34	chip			yes						
u/s	34	chip			yes						
u/s	34	chip			yes						
u/s	34	chip			yes						
u/s	34	chip			yes	yes					calcined/granular structure
u/s	34	chip			yes	yes					calcined/granular structure
u/s	34	chip			yes	yes					calcined/granular structure
u/s	34	chip			yes	yes					calcined/granular structure
u/s	34	chip			yes	yes					
u/s	34	chip			yes	yes					
u/s	34	chip			yes	yes					
u/s	34	chip									
u/s	34	chip									
u/s	34	blade (T)	L.Mes/E. Neo	yes				comp	sm.pr	feath	post-dep damage to margins
u/s	35	blade-like flake (S)	L.Mes/E. Neo	yes				abrad	v.sm.pr	feath	slight post-dep damage to margins
u/s	35	blade-like flake (T)	L.Mes/E. Neo	yes				comp.	v.sm.pr	feath	small b-l flake, tapers toward distal end
u/s	35	blade (T)	L.Mes/E. Neo	no	yes	yes					medial frag of large blade; heavily burnt, calcined/granular structure
u/s	35	core frag	L.Mes/E. Neo		yes						part of pebble blade core, poss type A2

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
u/s	35	knife (T)	Neo/BA	yes	partly		yes	flat	sm.pr	feath	large flake with acute retouch along 1 lat edge and distal end
u/s	35	core	L.Mes/E. Neo		yes						small, exhausted type B2 blade core
u/s	35	flake (S)		yes	partly			flat	diffuse	step	large irreg flake; Wolds flint; crushing to cortex, poss used as hammerstone
u/s	35	flake (T)		yes	partly			flat	flat	hinge	large irreg flake; Wolds flint
u/s	35	chunk			partly	yes					granular structure/calcined, pot lids detached
u/s	35	chunk			yes	yes					granular structure/calcined
u/s	35	chip									thin abraded cortex
u/s	35	flake (T)	L.Neo/BA	no	partly			comp	pron	feath	prox & medial frag irreg flake
u/s	36	scraper (S)	L.Neo/BA	yes	yes		yes				thick, irreg flake, with abrupt/semi-abrupt retouch around half of margin
u/s	38	flake (T)		yes	yes	yes		comp	diffuse	feath	small squat flake; heavily burnt, granular structure/calcined
u/s	38	flake (S)		no				comp	pron		prox & medial frag of small flake
u/s	38	flake (S)		no	yes					feath	distal frag of flake
u/s	38	flake (S)			partly			flat	v.sm.pr	feath	thick, irreg flake, part of platf edge of core survives (blade core?)
u/s	38	chunk				yes					heavily burnt, granular structure; v thin abraded cortex
u/s	38	flake (S)		no	partly					feath	distal frag of irreg flake; thin abraded cortex
u/s	40	flake (S)	L.Neo/BA	yes				flat	sm.pr	hinge	thick, squat, irreg flake, with similar prior removals; irreg waste
u/s	40	flake (S)	L.Mes/E. Neo	no	yes					feath	medial & distal frag; dorsal scars = blade removals (from type B1 core?)
u/s	41	flake (S)		yes	yes			comp	diffuse	feath	small flake, prob platform prep, or trimming/thining
u/s	41	flake (T)		no	yes			flat	v.sm.pr		prox frag of v small flake
u/s	41	flake (S)	L.Neo/BA	yes				comp	diffuse	feath	squat irreg flake, dorsal scars suggest disc core
u/s	41	core	L.Neo/BA								type Cb flake core; irreg flake removals with pronounced bulb scars
u/s	41	blade (S)	L.Mes/E. Neo	yes				abrad	diffuse	feath	
u/s	41	flake (T)	L.Neo/BA	yes	yes			flat	pron	hinge	squat irreg flake
u/s	41	chip			yes	yes					granular structure/calcined
u/s	41	chip			yes						
u/s	41	flake (T)		no	yes			flat	flat		prox frag of small flake
u/s	141	flake (S)		yes				comp.	diffuse	feath	large irreg flake; little evidence of systematic working; thin, abraded cortex
u/s	142	blade-like flake (S)	L.Mes/E. Neo	yes		yes		cort.		feath	from blade core; burnt, with granularstructure and pot lids detached
u/s	142	blade-like flake (S)	L.Mes/E. Neo	no						feath	distal frag of blade
u/s	142	blade (S)	L.Mes/E. Neo	yes				flat	v.sm.pr	feath	small blade
u/s	142	flake (T)		yes	yes			comp	diffuse	hinge	irreg waste
u/s	142	blade (S)	L.Mes/E. Neo	yes	partly			flat	sm.pr	hinge	poss worked on anvil (chip from dist end)
u/s	145	blade (S)	L.Mes/E. Neo	yes	partly			flat	v.sm.pr	feath.	from type B1 core; 1 recort surface = reused core?
u/s	145	blade-like flake (T)	L.Mes/E. Neo	yes		yes		comp.	flat	feath.	platform edge prep; heavily burnt, with pot lid fracture
u/s	145	blade-like flake (T)	L.Mes/E. Neo	yes	yes			flat	v.sm.pr	feath.	small flake

Context	Tr	Type	Date	Comp	Recort	Burnt	Retouch	Platf	Bulb	Term	Comments
u/s	145	flake (T)		no		yes				feath.	distal frag of v heavily burnt flake; irreg waste
u/s	145	flake (S)	L.Mes/E. Neo	yes	partly			flat	diffuse	feath.	dorsal scars suggest from blade core; thin abraded cortex
u/s	145	blade-like flake (S)	L.Mes/E. Neo	no	yes					hinge	platform detached; from type B1 core (worked on anvil?)
u/s	145	flake (S)		yes	yes			cort.	v.sm.pr	feath.	irreg waste; poss miss hit (small inscipient cone); poss Neo
u/s	145	core	L.Mes/E. Neo								v small exhausted core, type B3; reused as core scraper?
u/s	145	knife	Neo/BA	no			yes	cort.	diffuse	feath.	half of flake broken laterally through bulb
u/s	145	blade-like flake (S)	L.Mes/E. Neo	yes	partly			flat	sm.pr	feath	curves laterally, from blade core; core poss reused
u/s	152	blade (T)	L.Mes/E. Neo	yes				flat	v.sm.pr	step	Wolds flint
u/s	152	flake (T)	L.Mes/E. Neo	yes				flat	v.sm.pr	plunge	struck from v small type B1 blade core: dist end incls section of platf edge
u/s	152	blade (T)	L.Mes/E. Neo	no						feath	dist frag of blade
u/s	152	flake (P)		no							medial frag of large primary flake
u/s	152	flake (T)		no						feath	dist frag of blade
u/s	152	notched flake (T)	L.Mes/E. Neo	yes			yes	flat	v.sm.pr	feath	thick, broad irreg flake ;11mm wide notch (serial retouch) middle of distal end
u/s	152	core	L.Mes/E. Neo								v small, exhausted pebble core, type B1(only 27mm long)
u/s	152	core	Neo		partly						exhausted disc core; reused type A core? side with blade scars has patina
u/s	152	micro-burin (T)	L.Mes		partly			flat	diffuse		prox frag of blade; abrupt retouch curves across half of width
u/s	152	chunk			partly						
u/s	152	chunk									irreg waste from pebble core
u/s	152	chip			yes						
u/s	152										
			LM **9**		yes **431**	yes**188**	ret **43**	flat**229**	diff **233**	fth **326**	
			LM/EN **336**		part **156**	poss **6**	prob **1**	abr **9**	smpr **53**	hng **75**	
			EN **1**				poss **3**	cp **137**	vspr **70**	stp **27**	
			Neo **4**					crt **46**	pron **39**	plng **4**	
			N/BA **5**				u/w **7**		flat **9**		
			LN/EBA **1**				prob **1**				
			LN/BA **34**				poss **4**				
			EBA **1**								
			BA **2**								

Lincoln Eastern Bypass, Areas C, D, E & F
Greetwell – Canwick, Lincolnshire
LEB 03

Lithic Materials: Assessment

Report by Jim Rylatt – December, 2003

1.0 Introduction

This report relates to an assemblage of lithic material that was recovered from evaluation trenches opened along the 1.1km long component of the proposed route of the Lincoln Eastern Bypass that traverses the Lower Witham Valley between the Lincoln to Market Rasen railway line and Washingborough Road, Canwick, Lincolnshire. Worked lithic material was recovered from nineteen of the thirty-four trenches examined in this section of the route. A total of 905 pieces of struck or modified flint were retrieved, these items being indicative of activity extending from the Late Mesolithic to the Bronze Age. The different elements of this collection comprised one crescent-shaped microlith, one micro-burin, five backed blades, one obliquely blunted blade, six end scrapers, three end and side scrapers, two core scrapers, four miscellaneous scrapers, one oblique arrowhead, three knives, a fragment from a dagger or 'laurel leaf', one notched flake, five retouched blades, fourteen retouched flakes, twenty cores, ten core fragments, four core rejuvenation flakes, one (tool) sharpening flake, four blades and nine flakes with use-wear, 130 unmodified blades, 98 blade-like flakes, 270 unmodified flakes and, 311 chunks, chips and spalls.

2.0 Description

2.1 Raw material

All of the lithic artefacts examined were produced from flint. Where cortical surfaces survived it was possible to establish that the raw materials were derived from secondary deposits. The majority of the cores, primary flakes, secondary flakes and other large pieces of irregular waste ('chunks') have areas of thin, abraded cortex. Where relatively large areas of this surface survive, it generally exhibits a rounded profile. This indicates that the nodules utilised were water-transported pebbles and cobbles derived from river terrace gravels, or related glacio-fluvial sheet deposits. This form of movement limits the size of the constituent nodules, and also accounts for the considerable variation in the colour, composition and quality of the components of the assemblage. Such pebbles will have been rolled and battered by glacial and fluvial forces prior to their initial deposition, resulting in the thin, irregular and pockmarked nature of their cortex. Additionally, the extreme temperatures experienced in a glacial or periglacial environment are likely to have caused many of the nodules to fracture. This process probably accounts for the sub-angular, recorticated surfaces evident on a number of the artefacts examined.

The collection of flint from secondary deposits is likely to have been a relatively expedient process. This may simply have involved the inspection of tree throws, or cut back sections of the banks of rivers and streams (Edmonds, 1995). Alternatively, the creation of slight delves

in the upper surface of out-cropping gravel deposits may have proved to be a more reliable means of acquisition. There are only small and relatively insubstantial gravel beds within the immediate vicinity of this relatively constricted section of the Witham valley, so the source, or sources of procurement of this raw material is unclear (I.G.S., 1973). Some of the closest larger gravel deposits are associated with the River Till, 4.5km to the west, the Upper Witham 7km to the south-west and the River Trent 16km to the west. Additionally, sections of the Witham further downstream are associated with extensive and abundant gravel beds, particularly in the area to the south-east of Kirkstead where the River Bain joins the Witham (c.22km to the south-east of the road corridor).

2.2 Condition

The majority of the assemblage is in an excellent state of preservation, flake margins being fresh and undamaged, reflecting their original state at the time of manufacture and deposition. Evidence of post-depositional damage was exhibited by only 26 pieces (2.9%), and eleven of these (1.2%) were recovered from residual contexts, or unstratified deposits, while some others had damage possibly relating to the opening of the trenches. The outstanding condition of the bulk of the assemblage reflects that fact that 95.5% of the worked flint that was recovered came from eleven trenches situated on the valley floor. Significant quantities of peat had developed over this area and a degraded residue of these waterlogged deposits still covers and protects a significant proportion of the contexts containing flint. Consequently, the valley floor was unsuited to arable cultivation prior to the 19th century and subsequent ploughing has failed to penetrate sufficiently deep to disturb and truncate what is effectively an *in-situ* prehistoric land surface.

A large proportion of the flint recovered had wholly (431 pieces) or partly (156) recorticated/patinated flake surfaces (64.9% of the assemblage). Comparison of the datable traits and the degree of patination indicates that this post-depositional modification does not reflect the differences in age between discrete elements of the assemblage. It is more likely to result from localised variations in the soil chemistry. The soils at the valley edges contain large quantities of limestone, which will have liberated calcium carbonate, while there will have been varying concentrations of organic acids within the areas covered by peat deposits; both conditions may have catalysed the transformation.

A significant proportion of the assemblage had been burnt (21.4%). This had resulted in a change in the structure of the flint, and in many cases, had resulted in shattering of the piece, or a loss of definition to the flake margins and scars. In most cases the flint had been burnt after it had been knapped. It is not possible to determine whether this was an economic process associated with the utilisation of lithic waste for some other purpose, or a form of cleansing associated with the cessation of discrete episodes of activity. However, the fact that flint was being burnt indicates that there must have been a number of fires, or hearths in the immediate vicinity of this section of the bypass route during the prehistoric period.

2.3 Composition

Cores and core fragments

Twenty cores, ten core fragments and four core rejuvenation flakes were recovered, which together constitute 3.8% of the assemblage. Seventeen of these cores had been used to produce blades, and had either single platforms (A1 – 1; A2 – 6) or opposed platforms (B1 – 7) (Clark, 1960). At least seven of the core fragments had also been detached from blade cores. As would be expected with blade production, many of the cores exhibit signs of careful preparation and maintenance/curation.

The other three cores consisted of two multiple platform types (one Ca and one Cb) and a disc core, which had all been used to produce broad flakes. The disc core appears to have been created on an abandoned type A blade core.

Most of the cores had been worked to exhaustion. This suggests that raw materials were not readily available and abundant in the immediate vicinity, and had to be imported. It is also interesting to note that, despite being worked to exhaustion, most cores had not been worked around the full circumference, and part of the cortical surface of the pebble survived. This characteristic may be partly determined by the size and shape of the pebbles selected for knapping, but could also be a bi-product of the method employed to stabilise the core during working.

Irregular waste

A large proportion of the assemblage consisted of chunks (58) and chips/spalls (253) (34.3% of the total). This waste material is the bi-product of core reduction. Some of the chunks will have been easy to locate and may have been moved away from the knapping floors, for example if they were subsequently burnt. In contrast, the spalls will have been discarded in the immediate vicinity of site of production. In this respect, the large quantities of very small flakes and spalls that were recovered from some of the environmental samples are of significance (e.g. 1754, <4>), as they demonstrate that flint knapping was an activity undertaken on the sand bank examined in Trench 144.

Flakes

Unmodified flakes formed 56.5% of the total assemblage. Examination of the scars on the dorsal surfaces of the flakes indicates two distinct patterns of working. The largest proportion can be classified as blades (14.4%), blade-like flakes (10.8%), or are the bi-product of 'narrow flake' reduction technologies (5.3%). These artefacts exhibit signs of having been removed from prepared cores, with single, or opposed platforms. Many of the blade-like flakes and more irregular waste are trimming flakes associated with the preparation and maintenance of the platform edge.

The majority of the blades and narrow flakes either have complex, or very small flat platforms, indicating that percussion was directed toward the platform edge. The bulbs of percussion on these flakes are generally either diffuse, or very small and pronounced. The diffuse examples are indicative of soft hammer percussion (e.g. antler), while the small bulbs are a product of indirect percussion (Lord, 1993). The later technique was favoured for blade production as it was an accurate means of placing and directing force. This level of control is also reflected in the high incidence of feathered terminations within this element of the assemblage. Where hinge or step fractures do occur, they are frequently associated with the smaller flakes created during the maintenance of the platform edge.

Four of the unmodified blades exhibited evidence of use-wear along the lateral flake margins (3.1% of blades). These pieces had not been modified in any way and therefore appear to reflect expedient usage.

A relatively small proportion of the unmodified flakes can be positively identified as the products of multiple-platform working, where cores are characterised by a relatively random patterning of the relationships between the platforms (3.3% of the assemblage). The flakes created by this less formalised system of working tend to be squat, and are relatively thick in comparison to blades. They also have a greater tendency toward more pronounced bulbs and

hinged terminations. It is likely that a larger proportion of the of 513 undifferentiated flakes and pieces of irregular waste (56.7%) will also be a product of this lithic technology, as the indicators of unsystematic, multiple-platform working are generally less evident upon smaller pieces of flint.

The assemblage contained 223 cortical blades and flakes (24.6%) (table 1). The proportion of cortical blades was a much lower than the equivalent ratio of the flakes; this characteristic should be expected when considering the intended product of a more controlled system of working. The incidence of cortical pieces reflects the nature of the raw materials, as waterborne cobbles and pebbles have a relatively high surface area in comparison to mined flint. Together with the cores, the large numbers of cortical flakes indicate that the early stages of core reduction constituted a significant element of the flint working that was undertaken in this area of the Witham valley. The proportion of complete cores to unmodified flakes is 1: 24.9.

	Primary	**Secondary**	**Tertiary**	total	% cortical
Blades	2	32	96	130	26.2
Blade-like flakes	1	43	54	98	44.9
Flakes	23	122	125	270	53.7
total	26	197	275		
%	5.2	39.6	55.2		

Table 1: composition of the unmodified element of the assemblage.

Tools and retouched flakes

The collection contained 30 pieces that had been transformed into tools (3.3%) and 19 flakes that had been modified with minimal retouch (2.1%). When combined with the 13 flakes that show evidence of use-wear, this indicates that 6.8% of the assemblage had been utilised. The tools produced consisted of eight modified blades of microlith proportions, fifteen scrapers, three knives, one oblique arrowhead, a notched flake and a fragment of partially completed flint dagger, or 'laurel leaf', the latter item being the only piece with extensive bifacial working.

The presence of these items indicates that tool manufacture and use was also a significant activity in the study area. The backed blades and obliquely blunted blade would have formed elements of composite tools such as arrowheads. Scrapers constitute half of the tools and most have abrupt retouch. With respect to the scrapers, there is evidence that the angle of retouch is related to function. The creation of steeply angled working surfaces is consistent with a pushing motion used in the working of wood and bone. However, there is no absolute correlation and this can only be considered as a very general indicator without recourse to micro-wear analysis.

3.0 Dating

The blades, blade-like flakes and associated waste, with parallel flake scars on their dorsal surfaces, would have been produced from type A and type B cores, these different elements forming 33.4% of the assemblage. The morphological attributes of this group are indicative of the highly controlled patterns of working associated with later Mesolithic and Early Neolithic lithic technologies. Many of the blades are less than 40mm long and, as such, have microlithic proportions. However, it has been noted (2.1, above) that the raw material consisted of river pebbles that were probably imported. The form of the raw material would have restricted the size of cores and flakes, which combined with the limited supply, would have encouraged the

reduction of cores until they were exhausted. As a result, the size of the blades is partly conditioned by the form and availability of flint rather than reflecting chronological variation in lithic technology. Consequently, it would be inappropriate to use size as a means of differentiating between the products of Late Mesolithic and Early Neolithic industries.

More than half of the tools have diagnostic forms that enable them to also be assigned to this extended period of activity. Five backed blades (Trench 33-*u/s*; 34-*1161*; 144-*1698*(x2) & *1702A*), an obliquely blunted blade (34-*1157*), a type 5 microlith (34-*1161*), a truncated blade (144-*1702B*) and a micro-burin (152-*u/s*) provide evidence of a Late Mesolithic presence. The location of Trenches 33, 34, 144 and 152 suggests that this activity was focussed upon the immediate margins of the river channel. An end scraper (152-*1776*) and two blade-like flakes (145-*1637*; 146-*1641*) have characteristics more indicative of Early Neolithic practices. Other pieces, such as two end scrapers (26-*1247*; 146-*1639*) and a notched flake (152-*u/s*) are less chronologically sensitive, but are again products of Late Mesolithic or Early Neolithic technology.

Dating of the large, bifacially worked flake fragment recovered from Trench 34 (u/s) is hampered by the fact that it is incomplete. Furthermore, it also appears to have been discarded prior to completion, and thus, may possibly have been broken during manufacture. It may have been intended to be a relatively large 'laurel leaf', a bifacial knife or projectile point, of Early to Middle Neolithic date. Alternatively, it also has characteristics consistent with the broad, pointed tip of a partially completed dagger of Early Bronze Age date. The archaeological context of Trench 34 indicates that either may be possible, as it is located within a round barrow cemetery and large quantities of Late Mesolithic to Early Neolithic debitage have been identified in the immediate vicinity.

A relatively small component of the assemblage exhibits the morphological traits of the less formalised pattern of core reduction that is characteristic of the later Neolithic to Early Bronze Age. Indicators include the use of irregular multiple platform cores (e.g. 41-*u/s*; 152-*u/s*), combined with the production of relatively squat and irregular flakes. Only 27 unmodified flakes (3.0%) and four minimally retouched or utilised pieces (0.4%) can be confidently attributed to this period of activity. Additionally, there are a number of tools that were produced by this system of flint knapping. These include two knives (35-*u/s*; 145-*u/s*) and, four end/side and end scrapers (34-*1161*; 35-*1093a*; 28-*u/s*; 38-*u/s*). A very finely made thumbnail scraper (35-*1093a*) could be of latest Neolithic date, but is more likely to have been manufactured during the Early Bronze Age, this type of artefact being commonly associated with Beaker period deposits. The oblique arrowhead discovered in Trench 34 (*1161*) is a type that is most commonly found with later Beaker period material (c. 2000 – 1500bc). It is important to note that both the thumbnail scraper and the arrowhead were found within a the confines of a small round barrow cemetery and almost certainly reflect some form of contemporary activity taking place around these funerary monuments.

4.0 Conclusions

It is evident that this small lithic assemblage represents the residues of a palimpsest of activity that took place over thousands of years. The majority of the diagnostic artefacts suggest a relatively high level of activity along the margins of the Witham during the Late Mesolithic and Early Neolithic. These late hunter-gatherer and early farming communities had a high degree of mobility, and this suggests that the worked lithic material results from sporadic or seasonal visits during which people inhabited temporary camps. The presence of a significant amount of burnt material implies that some of these camps lay close to, or within the proposed road corridor.

Some of the lithic material is a product of later activity, which took place during the Late Neolithic and Early Bronze Age. During this period round barrow cemeteries were constructed and maintained on both sides of this section of the river.

This is a small, but highly significant collection of worked lithic material. Much of it is derived from an *in-situ* prehistoric land surface and, as such, has great archaeological potential. The recovery of relatively large amounts of very small flakes and spalls (i.e. pieces as small as $2mm^2$) from some of the environmental samples provides a strong indication that there are preserved knapping floors. Consequently, it is highly recommended that any further excavation in this area should include the wet sieving of the sandy deposits sealed beneath the peat, in order to recover the small flakes and spalls that they contain. Additionally, micro-wear analysis of utilised flakes and tools is also likely to be beneficial, as this will provide an indication of the nature and range of activities undertaken along this section of the river valley. Through a more detailed analysis of a larger assemblage it may be possible to differentiate different zones and forms of activity, or even chronological variations in patterns of behaviour. This would greatly enhance our understanding of prehistoric activity along the Lower Witham prior to the development of the peat.

5.0 References

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Lithics Analysis – Glossary

Type:	(P) – primary (S) – secondary (T) – tertiary c.r. – core rejuvenation
Date:	L.Mes – Late Mesolithic E.Neo – Early Neolithic L.Neo – Late Neolithic EBA – Early Bronze Age BA – Bronze Age
Comp: (complete)	(yes/no)
Recort: (recorticated)	(yes/partly/no)
Retouch:	poss – possible prob – probably u/w – use-wear
Burnt:	poss – possible prob – probably
Platf: (platform)	abrad – abraded comp – complex cort – cortical
Bulb:	pron – pronounced v.sm.pr - very small pronounced
Term: (termination)	feath – feathered hinge – hinged plunge – plunging step – stepped
Comments:	b-l – blade-like circumf - circumference dep – depositional dist – distal frag – fragment irreg – irregular lat – lateral platf – platform poss – possible prep – preparation prob – probable prox – proximal v - very

LINCOLN EASTERN BYPASS (LEB03)
REPORT ON PREHISTORIC POTTERY
FOR PCA (LINCOLN)
By Carol Allen

1 Introduction

1.1 Two sherds of early Bronze Age pottery were found on this site. These were recovered from evaluation trenches on the proposed route of the bypass. Both sherds were found in Bracebridge Heath, south of Lincoln.

2 Context

2.1 One sherd was found during sieving of the topsoil in Test Pit 14 (TP14). This located on the centre line of Trench 134.

2.2 The second sherd was found in context 2153. This was the fill of a large pit (2152), which was located in Trench 133. Two other sherds found were of probable medieval date.

3 Description

3.1. The sherds are described in Table 1 below.

Table 1: Catalogue of Bronze Age sherds

Context	*Sherd weight*	*Wall thickness mm*	*Fabric type*	*Abrasion level*	*Description*	*Type and decoration*
TP14	1 g	4	QUSF	Slightly abraded	Body sherd 16 x 13 mm	Fine Beaker with small parallel incisions
2153 fill of pit 2152	2 g	5	SHSM/ QURF	Slightly abraded	Body sherd 17 x 20 mm	Fine Beaker with comb in 3 horizontal rows & one parallel row of incised decoration

3.2. The sherds are small and thin walled of fine Beaker type. They are of typical colour, being well-fired and orange on the exterior, but dark grey and unoxidised on the core and interior.

3.3 Both sherds are slightly abraded and do not have new breaks suggesting that the sherds may have been broken in antiquity. These could be residual finds, although such fine Beaker ware would not travel far without being abraded beyond recognition.

3.4 Sherd TP14 has a fabric of sparse fine quartz, and sherd 2153 has sparse medium voids indicative of the former presence of shell tempering, together with a small amount of fine quartz. The site lies on the Lincoln Limestone oolitic shell beds (which are not oolitic) of the Lincolnshire Limestone (Geological survey map 1979; Swinnerton and Kent 1976, 37) south of Lincoln, and it is very likely that the material for tempering could have been found locally.

4 Dating

4.1 The form of the vessels cannot be determined from the sherds but the decoration, fabric, thin wall and colour is typical of Beaker fine wares. These can

probably be dated to around the end of the third millennium BC and early second millennium BC, say approximately 2000BC (Kinnes *et al* 1991; Gibson 2002, 91).

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REPORT 153 ON POTTERY FROM THE LINCOLN EASTERN BYPASS, LEB03

for PRE-CONSTRUCT ARCHAEOLOGY

by Margaret J. Darling, M.Phil., F.S.A., M.I.F.A.

26 January 2004

The Roman pottery amounted to 1461 sherds, weighing 30.621kg from 27 trenches. The condition of the pottery varied between fragmented and abraded sherds and relatively fresh sherds, the average sherd weight overall being 21g sherd. No problems are anticipated for long term storage. The pottery has been archived using count and weight as measures according to the guidelines laid down for the minimum archive by *The Study Group for Roman Pottery*. The archive codes are in Appendix 2. The archive record (attached, and available on disk) will be curated for future study. Vessels for which illustration is desirable have been separated and assigned drawing numbers (Appendix 3), some referred to in the following discussion. Fabrics by trench are in Appendix 4.

INTRODUCTION

The distribution between the various trenches is shown in Table 1.

Table 1 Quantities by Trench

Trench	Sherds	%	Weight	%	Sherds	%	Weight	%
Greetwell Quarry								
15	8	0.55	93	0.3				
16	59	4.04	801	2.62				
17	170	11.64	2385	7.79				
19	2	0.14	5	0.02				
20	5	0.34	10	0.03	244	16.71	3293	10.76
N of North Delph								
26	4	0.27	483	1.58				
27	1	0.07	4	0.01				
30	1	0.07	8	0.03				
151	2	0.14	23	0.08	8	0.55	518	1.7
S. of South Delph								
36	5	0.34	64	0.21				
37	55	3.76	963	3.14				
38	474	32.44	11606	37.9				
39	37	2.53	1031	3.37				
40	84	5.75	2584	8.44				
41	186	12.73	3751	12.25				
42	222	15.2	4697	15.34	1063	72.75	24696	80.65
South of B1190								
52	1	0.07	12	0.04				

58	36	2.46	616	2.01	37	2.53	628	2.05
North of B1188								
78	4	0.27	17	0.06	4	0.27	17	0.06
South of B1188								
85	1	0.07	6	0.02				
87	4	0.27	45	0.15				
90	2	0.14	55	0.18				
92	56	3.83	608	1.99				
95	1	0.07	2	0.01	64	4.38	716	2.35
Bracebridge N of A15								
131	16	1.1	100	0.33				
133	21	1.44	638	2.08				
134	4	0.27	14	0.05	41	2.81	752	2.46
Total	1461	100	30621	100				

Details of the quantities, dating and general comments on condition etc. by context are in Appendix 1. Only two links based on sherds probably from the same vessels were observed between deposits, Trench 87, cxt 2061 with Trench 90, cxt 2067, and Trench 133, between contexts 2151 and 2155.

DISCUSSION

The main assemblage came from the Witham flood plain, 73-81% being from the area south of the South Delph, with a few sherds from north of the North Delph. The area north of Greetwell Quarry contributed the next largest group, 17% on count, but fragmented. The pottery evidence can be summarised by area:

NORTH OF THE NORTH DELPH

Trench 26
A single context 1247, comprising just two very abraded grey bases and two body sherds from an atypical Dressel 20 amphora in an unusual red-brown fabric. Only an indeterminate 2nd century date can be suggested.

Trench 27
A single shell-gritted sherd of only 4g weight, for which it was impossible to determine the manufacture method, from context 1329, might possibly be of Iron Age date.

Trench 30
A single unstratified rim fragment (only 8g) of a lid-seated jar in shell-gritted fabric suggests a 3rd or 4th century date.

Trench 151
Only two contexts, 1620 which produced an abraded body sherd of grey ware, datable only to the Roman period, and 1625 with only an abraded fragment of tile, probably Roman but with no surviving surfaces.

SUMMARY

Table 2 Fabrics from trenches north of North Delph

Fabric	Code	Sherds	%	Weight	%
Dressel 20 amphorae	DR20	2	25.00	465	89.77
Grey quartz-gritted	GREY	3	37.50	25	4.83
Shell-gritted	SHEL	1	12.50	8	1.54
Shell-gritted sparse medium	SHSM	1	12.50	4	0.77
Tile building material	TILE	1	12.50	16	3.09
Total		8	100	518	100

These few finds from only four trenches give little information of value. All of the pottery is abraded to varying degrees, the tile fragment having lost all surfaces. The sherds of a Dressel 20 amphora (Trench 26) are unusual in having an atypical red-brown fabric, but a 2nd century date is likely. The shell-gritted (SHEL) lid-seated jar from Trench 30 suggests a late Roman date, while the tiny (4g) body sherd of shell-gritted ware (SHSM) from Trench 27 cannot be closely dated, but could conceivably be of Iron Age date.

SOUTH OF THE SOUTH DELPH

Trench 36
Only unstratified finds, grey body sherds, a small grey with some shell inclusions body sherd, and a small shell-gritted body sherd (5g only), but including a single datable sherd comprising the complete profile of a South Gaulish samian cup of form 27. A *terminus post quem* in the 1st century date is indicated.

Trench 37
Only two contexts were stratified, 1141 and 1142, both from a Medieval robber trench 1142, and contained pottery dated to the 4th century and the mid 3rd century on fairly reliable evidence. The bulk of the finds are unstratified, but include a range of dates from the 2nd century to probably the 3rd century, with a notable vessel, a rare bowl of Lincoln type 321 (dwg 43) along with fragments of a probable carinated beaker, and open and closed forms derived from Dorset Black-Burnished ware types. A mid to late 2nd century date is feasible, although a later 3rd century date cannot be entirely ruled out..

Trench 38
The largest group of pottery. The fabrics are shown in Table 3.

Table 3 Fabrics Trench 38

Fabric	Code	Sherds	%	Weight	%
Amphora	AMPH	6	1.27	576	4.96
Amphora Italian black-sand	ITAMP	1	0.21	32	0.28
Cream	CR	5	1.06	62	0.53
Cream sandy	CRSA?	1	0.21	8	0.07
Dressel 20 amphora	DR20	4	0.84	530	4.57
Dales ware shell-gritted	DWSH	3	0.63	39	0.34
Grey quartz-gritted	GREY	358	75.53	7798	67.19
Grey coarser fabric	GREYC	2	0.42	127	1.09
Grey fairly fine	GRFF	1	0.21	38	0.33
Grey sandy	GRSA	15	3.17	200	1.72

Iron Age tradition gritty	IAGR	1	0.21	36	0.31
Late coarse pebbly grey	LCOA	3	0.63	69	0.59
Late coarse pebbly grey?	LCOA?	3	0.63	41	0.35
Mortaria Nene Valley	MONV	2	0.42	187	1.61
Mortaria Swanpool	MOSP	1	0.21	36	0.31
Nene Valley colour-coated ware	NVCC	8	1.69	40	0.34
Oxidized	OX	11	2.32	568	4.89
Oxidized light	OXL	1	0.21	22	0.19
Oxidized sandy	OXSA?	2	0.42	26	0.22
Parisian type	PART	2	0.42	16	0.14
Samian Central Gaul	SAMCG	5	1.06	39	0.34
Samian South Gaul	SAMSG	2	0.42	12	0.10
Shell-gritted	SHEL	28	5.91	516	4.45
Swanpool colour-coated ware	SPCC	4	0.84	272	2.34
Swanpool oxidized ware	SPOX?	1	0.21	9	0.08
Tile Building material	TILE	4	0.84	307	2.65
Total		474	100.00	11606	100.00

Imported vessels include amphora, sherds of Dressel 20 (DR20) both in a fairly gritty fabric and the later finer fabric, and including a fragment of a stamp (small find 8). The stamp has only two letters with an intervening stop (A.D?[), with a trace of the bottom of the next letter (dwg 19). There are also sherds from a single unusual cream amphora (AMPH), apparently a globular type, and possibly a Dressel 20 in a variant fabric. An interesting and rarer amphora appears to be represented by a single sherd in a 'black-sand' fabric (ITAMP), typical of amphorae from the Campanian area of Italy. Amphorae from this area of Italy were imported into Britain in the pre-Roman period (as Dressel 1A, 1B) and during the 1st century (as Dressel 2-4). A new type in this fabric was discovered in the excavations at South Shields (Williams 1994) with an almond-shaped rim, from contexts of c 250-350. The sherd is too small to indicate the type of amphora, and in view of the South Gaulish samian sherds, the possibility remains that this is from a 1st century amphora. It is perhaps more probable that it came from the later type with the almond-shaped rim, very rare in this country.

The only other imports are the samian from South and Central Gaul, giving a date range from 1st to the end of the 2nd century, but all the sherds are notably small. Clearly representing the earlier Roman period is a single bowl in the Iron Age tradition gritty fabric (dwg 6; IAGR), for which a late 1st to early 2nd century date is probable, and fragments from a rusticated jar, a carinated bowl and a carinated beaker (dwg 27) also probably belong to the 2nd century. A lid (OXL, dwg 30) is a early vessel, the fabric resembling early Lincoln fabrics. The cream (CR) sherds are less closely datable, all from closed forms, probably spanning the 2nd and earlier 3rd centuries. More positively of 2nd century date are the sherds of Parisian type (PART), from a beaker and a closed form; also a dish (OX, dwg 58) with pointed burnished intersecting arc decoration. Some of the Nene Valley colour-coated ware (NVCC) may belong to the late 2nd or earlier 3rd century, as a sherd from a barbotine beaker, but most are likely to be fully 3rd century, and possibly even 4th century, as with a body sherd from a pentice-moulded beaker (from the ditch/pit 1105). Notably, however, in view of the chronological emphasis of the coarse wares from this trench, there are no late NVCC bowls or dishes as seen in Trenches 41 and 42.

The bulk of the pottery is without question of later Roman date, including dales ware jars (DWSH), late coarse pebbly fabric (LCOA) lid-seated and double-lid-seated jars, as well as a

rarer dish with a triangular rim (dwg 11). Most of the shell-gritted (SHEL) sherds seem more likely to be wheel-thrown than hand-made, and include lid-seated and double-lid-seated jars (as with LCOA), a dish possibly of an unusual type with a handle (dwg 3), a bowl with a triangular rim (dwg 29), and a jar of the South Midlands type (dwg 28) probably from the kilns at Harrold, Bedfordshire (Brown 1994). Apart from grey wares clearly from the late Swanpool kilns in Lincoln (Webster & Booth 1947), there is a mortarium (MOSP), colour-coated ware (SPCC) in a bead-and-flange bowl (dwg 20), and a body sherd from a closed form, decorated with rouletting and painted designs, and oxidized vessels (SPOX) in a fragment from a bowl or dish. Of the 45 bowls from this trench, 69% are wide-mouthed bowls, emphasizing the later Roman dating and much of this assemblage is typical of late assemblages from the city of Lincoln (Darling 1977). It is however important to note that a quantity of late pottery occurred in the unstratified material. A check on the grey wares, excluding sherds that are untyped, shows the closed forms at 55-62%, as shown in table 4.

Table 4 Grey forms, excluding uptyped sherds.

FORMS	Sherds	%	Weight	%
Bowl	45	29.61	1948	38.86
Bowl or dish	7	4.61	116	2.31
Dish	5	3.29	195	3.89
	57	***37.51***	***2259***	***45.06***
Beaker	15	9.87	185	3.69
Closed	5	3.29	218	4.35
Cookpot	5	3.29	46	0.92
Flask?	1	0.66	5	0.1
Jar	63	41.45	2082	41.53
Jar or bowl	5	3.29	192	3.83
Jar or beaker	1	0.66	26	0.52
	95	***62.51***	***2754***	***54.94***
Total	**152**	**100.02**	**5013**	**100**

There are some rare and important vessels included in this material, including an unusual flanged bowl in a fabric approximating to that used for tiles (dwg 33, unstratified, and sherds from 1065 demolition, and 1063, the ditch 1061). Tile fabric pots are known from the city of Lincoln, from the site of St Mark's Church; their function is unknown, but this is a further important addition to the known range.

Trench 39

Only two contexts, 1000 and 1043, both from the plough or subsoil, giving dates of late 2nd to 3rd century, and late 3rd to 4th century. Unstratified finds give a date of very late 4th century, based on at least two jars of the double lid-seated type in the late coarse pebbly fabric (LCOA), at least one lid-seated of similar late Roman dating in shell-gritted fabric, alongside a grey bead-and-flange bowl with a high bead. Context 1043 also contained eight sherds more likely to date to the later Iron Age.

Trench 40

Only two stratified contexts, 1046 from a structure wall, and 1050, a pit, with indeterminate date of Roman and Prehistoric or Roman respectively, the latter based on a sherd of 1g weight. The unstratified material, the bulk of the pottery form the trench, spanned the 2nd to very late 4th century, the latter again based on a late coarse pebbly fabric double lid-seated jar.

Trench 41
Three stratified contexts, 1081-1083, only 1083 referring to a structure, all producing scrappy abraded sherds, giving a late 3rd to 4th century date. The unstratified pottery again spanned the later 2nd to very late 4th century, with late coarse pebbly fabric jars, typical products of the late Lincoln Swanpool kilns and late Nene Valley wares.

Trench 42
Stratified pottery from 1122 to 1137, mostly of later Roman date, perhaps with an earlier 3rd century emphasis, although the ditch 1129 contained 4th century pottery. The unstratified pottery extended into the later 4th century. Two tiny sherds (6g) from a stone-lined drain 1123 might conceivably be of Iron Age date.

SUMMARY

The evidence of the pottery from the south of the South Delph therefore indicates a range from the 1st century, largely on the basis of four sherds of South Gaulish samian, and perhaps two bowls of native tradition in a gritty Iron Age tradition fabric. The 2nd century is represented by Central Gaulish samian, Parisian ware and various forms, but the bulk of the pottery appears to belong to the 3rd and 4th centuries, including types from the late Swanpool kilns, and a quantity of very late 4th century pottery, such as the late coarse pebbly ware known from late deposits in the adjacent city of Lincoln (LCOA) and Oxfordshire red colour-coated ware, (OXRC), unlikely to arrive in this area until the mid-4th century. A rare occurrence amongst the amphora sherds is a sherd from a very rare type of amphora from the Campanian area of Italy, and fragment of a stamp from a Dressel 20 olive oil amphora from Baetica in South Spain (small find 8).

The fabrics for the pottery from trenches south of the South Delph are shown on Table 5.

Table 5 Fabrics from trenches south of South Delph

Fabric	Code	Sherds	%	Weight	%
Amphorae	AMPH	6	0.56	576	2.33
Amphora Italian black-sand	ITAMP	1	0.09	32	0.13
Dressel 20 amphorae	DR20	10	0.94	1512	6.12
Black-Burnished I	BB1?	2	0.19	27	0.11
Coarse fabric	COAR	1	0.09	1	0.00
Cream	CR	7	0.66	95	0.38
Cream sandy?	CRSA?	1	0.09	8	0.03
Dales ware shell-gritted	DWSH	8	0.75	148	0.60
Dales ware shell-gritted	DWSH?	12	1.13	143	0.58
Grey quartz-gritted	GREY	785	73.85	16653	67.43
Grey coarse fabric	GREYC	4	0.38	166	0.67
Grey fairly fine	GRFF	1	0.09	38	0.15
Grey sandy	GRSA	18	1.69	240	0.97
Grey with some shell	GRSH	1	0.09	5	0.02
Iron Age tradition gritty	IAGR	2	0.19	111	0.45
Late coarse pebbly grey	LCOA	12	1.13	487	1.97
Mortaria Nene Valley	MONV	1	0.09	12	0.05
Mortaria Nene Valley?	MONV?	1	0.09	175	0.71
Mortaria unknown source	MORT	1	0.09	47	0.19

Mortaria Swanpool	MOSP	4	0.38	188	0.76
Nene Valley colour-coated ware	NVCC	26	2.45	634	2.57
Oxidized quartz-gritted	OX	24	2.26	834	3.38
Oxidized light	OXL	3	0.28	81	0.33
Oxidized minimal shell inclusions	OXMS	5	0.47	42	0.17
Oxfordshire red colour-coated ware	OXRC	1	0.09	37	0.15
Oxidized sandy	OXSA?	2	0.19	26	0.11
Parisian type	PART	3	0.28	22	0.09
Samian Central Gaulish	SAMCG	35	3.29	189	0.76
Samian South Gaulish	SAMSG	4	0.38	46	0.19
Shell-gritted common medium	SHCM	5	0.47	64	0.26
Shell-gritted	SHEL	60	5.64	1082	4.38
Swanpool colour-coated ware	SPCC	5	0.47	277	1.12
Swanpool oxidized ware	SPOX	7	0.66	332	1.34
Tile vessel	TILE	4	0.38	307	1.24
Tile pipe?	TILE	1	0.09	59	0.24
Total		1063	99.97	24696	99.98

This summarizes the pottery from this site. A check on the overall dating of the pottery from these trenches, based on the quantities by context dates, indicates that probably over 90% belongs to the later Roman period from the 3rd to 4th century, with the emphasis at the end of that period. This makes this a sizeable group of pottery of importance, and particularly relevant to the end of the Roman period, lying outside the city of Lincoln.

FIELD NORTH OF GREETWELL QUARRY

Trenches 26, 27, 30 and 151 produced the next largest assemblage, much of it abraded. The large post-hole or pit 1199 contained mostly shell-gritted Iron Age body sherds, but also Roman body sherds including a flake of Central Gaulish samian. The three sherds from the ditch 1293 included small abraded shell-gritted body sherds, possibly of Iron Age date, but a Roman date cannot be excluded. Similar sherds came from the subsoil 1243 and the unstratified group. The ditches 1194 and 1274 and the gully 1197 contained shell-gritted Iron Age sherds, including two bowls (dwgs 52 and 59), together with some abraded body sherds from a finer shell-gritted vessel (GYMS), all suggesting a later Iron Age date. The main deposit, however, is the ditch 1287, with 167 sherds, which produced large joining sherds from two bowls, a large jar and a storage jar (dwgs 53-56), all of which would be consistent with a late Iron Age date.

These are important finds. Earlier archaeological work in 1997 and 1999 at Greetwell produced some evidence for Iron Age activity, possibly extending from the mid to the later Iron Age, and including a carinated cordoned bowl or beaker (Darling 1998, 2000). These new finds provide more evidence for the Iron Age occupation in this area, clearly important in any consideration of the Iron Age occupation in the area prior to the establishment of the legionary fortress at Lincoln.

WASHINGBOROUGH, South of the B1190

The adjacent area at Washingborough, south of the B1190, Trenches 52 and 58, produced only unstratified sherds, indicating 3rd century activity.

NORTH OF THE B1188

Trench 78. Only four sherds, three very abraded sherds from the ditch 1941 not being closely datable. A flaked very abraded scrap from 1944 has a fabric more consistent with prehistoric pottery, but cannot be dated.

SOUTH OF THE B1188

The trenches 85, 87, 90, 92 and 95 produced abraded sherds, mostly of Iron Age date, with Roman body sherds occurring in the ploughsoil. Sherds probably from the same vessel came from Trenches 87 and 90. The sparse evidence, including a jar from the ditch 2086 (dwg 57), suggests Late Iron Age activity.

BRACEBRIDGE, North of the A15

Trenches 131, 133 and 134. Only 31 sherds were stratified, with the rest from the ploughsoil and test pits. The dating of all the Roman pottery centred on the 2nd century, the latest probably extending into the mid- to late-2nd century.

RECOMMENDATIONS

59 vessels have been selected as worth consideration for illustration and publication (see appendix 4). Since further excavation on the site south of the South Delph is anticipated, these can be reserved for possible publication with any new finds. Such publication is strongly recommended to enable this ceramic evidence for late Roman activity adjacent to the city of Lincoln to be used and integrated into our understanding of this area at this period. There are also some unique new forms of considerable interest. The rare type of amphora from Trench 38 and the amphora stamp fragment (Small Find 8) will need to be examined by a specialist, Dr David Williams. The Iron Age vessels from the field north of Greetwell Quarry are equally important evidence for the Iron Age occupation in the area of Lincoln, and dependent upon any further excavation of the site, should be drawn for publication. There is also an Iron Age vessel from Trench 92 south of the B1188 (dwg 57) which should be illustrated.

FABRIC DEFINITION

Publication of *The National Roman Fabric Reference Collection*, abbreviated NRFRC (Tomber and Dore 1998), obviate the need to describe the major imported and widely traded Romano-British wares in detail.

AMPH	Amphora of unknown source. Body sherds in a cream fabric, seemingly from a globular form of amphorae, possibly an atypical Dressel 20.
BB1	Black-Burnished ware category 1, **NRFRC: DOR BB1**
CC	Colour-coated, unknown source
COAR	Coarse tempered fabrics, usually in a Iron Age pottery tradition, often poorly mixed clay, here a single tiny grey sandy fragment from Trench 40.
CR	Cream, miscellaneous cream wares. Sherds attributed to a fabric group rather than a discrete fabric, mostly from flagons or closed forms.
CRSA	A particularly sandy cream fabric, a single sherd. A dish, Dwg 12, Trench 38, 1078.
DR20	Amphorae Dressel 20 amphorae. Peacock & Williams 1986 Class 25; **NRFRC: Baetican (Early) Amphorae 1 BATAM1; (Late) Amphorae 2 BATAM 2 (3)**
DWSH	Shell-gritted dales ware jars, hand-made and wheel-finished from sources in north Lincolnshire around the Humber area. **NRFRC: DAL SH**

FCLAY	Fired clay fragments.
GREY	Grey, undifferentiated quartz-gritted grey fabrics, hard wares with sparse to common quartz inclusions.
GREYC	Grey fabrics, notably coarser than usual. Miscellaneous fabrics, grog, flint pebbles, clay pellets inclusions.
GRFF	Grey, fairly fine fabric. This code covers fabrics intermediate between the common grey wares with sparse to common quartz and the very fine fabrics used for Parisian and 'London' wares, which are fired from silty clays with very few minute inclusions. Usually used for finer vessels for the table, particularly beakers; here a single base from a beaker or small jar.
GROG	Grog-tempered. Possible grog inclusions occur in GREYC and IAGR. GROG refers to fabrics with grog-tempering predominating, here only in reduced fabrics with varying colours of grog.
GRSA	Grey, with common to abundant quartz sand inclusions.
GRSH	Grey quartz-gritted with some shell inclusions, wheel-made. Single unstratified small sherd.
GYMS	Grey with minimal shell inclusions, usually very fine and very sparse. Known in Late Iron Age deposits; possibly continuing into the early Roman period.
IAGR	Coarse tempered, often pimply with grog and other inclusions, IA tradition fabric, which continues in use into the Roman period. Two native styles bowls, Dwgs 6 and 49, Trench 38 and 41.
ITAMP	Italian 'black sand' amphorae. **NRFRC: CAM AM 1**
LCOA	A late coarse grey fabric with pebbly inclusions, common in the latest Roman deposits in Lincoln, and used for lid-seated and double lid-seated jars, here from Trenches 38-42, and including a dish with a triangular rim, Dwgl 1.
MONV	Mortaria Lower Nene Valley. Body sherds only. **NRFRC : LNV WH**
MORT	Mortaria, unknown source. Single vessel with a bead and flange in cream fabric, burnt, no trituration surviving (dwg 51), possibly a Crambeck product (Corder 1938; Wilson 1989)..
MOSP	Mortaria from Swanpool kilns, Lincoln. **NRFRC: SWN WS**
NAT	Coarse fabric, usually with poorly mixed clay and indeterminate inclusions. A tiny rim fragment and body sherd from Trench 17 (1287) in dark grey fabric with common black iron ore. Also a tiny soapy body sherd from Trench 78 (1944), probably prehistoric.
NVCC	Nene Valley colour-coat **NRFRC: LNVCC**
OX	Oxidized, miscellaneous oxidized wares. This coding comprises all miscellaneous oxidized sherds, usually in varying red-brown shades and degrees of grittiness, for which no significant fabric groupings are evident. Both open and closed forms occur, including dwgs 31, 32 and 58.
OXL	Oxidized lighter red-brown. Fabrics in light cream-brown shades, usually relatively fine-textured, often used for flagons, here as sherds from both open and closed forms.
OXMS	The oxidized version of GYMS, oxidized fabric with very minimal usually fine shell. A single vessel, a cordoned jar from Trench 39 (1043).
OXRC	Oxfordshire red colour-coated. Red coated tablewares produced in the Oxfordshire kilns, usually 4th century in this area. A bowl of samian type 38 unstratified in Trench 40. **NRFRC: OXF RS**.
PART	Parisian type, a very fine silty grey fabric, often with a sandwich fracture, usually with a fine black or grey polished external surface. Parisan ware is decorated with stamps or rouletting, and can be dated to the 2nd century (Elsdon 1982), although the fabric continues to be used in the later Roman period for different vessel forms (Darling 1984, 77-80). Parisian ware is known to have been made at the Market Rasen, Lincs. kilns (Darling forthcoming; **NRFRC: LMR FR**), and also at Doncaster (Buckland et al., 2001; **NRFRC: ROS FR**). Body sherds can be confused with London Ware, a very similar fabric, but used for different forms with differing decoration. This ware is common in London, but is also made in the Nene Valley (Perrin 1990). At least two beakers, Trenches 38 (dwg 5) and 42.
SAMCG	Samian Central Gaul, from Lezoux. **NRFRC : LEZ SA**
SAMSG	Samian South Gaulish, from La Graufesenque. **NRFRC: LGF SA**
SHCF	Shell-gritted, common fine shell inclusions. A jar (dwg 57) from Trench 92, and a single body sherd from Trench 16.

SHCM	Shell-gritted, common medium shell inclusions. Two tiny sherds from Trench 42, 1124, probably hand-made. Too small for certain identification or dating.
SHEL	Shell-gritted, miscellaneous shell-gritted ware, not certainly of local origin. Mostly wheel-made, including body sherds not certainly of dales ware, open and closed forms, lid-seated and double-lid seated jars, and a South Midlands shell-gritted jar, Dwg 28 from Trench 38.
SHSF	Shell-gritted, sparse fine shell inclusions. Only a tiny rim fragment and body sherd from Trench 16, a sherd from a closed form in Trench 17, and a possible bowl in Trench 92.
SHSM	Shell-gritted, sparse medium shell inclusions. A single small sherd from Trench 27, 1329, hand-made, with very sparse shell. Identification and dating inconclusive.
SPCC	Colour-coated ware from Swanpool kilns, Lincoln. **NRFRC: SWN CC**
SPOX	Oxidized quartz-tempered fabric, usually with a burnished slip, often decorated with white painted designs, made at the Swanpool kilns, Lincoln, in the 4th century (Webster & Booth 1947).
TILE	Tile fragments, usually building material. Here including an very unsual flanged bowl, Dwg 33, from Trench 38, 1063, 1065 and unstratified.

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APPENDIX 1

SUMMARY BY TRENCH AND CONTEXT, QUANTITIES, DATING, AND COMMENTS

Location	Trench	Cut	Details	Cxt	Sherds	Weight	Date	Comments
Greetwell	15	1274	Ditch nw-se	1275B	8	93	LIA	ABR
Greetwell	16	-	Subsoil	1243	1	14	IA/ROM	
Greetwell	16	1194	Ditch ene-wsw	1193	45	688	LIA?	VABR
Greetwell	16	1197	Gully ne-sw	1196	2	24	LIA?	VABR
Greetwell	16	1199	Pit/large posthole	1198	11	75	2C	Incls IA frags;ABR
Greetwell	17	1287	Ditch e-w	1286	167	2358	LIA	Frag burnt bone;VABR
Greetwell	17	1293	Ditch e-w	1292	3	27	IA/ROM	ABR
Greetwell	19	1025	Ditch nw-se	1032	2	5	UNDATABLE	
Greetwell	20	-	Unstrat.	US	2	6	IA/ROM	
Greetwell	20	1298	Ditch ne-sw	1297	3	4	IA	
					244	3294		
N of N. Delph	26	1248	Ditch e-w Med.	1247	4	483	2C?	Mostly amph
N of N. Delph	27	1330	Natural fissure	1329	1	4	IA?	
N of N. Delph	30	-	Unstrat.	US	1	8	3-4C	
N of N. Delph	151	1620	Ditch e-w	1620	1	7	ROM	
N of N. Delph	151	1621	Ditch e-w	1625	1	16	ROM?	
					8	518		
S. of S Delph	36	-	Unstrat.	US	5	64	1C+	Only datable sh=samian
S. of S Delph	37	-	Unstrat.	US	44	674	ML2?	Scrappy
S. of S Delph	37	1142	Robber trench Med.	1141	6	234	4C?	ABRADED
S. of S Delph	37	1142	Robber trench Med.	1142	5	55	M3	
S. of S Delph	38	-	Ploughsoil	1000	1	5	1C	Samian only
S. of S Delph	38	-	Subsoil	1001	16	993	4C	Some ABR; includes amph.
S. of S Delph	38	-	Colluvium	1003	14	324	4C	
S. of S Delph	38	-	Demolition	1065	46	1128	ML3?	Some earlier;some ABR
S. of S Delph	38	-	Demolition	1071	20	362	L3-4?	
S. of S Delph	38	-	Unstrat.	US	168	5123	L4	Incl. amph.
S. of S Delph	38	1004	Ditch e-w	1005	2	40	3-4C	
S. of S Delph	38	1006	Ditch/pit	1007	8	60	L4	
S. of S Delph	38	1061	Ditch n-s	1063	31	471	3-4C	No strong dating
S. of S Delph	38	1061	Ditch n-s	1066	12	111	ROM	
S. of S Delph	38	1061	Ditch n-s	1074	1	7	ROM	
S. of S Delph	38	1061	Ditch n-s	1078	21	902	3C	

Location	Trench	Cut	Details	Cxt	Sherds	Weight	Date	Comments
S. of S Delph	38	1062	Ditch n-s	1064	8	57	3-4C?	No good dating
S. of S Delph	38	1062	Ditch n-s	1077	7	193	ML3	Some ABR
S. of S Delph	38	1068	Ditch/gully	1068	33	472	4C	
S. of S Delph	38	1070	Pit?	1069	14	173	L3-4	
S. of S Delph	38	1073	Ditch ene-wsw	1072	24	432	ML3?	
S. of S Delph	38	1080	Pit	1079	3	12	L2-3	
S. of S Delph	38	1102	Ditch e-w	1101	9	220	4C	Some ABR
S. of S Delph	38	1102	Ditch e-w	1101E	5	88	4C	
S. of S Delph	38	1104	Gully e-w	1103	2	16	4C?	
S. of S Delph	38	1105	Ditch/pit	1105	19	327	4C	Some ABR; amph. stamp
S. of S Delph	38	1105	Ditch/pit	1108	2	27	ROM	
S. of S Delph	38	1119	Hollow	1114	8	63	L4	
S. of S Delph	39	-	Ploughsoil	1000	2	52	L2-3	
S. of S Delph	39	-	Subsoil	1043	21	434	L3-4	Incls LIA/ROM?
S. of S Delph	39	-	Unstrat.	US	14	545	VL4	
S. of S Delph	40	-	Structure wall e-w	1046	3	21	ROM	
S. of S Delph	40	-	Unstrat.	US	80	2562	2C-VL4	Incl. amph.
S. of S Delph	40	1051	Pit	1050	1	1	PREH-ROM	Tiny bs;undatable
S. of S Delph	41	-	Demolition Med.	1081	14	196	L3-4	Scrappy;ABR
S. of S Delph	41	-	Iron pan	1082	24	296	4C	Scrappy;ABR
S. of S Delph	41	-	Wall foundation	1083	39	490	4C	Scrappy
S. of S Delph	41	-	Unstrat.	US	109	2769	L2-VL4	Incl. amph.
S. of S Delph	42	-	Demolition	1122	93	2031	M3	Some ABR
S. of S Delph	42	-	Surface?	1125	26	109	M3?	Most samian base
S. of S Delph	42	-	Surface?	1126	2	58	3C?	
S. of S Delph	42	-	Unstrat.	US	60	1669	3-L4	
S. of S Delph	42	1123	Stone lined drain	1124	2	6	IA?	Marked 1214 in error
S. of S Delph	42	1127	Ditch e-w	1128	7	74	3C?	Some ABR
S. of S Delph	42	1127	Ditch e-w	1128A	1	8	ROM	
S. of S Delph	42	1129	Ditch e-w	1130	4	152	4C	Some ABR
S. of S Delph	42	1131	Pit	1132	9	141	ML3?	VABR;poss 4C?
S. of S Delph	42	1134	Foundation trench?	1133A	6	88	ROM	VABR BSS
S. of S Delph	42	1134	Foundation trench?	1133B	11	356	L3-4	
S. of S Delph	42	1136	Ditch/pit	1137	1	5	ROM	
					1063	24696		

Location	Trench	Cut	Details	Cxt	Sherds	Weight	Date	Comments
S of B1190	52	-	Unstrat.	?	1	12	3C	
S of B1190	58	-	Unstrat.	?	36	616	M3?	Little good dating;VABR
					37	628		
N of B1188	78	-	Palaeosol?	1944	1	4	PREH?	VABR
N of B1188	78	1941	Ditch e-w	1942	3	13	ROM	VABR
					4	17		
S of B1188	85	-	Ploughsoil	2050	1	6	ROM	VABR
S of B1188	87	-	Ploughsoil	2061	4	45	ROM	VABR; same in 90/2067
S of B1188	90	-	Ploughsoil	2067	2	55	LIA/EROM?	ABR; same in 87/2061
S of B1188	92	2080	Ditch n-s	2083	3	25	IA?	ABR
S of B1188	92	2084	Ditch n-s	2085	4	29	LIA?	
S of B1188	92	2086	Ditch e-w	2087	49	554	LIA	
S of B1188	95	-	Subsoil	2102	1	2	IA?	VABR
					64	716		
B'bridge N A15	131	2169	Gully	2170	2	6	ROM	
B'bridge N A15	131	2171	Ditch	2172	1	13	2C	
B'bridge N A15	131	2176	Pit	2177	13	81	ML2?/POSTRO	Residual;some ABR
B'bridge N A15	133	2154	Curvilinear ditch	2155	15	600	L2?	PREH bs;cord decor; same 133/2151
B'bridge N A15	133	-	Ploughsoil	2151	2	19	ML2	Date x samian; same 133/2155
B'bridge N A15	133	-	Test pit	TP5A	2	13	EM2+	Date on samian scrap
B'bridge N A15	133	-	Test pit	TP7A	1	3	ROM/POSTRO	Residual;VVABR
B'bridge N A15	133	-	Test pit	TP8A	1	3	ROM/POSTRO	Residual;VABR
B'bridge N A15	134	-	Test pit	TP12	3	7	EM2+	Date x samian;VABR
B'bridge N A15	134	-	Test pit	TP13	1	7	ROM/POSTRO	Residual;VABR
					41	752		
					1461	30621		

APPENDIX 2
ARCHIVE CODES

FORMS

Code	Form
A	Amphora
B	Bowl
B321	Bowl of Lincoln type 321
B38	Bowl of samian form 38
BBR	Bowl round-rim; Gillam 225
BD	Bowl or dish
BDFL	Bowl or dish flanged/flat-rim
BDRR	Bowl or dish round-rim; G225/313
BDTR	Bowl or dish triangular rim
BEV	Bowl everted rim
BFB	Bowl bead-and-flange
BFBH	Bowl high bead-and-flange
BFBL	Bowl low bead-and-flange
BFL	Bowl flanged/flat-rim
BIBF	Bowl inturned bead-and-flange
BK	Beaker
BKBARB	Beaker barbotine decoration
BKCAR?	Beaker carinated?
BKEV	Beaker everted rim
BKFG?	Beaker funnel neck grooved?
BKFOS	Beaker folded scaled
BKPM	Beaker pentice-moulded
BNAT	Bowl native type
BNK	Bowl necked
BPR	Bowl plain rim
BRR	Bowl rounded rim
BTR	Bowl triangular rim
BWM	Bowl wide-mouthed
BX?	Box Castor?
CLSD	Closed form
CP	Cooking pot
CPL?	Cooking pot late type
D	Dish
DEXR	Dish expanded rim
DFL	Dish flanged/flat-rimmed
DGR	Dish grooved rim
DH?	Dish handled?
DISC	Disc counter
DL	Dish large
DPR	Dish plain rim
DRR	Dish rounded rim
DTR	Dish triangular rim
F	Flagon
FS?	Flask
J	Jar
JB	Jar or bowl
JBCAR?	Jar or bowl carinated
JBCUR	Jar or bowl curved-rim
JBEV	Jar or bowl everted rim
JBK?	Jar or beaker
JBKEV	Jar or beaker everted rim
JBL	Jar or bowl large
JCOR	Jar cordoned
JCUR	Jar curved rim
JDLS	Jar double lid-seated
JDW	Jar dales ware
JEV	Jar everted rim
JH	Jar handled
JL	Jar large
JLH	Jar lug-handled
JLS	Jar lid-seated
JNN	Jar narrow-necked
JRR	Jar rounded rim
JRUST	Jar rusticated
JS	Jar large Storage
JSM	Jar South Midlands type
JUG?	Jug
JUR	Jar undercut rim
LBX?	Lid Castor Box?
LID	Lid
M	Mortarium
MBF	Mortarium bead and flange
MHH	Mortarium hammer-head
POT	Single TILE fabric vessel

DECORATION+

Code	Type
BA	Barbotine
BIAP	Burnished intersecting arcs pointed
BIWL	Burnished intersecting wavy lines
BL	Burnished lines
BS	Burnished scrolls
BVL	Burnished vertical lines
BWL	Burnished wavy lines
HM	Handmade
HM/WF	Handmade/wheel-finished
JUDD	Juddered a coarse ‘rouletting’
LA	Latticed
LML	Latticed multiple-lines
NAME	Name-stamps
NOTC	Notching
PA	Painting
RILL	Rilling
RNOD?	Rusticated nodular?
ROUL	Rouletting single lines
ROUZ	Rouletting zones
SWL	Scored wavy lines
WF	Wheel-finished
WM	Wheel-made

APPENDIX 3

VESSELS FOR ILLUSTRATION

Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
38	1001	GREY	BEV	-	-	D	1	RIM/PT WALL;DIAM19;TYP S'POOL	-	1	67
38	1001	GREY	CLSD	-	-	D	2	BASE;VERT WALL;UNUS VES;DIAM16;BURNISHED EXT	-	1	136
38	1064	SHEL	DH?	?	-	D	3	RIM FR;SCAR APPLIED ?HDLE;DIAM 18?	-	1	10
38	1064	GREY	FS?	-	-	D	4	RIM/PT NECK;DIAM6;RB FAB;GRY SURF	-	1	5
38	1065	PART	BKEV	-	-	D	5	RIM/SHLDR;FINE SILT FB;DIAM7	-	1	2
38	1065	IAGR	BNAT	WM	-	D	6	RIM/SHLDR;DIAM20;OCC FLINT;GROG	-	1	36
38	1065	GREY	DFL	-	-	D	7	RIM/PT WALL;DIAM26;OUTSLOPING	-	1	58
38	1065	GREY	BWM	-	-	D	8	RIMU'CUT;PT WALL;LTGRY;DIAM 28	-	1	87
38	1068	GREY	JNN	BWL	1	D	9	RIM/SHLDR;DIAM14-15;BWL SHLDR;CF W&B F1-2	-	3	93
38	1068	GREY	BKEV	-	-	D	10	RIM/PT WALL;DIAM10;GRY;RB CORT;ABR	-	2	13
38	1068	LCOA?	DTR	-	1	D	11	RIM/PT WALL;GRY PEBBLY;DKER BURNISH SURFS;DIAM20	-	2	34
38	1078	CRSA?	D	-	-	D	12	RIM;PT WALL;DIAM22;LTBN;V QTZY;RED INCL;UNUS	-	1	8
38	1078	GREY	BWM	-	1	D	13	RIM/PT WALL;DIAM38;SQUASHED RIM;LOW NECK TYPECF P70/375	-	4	383
38	1078	GREY	JUR	-	1	D	14	RIM/SHLDR;NON J BS;DIAM16;LTGRY FB;DK SURFS;QTZY	-	2	64
38	1078	GREY	JCUR	-	-	D	15	RIM/SHLDR;DIAM15;QTZY FAB	-	1	34
41	1081	GREY	JEV	-	-	D	16	RIM/PT WALL;DIAM17;BURNISH EXT;LTGRY	-	1	38
41	1082	NVCC	BFB	-	-	D	17	RIM/WALL;LTBN FAB;ABR;DIAM18	-	1	103
38	1101	GREY	BPR	-	-	D	18	COMP PROF;DIAM32;UNUS;BURNISHED LINE INT/EXT	-	1	98
38	1105	DR20	A	NAME	-	D	19	HDLE FLAKE W STMP FR;A.C[C RETRO?;SF8	-	1	26
38	US	SPCC	BFB	-	1	D	20	RIM/WALL;DIAM23;RB FAB;NO U'SLIP	-	3	265
38	US	GREY	BKEV	-	-	D	21	RIM/WALL;W&B C23 ETC;DIAM10;SLIP DRIP INT	-	1	27
38	US	GREY	JNN	-	-	D	22	RIM/NECK;THIN WALL;DIAM12	-	1	33
38	US	GREY	BWM	-	-	D	23	RIM/PT WALL;DIAM18;FEEL SPOOL	-	1	42
38	US	GREY	BIBF	BWL	-	D	24	RIM/PT WALL;FL.DIAM28;BWL BELOW FL.	-	1	46
38	US	GREY	BIBF	-	-	D	25	RIM/PT WALL;FL.DIAM22	-	1	46
38	US	GREY	JBKEV	-	-	D	26	RIM/SHLDR;DIAM11	-	1	26
38	US	GRSA	BKCAR?	-	1	D	27	BSS ELABORATE CARINATION DIAM C 10;F.THIN WALL	-	3	21
38	US	SHEL	JSM	RILL	1?	D	28	RIM/NECK DIAM 26;PUNCT.BRACH;BSS	-	3	147
38	US	SHEL	BTR	WM?	-	D	29	RIM/PT WALL;LTGRY;DIAM15;SPARSE SHELL	-	1	18
38	US	OXL	LID	-	-	D	30	RIM BURNT;PT WALL;SL.MICAC.FB;NR PINK?;DIAM21-22	-	1	22
38	US	OX	BWM	-	-	D	31	RIM/PT WALL;RB QTZY FB	-	1	52
38	US	OX	JL?	-	-	D	32	RIM/NECK;LTRB FB/S;EVERT RIM;DIAM16?	-	1	49
38	US	TILE	BFL	HM	-	D	33	RIM SQ./PT WALL;DIAM 24	-	1	89
38	US	OX	CLSD	-	-	D	34	RIM/WALL ?TUBULAR;DIAM10;GRY CORE;RB SURFS;VSANDY PEBBLY	-	1	30
39	1000	GREY	JCUR	-	-	D	35	RIM/SHLDR;BURNISH;DIAM16	-	1	51

Tr	Cxt	Fabric	Form	Manuf+	Ves		D?		DNo	Details	Lnk	Shs	Wt
39	1043	GREY	JEV	-	-		D		36	RIM/SHLDR;CF W&B C23 ETC;DIAM13.5	-	1	62
42	1122	GREY	JCUR	-		1	D		37	COMP PROF;DIAM17	-	9	222
42	1122	GREY	JDW	-		1	D		38	RIM/WALL;DIAM 15;LTGRY;MKED TR43?	-	3	112
42	1122	GREY	JNN	-	-		D		39	RIM>SHLDR;CORDON BASE NECK;DIAM13;MKED TR43?	-	1	68
42	1122	GREY	BWM	-		1	D		40	RIM>SHLDR;RIM U/CUT;SHORT NECK;DIAM30;MKED TR43?	-	2	172
42	1133B	NVCC	DPR	-	-		D		41	RIM/WALL;DIAM18	-	1	34
42	1133B	GREY	JDW	WM	-		D		42	RIM/PT WALL;PEBBLY FB;OCC FLINT;BNGRY FB;GRY SURFS;SOOT EXT	-	1	70
37	US	GREY	B321	-	-		D		43	RIM/MOST WALL;BURNISH EXT;DIAM FLANGE 14	-	1	21
40	US	SHEL	B	WM?	-		D		44	RIM/PT WALL;DIAM20;RIM LS;GROOVED EDGE;CORDON;F.SPARSE SHEL;GRY	-	1	58
41	US	SPOX	DL	-	-		D		45	RIM GRYCORE;LTRB;ABR;DIAM32;W&B D27	-	1	121
41	US	SPOX	BFB	-		1	D		46	RIM/PT WALL;LTRB;DIAM 30	-	3	159
41	US	NVCC	BFB	-	-		D		47	RIM/WALL SM.EG;CR;DIAM 13	-	1	20
41	US	GREY	JCUR	SWL	-		D		48	RIM/WALL;DIAM16	-	1	40
41	US	IAGR	BNAT	-	-		D		49	RIM/PT WALL;ABR;DIAM24	-	1	75
42	US	NVCC	BNK	-	-		D		50	RIM/PT WALL;CR FB;DIAM18	-	1	61
42	US	MORT	MBF	-	-		D		51	RIM/PT WALL;VABR;BURNT;CRAM?;DIAM24?	-	1	47
15	1275B	SHSM	BBR	HM?	-		D		52	RIM/PT SHLDR;GRY;DIAM28?	-	1	25
17	1286	SHCM	BEV	WF?		1	D		53	RIMS/PT WALL;SOOTED;DKGRY;BN>GRY SURFS;HM;WF?	-	14	463
17	1286	SHCM	JL	HM		1	D		54	RIM CURVED ROUND;PT WALL;DKGRY;SOOTED EXT;DIAM20	-	2	170
17	1286	SHCM	BEV	HM		1	D		55	RIMS CURVED OVER;DKGRY F/S;HARD;J.SHS;DIAM20;NON J BSS	-	6	255
17	1286	SHCM	JS	HM	-		D		56	RIM>SHLDR;DIAM30-32;DKGRY;BROWNISH	-	1	84
92	2087	SHCF	JCUR	WM		1	D		57	RIM/PT WALL W CORDON;DKGRY;BN SURF EXT;NON J BSS;POOR COND;DIAM18?	-	25	130
38	1078	OX	DEXR	-	BIAP		D		58	COMP PROF;ORANGE-RED;SAGGING BASE;WM MADE TO LOOK HM;COMMON QTZ;NR50%	-	1	266
16	1193	SHCM	B	HM/WF?	1?		D		59	RIMS/PT WALL;THICKENED BELOW CURVE;DKGRY;DIAM22	-	2	116
37	1142	GREY	JDW	WM	-		D?	-		RIM>SHLDR;ABR LTGRY	-	1	20
37	US	GREY	JLS	-	-		D?	-		RIM BATTERED;LS;BIFURC.RIM;BURNISHED;ABR	-	1	16
38	1064	CR	J?	-	-		D?	-		RIM FR ONLY;DIAM13?;RND RIM;V THIN NECK?	-	1	7
38	1065	GREY	DPR	-	-		D?	-		COMP PROF;LTGRY;DKER SURFS;DIAM20?	-	1	19
38	1068	GREY	DTR	-	-		D?	-		RIM/PT WALL ONLY;DIAM 22	-	1	21
38	1065	GREY	JCUR	-	-		D?	-		RIM/SHLDR;DIAM13	-	1	15
38	1065	GREY	JCUR	-	-		D?	-		RIM/SHLDR;DIAM17;GRY FB/SURF;LT CORT;COARSER;STRONG CURVE	-	1	38
38	1065	GREY	JCUR	-	-		D?	-		RIM>SHLDR;DIAM16	-	1	21
38	1003	GREY	JRR	-	-		D?	-		RIM/PTWALL;DIAM18;AS SPOOL C35	-	1	18
38	1063	GRSA	CPL?	-		1	D?	-		RIM/SHLDR;LTGRY QTZY FB	-	2	28
38	US	LCOA	JDLS	-	-		D?	-		RIM ONLY DIAM18	-	1	34
38	US	LCOA	JLS	-	-		D?	-		RIM ONLY;DIAM18	-	1	30
38	1003	SHEL	D?	?	-		D?	-		RIM FR;DIAM16;GROOVE INT RIM		1	7

Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
39	US	GREY	BFBH	-	-	D?	-	RIM/PT WALL;QTZY	-	1	65
39	US	LCOA	JDLS	-	-	D?	-	RIM/NECK;DIAM18;MORE PEBBLY	-	1	23
39	US	LCOA	JDLS	-	-	D?	-	RIM/NECKDIAM18	-	1	31
40	US	BB1?	DGR	BIAP	-	D?	-	RIM>CHAMFER;DIAM18?	-	1	20
40	US	GREY	DGR	-	-	D?	-	RIM/WALL;LTGRY;DIAM 20	-	1	33
40	US	GREY	DISC	-	-	D?	-	DISC CUT X WALL SH;C 44MM DIAM	-	1	20
40	US	GREY	DRR	-	-	D?	-	RIM/PT WALL;ABR;DIAM24	-	1	35
40	US	GREY	JCUR	-	-	D?	-	RIM/SHLDR 2 GROOVES;DIAM15	-	1	39
40	US	GREY	JNN	-	-	D?	-	RIM/NECK;DIAM11;RB FAB;DKGRY SURF;V.HARD	-	1	34
40	US	LCOA	JDLS	-	-	D?	-	RIM ONLY;DIAM16	-	1	23
40	US	MOSP	MHH	-	-	D?	-	RIM/PT WALL;WHITE SLIP;SLAG TG;DIAM24	-	1	53
40	US	OX	BFBH	-	-	D?	-	RIM/PT WALL;LTRB F.SANDY;DIAM22	-	1	45
41	US	GREY	BFB	-	-	D?	-	RIM/WALL;DKGRY;ABR;DIAM 19	-	1	36
41	US	GREY	DISC	-	-	D?	-	DISC X WALLSHERD;DIAM C 45MM;WELL FINISHED	-	1	26
41	US	GREY	JEV	-	-	D?	-	RIM/SHLDR;DIAM18;SPOOL	-	1	90
41	US	GREY	JNN	-	-	D?	-	RIM/NECK;DIAM16;?W&B F2	-	1	45
42	1122	GREY	DTR	-	-	D?	-	RIM/PT WALL;DIAM26	-	1	88
42	1133B	GREY	DTR	-	-	D?	-	RIM FR/PT WALL	-	1	18
42	US	MOSP	MBF	-	-	D?	-	RIM/PT WALL;VABR;CR SLIP;SLAG TG	-	1	80
58	US	GREY	BDTR	-	-	D?	-	RIM/PT WALL ONLY;LTGRY;NR NVGW;DIAM20-21	-	1	15
58	US	GREY	BWM	-	-	D?	-	RIM/NECK;STRONG CURVE U/CUT;DIAM26	-	1	48
58	US	GREY	JCUR	-	-	D?	-	RIM/NECK ONLY;DIAM 16;TRACES BURNING	-	1	40
58	US	GREY	JCUR	-	-	D?	-	RIM>SHLDR;DIAM 18;CAVETTO	-	1	42
58	US	GREY	JLS?	-	-	D?	-	RIM/NECK ONLY;DIAM 14;ANG INT RIM;NOT TRUE LS	-	1	13
90	2067	GROG	BNAT?	-	-	D?	-	RIM>SHLDR BEND ONLY;SOFT GROG FAB AS IN	2061	1	52

APPENDIX 4
Fabrics percentages and quantities by Trench

Sherds %

	15	16	17	19	20	26	27	30	36	37	38	39	40	41	42	52	58	78	85	87	90	92	95	131	133	134	151
AMPH	-	-	-	-	-	-	-	-	-	-	1.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BB1	-	-	-	-	-	-	-	-	-	-	-	-	2.38	-	-	-	-	-	-	-	-	-	-	-	4.76	-	-
CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.78	-	-	-	-	-	-	-	-	-	-
COAR	-	-	-	-	-	-	-	-	-	-	-	-	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CR	-	1.69	-	-	-	-	-	-	-	-	1.05	-	2.38	-	-	-	2.78	-	-	-	-	-	-	-	-	-	-
CRSA?	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DR20	-	-	-	-	-	50	-	-	-	1.82	0.84	-	1.19	1.61	0.45	-	-	-	-	-	-	-	-	-	14.29	-	-
DWSH	-	-	-	-	-	-	-	-	-	-	0.63	2.7	-	5.38	2.7	-	-	-	-	-	-	-	-	-	-	-	-
FCLAY	25	-	2.35	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GREY	-	1.69	-	-	-	50	-	-	40	92.7	75.53	46	78.6	72.58	70.3	100	83.33	50	100	75	50	-	-	88	66.67	75	50
GREYC	-	-	-	-	-	-	-	-	-	-	0.42	-	1.19	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-
GRFF	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	50	-	-	6.3	-	-	-
GRSA	-	-	-	-	-	-	-	-	-	5.45	3.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GRSH	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GYMS	-	6.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IAGR	-	-	-	-	-	-	-	-	-	-	0.21	-	-	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-
ITAMP?	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LCOA	-	-	-	-	-	-	-	-	-	-	1.27	8.11	1.19	0.54	0.45	-	-	-	-	-	-	-	-	-	-	-	-
MONV	-	-	-	-	-	-	-	-	-	-	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.45	-	-	-	-	-	-	-	-	-	-	-	-
MOSP	-	-	-	-	-	-	-	-	-	-	0.21	-	1.19	0.54	0.45	-	-	-	-	-	-	-	-	-	-	-	-
NAT	-	-	1.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	-	-	-	-	-
NVCC	-	-	-	-	-	-	-	-	-	-	1.69	2.7	1.19	3.23	4.5	-	-	-	-	-	-	-	-	-	-	-	-
OX	-	-	-	-	-	-	-	-	-	-	2.32	2.7	2.38	2.15	2.7	-	5.56	25	-	-	-	-	-	-	-	-	-
OXL	-	-	-	-	-	-	-	-	-	-	0.21	2.7	-	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-
OXMS	-	-	-	-	-	-	-	-	-	-	-	13.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OXRC	-	-	-	-	-	-	-	-	-	-	-	-	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OXSA?	-	-	-	-	-	-	-	-	-	-	0.42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PART	-	-	-	-	-	-	-	-	-	-	0.42	-	-	-	0.45	-	-	-	-	-	-	-	-	-	-	-	-
SAMCG	-	1.69	-	-	-	-	-	-	-	-	1.05	2.7	-	1.08	12.2	-	-	-	-	-	-	-	-	-	14.29	25	-
SAMSG	-	-	-	-	-	-	-	-	20	-	0.42	-	-	0.54	-	-	-	-	-	-	-	-	-	-	-	-	-
SHCF	-	1.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44.6	-	-	-	-	-
SHCM	50	79.7	95.3	-	100	-	-	-	-	-	-	8.11	-	-	0.9	-	-	-	-	-	-	48.2	100	-	-	-	-
SHEL	-	1.69	0.59	-	-	-	-	100	20	-	5.91	10.8	4.76	7.53	4.05	-	5.56	-	-	-	-	-	-	6.3	-	-	-
SHSF	-	5.08	0.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.14	-	-	-	-	-
SHSM	25	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

	15	16	17	19	20	26	27	30	36	37	38	39	40	41	42	52	58	78	85	87	90	92	95	131	133	134	151
SPCC	-	-	-	-	-	-	-	-	-	-	0.84	-	1.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPOX	-	-	-	-	-	-	-	-	-	-	0.21	-	-	2.69	0.45	-	-	-	-	-	-	-	-	-	-	-	-
TILE	-	-	-	-	-	-	-	-	-	-	0.84	-	-	0.54	-	-	-	-	-	-	-	-	-	-	-	-	50
Total	100	100	100	100	100	100	100	100	100	100	99.97	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total sherds	8	59	170	2	5	4	1	1	5	55	474	37	84	186	222	1	36	4	1	4	2	56	1	16	21	4	2

Weight %

	15	16	17	19	20	26	27	30	36	37	38	39	40	41	42	52	58	78	85	87	90	92	95	131	133	134	151
AMPH	-	-	-	-	-	-	-	-	-	-	4.96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BB1	-	-	-	-	-	-	-	-	-	-	-	-	1.04	-	-	-	-	-	-	-	-	-	-	-	2.35	-	-
CC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.08	-	-	-	-	-	-	-	-	-	-
COAR	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CR	-	1.12	-	-	-	-	-	-	-	-	0.53	-	1.28	-	-	-	1.3	-	-	-	-	-	-	-	-	-	-
CRSA?	-	-	-	-	-	-	-	-	-	-	0.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DR20	-	-	-	-	-	96.3	-	-	-	6.23	4.57	-	20.7	8.29	1.6	-	-	-	-	-	-	-	-	-	74.29	-	-
DWSH	-	-	-	-	-	-	-	-	-	-	0.34	0.87	-	2.11	3.49	-	-	-	-	-	-	-	-	-	-	-	-
FCLAY	3.23	-	1.01	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GREY	-	0.87	-	-	-	3.73	-	-	53.1	89.6	67.19	42.8	61.2	63.21	75.9	100	86.69	58.8	100	84.4	5.45	-	-	69	20.22	92.9	30.4
GREYC	-	-	-	-	-	-	-	-	-	-	1.09	-	0.81	0.48	-	-	-	-	-	-	-	-	-	-	-	-	-
GRFF	-	-	-	-	-	-	-	-	-	-	0.33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GROG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.6	94.6	-	-	29	-	-	-
GRSA	-	-	-	-	-	-	-	-	-	4.15	1.72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GRSH	-	-	-	-	-	-	-	-	7.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GYMS	-	1.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IAGR	-	-	-	-	-	-	-	-	-	-	0.31	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
ITAMP?	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LCOA	-	-	-	-	-	-	-	-	-	-	0.95	28.8	0.89	0.83	0.55	-	-	-	-	-	-	-	-	-	-	-	-
MONV	-	-	-	-	-	-	-	-	-	-	1.61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MORT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
MOSP	-	-	-	-	-	-	-	-	-	-	0.31	-	2.05	0.51	1.7	-	-	-	-	-	-	-	-	-	-	-	-
NAT	-	-	0.34	-	-	-	-	-	-	-	-	-	0	-	-	-	-	23.5	-	-	-	-	-	-	-	-	-
NVCC	-	-	-	-	-	-	-	-	-	-	0.34	6.11	1.28	4.56	6.96	-	-	-	-	-	-	-	-	-	-	-	-
OX	-	-	-	-	-	-	-	-	-	-	4.89	0.97	4.06	2.27	1.41	-	3.41	17.7	-	-	-	-	-	-	-	-	-
OXL	-	-	-	-	-	-	-	-	-	-	0.19	4.56	-	0.32	-	-	-	-	-	-	-	-	-	-	-	-	-
OXMS	-	-	-	-	-	-	-	-	-	-	-	4.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OXRC	-	-	-	-	-	-	-	-	-	-	-	-	1.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OXSA?	-	-	-	-	-	-	-	-	-	-	0.22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PART	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	0.13	-	-	-	-	-	-	-	-	-	-	-	-
SAMCG	-	0.12	-	-	-	-	-	-	-	-	0.34	0.1	-	1.28	2.15	-	-	-	-	-	-	-	-	-	3.13	7.14	-
SAMSG	-	-	-	-	-	-	-	-	31.3	-	0.1	-	-	0.37	-	-	-	-	-	-	-	-	-	-	-	-	-

	15	16	17	19	20	26	27	30	36	37	38	39	40	41	42	52	58	78	85	87	90	92	95	131	133	134	151
SHCF	-	1.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.4	-	-	-	-	-
SHCM	62.37	91.1	97.7	-	100	-	-	-	-	-	-	5.63	-	-	0.13	-	-	-	-	-	-	73.9	100	-	-	-	-
SHEL	-	1.75	0.46	-	-	-	-	100	7.81	-	4.45	6.11	5.03	4.37	4.34	-	5.52	-	-	-	-	-	-	2	-	-	-
SHSF	-	2.12	0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.77	-	-	-	-	-
SHSM	34.41	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPCC	-	-	-	-	-	-	-	-	-	-	2.34	-	0.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SPOX	-	-	-	-	-	-	-	-	-	-	0.08	-	-	7.84	0.62	-	-	-	-	-	-	-	-	-	-	-	-
TILE	-	-	-	-	-	-	-	-	-	-	2.65	-	-	1.57	-	-	-	-	-	-	-	-	-	-	-	-	69.6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.99	100	100
Total weight	93	801	2385	5	10	483	4	8	64	963	11606	1031	2584	3751	4697	12	616	17	6	45	55	608	2	100	638	14	23

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
2169	131	2170	GREY	-	-	-	-	-	BSS VABR	-	2	6
2169	131	2170	ZDATE	-	-	-	-	-	ROM	-	-	-
2171	131	2172	GREY	JEV	-	-	-	-	RIM/PT WALL;STUBBY EVERT RIM;ABR	-	1	13
2171	131	2172	ZDATE	-	-	-	-	-	2C	-	-	-
2176	131	2177	GREY	JCUR	-	-	-	-	RIM FR ONLY;U'CUT;BN CORT;DKGRY F&S;ABR	-	1	15
2176	131	2177	GREY	BK?	-	1?	-	-	BASE LOW FTRG;GROOVE ABOVE;FLAKES;LTGRY;SOFT	-	5	6
2176	131	2177	GREY	JLH?	-	-	-	-	HDLE FRAG ONLY;DKGRY F&S;BN CORTEX;SABR	-	1	9
2176	131	2177	GREY	-	-	-	-	-	BSS ALL DIFF	-	4	20
2176	131	2177	SHEL	-	?	-	-	-	BS TINY DKGRY;VESIC;ABR	-	1	2
2176	131	2177	GROG	J?	SWL	-	-	-	BS LTGRY W LT & DKGRY GROG;LGEISH J?;SABR	-	1	29
2176	131	2177	ZDATE	-	-	-	-	-	ML2?/POSTRO	-	-	-
2176	131	2177	ZZZ	-	-	-	-	-	RESIDUAL;SOME ABR	-	-	-
-	133	2151	SAMCG	31	-	-	-	-	BS	-	1	13
-	133	2151	GREY	J	-	-	-	-	BS SHLDR;DKGRY W GRY/BN SURFS;SAME IN	2155	1	6
-	133	2151	ZDATE	-	-	-	-	-	ML2	-	-	-
-	133	2151	ZZZ	-	-	-	-	-	DATE X SAMIAN	-	-	-
2154	133	2155	DR20	A	-	1	-	-	BSS&FLAKE;LTRB MID TYPE FAB	-	3	474
2154	133	2155	BB1	BD	-	-	-	-	BASE FRAG;PROB DISH	-	1	15
2154	133	2155	GREY	J	-	1	-	-	BSS ALMOST DEF X SAME IN	2151	2	17
2154	133	2155	GREY	J?	-	1	-	-	BSS TWIN GROOVES	-	2	12
2154	133	2155	GREY	-	-	-	-	-	BSS DKGRY FAB;LTBN/GRY SURFS	-	2	16
2154	133	2155	SAMCG	18/31 OR 31	-	-	-	-	RIM/PT WALL	-	1	5
2154	133	2155	GREY	JBEV	-	1	-	-	RIMS/PT WALL;DIAM22;DKGRY FAB;GRY/BN SURFS	-	2	37
2154	133	2155	GREY	JBEV	-	-	-	-	RIM ONLY;DIAM20;DKGRY FB/S;LTBN CORTEX	-	1	18
2154	133	2155	GREY	CP?	-	-	-	-	RIM ONLY;BB TYPE;DKGRY GRY;RB CORTEX	-	1	6
2154	133	2155	ZDATE	-	-	-	-	-	L2?	-	-	-
2154	133	2155	ZZZ	-	-	-	-	-	PREH BS;CORD DECOR	-	-	-
-	133	TP5A	SAMCG	18 OR 18/31?	-	-	-	-	RIM FRAG;VABR	-	1	2
-	133	TP5A	GREY	-	-	-	-	-	BS DKGRY	-	1	11
-	133	TP5A	ZDATE	-	-	-	-	-	EM2+	-	-	-
-	133	TP5A	ZZZ	-	-	-	-	-	DATE ON SAMIAN SCRAP	-	-	-
-	133	TP7A	GREY	-	-	-	-	-	BS;VVABR	-	1	3
-	133	TP7A	ZDATE	-	-	-	-	-	ROM/POSTRO	-	-	-
-	133	TP7A	ZZZ	-	-	-	-	-	RESIDUAL;VVABR	-	-	-
-	133	TP8A	GREY	-	-	-	-	-	BS;ABR	-	1	3
-	133	TP8A	ZDATE	-	-	-	-	-	ROM/POSTRO	-	-	-
-	133	TP8A	ZZZ	-	-	-	-	-	RESIDUAL;VABR	-	-	-
-	134	TP12	SAMCG	-	-	-	-	-	BS VVABR;ONLY SCRAPS SLIP	-	1	1
-	134	TP12	GREY	JCUR	-	-	-	-	RIM FR ONLY	-	1	5
-	134	TP12	GREY	-	-	-	-	-	FLAKE;TINY	-	1	1
-	134	TP12	ZDATE	-	-	-	-	-	EM2+	-	-	-
-	134	TP12	ZZZ	-	-	-	-	-	DATE X SAMIAN;VABR	-	-	-
-	134	TP13	GREY	-	-	-	-	-	BS;VABR	-	1	7
-	134	TP13	ZDATE	-	-	-	-	-	ROM/POSTRO	-	-	-

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	134	TP13	ZZZ	-	-	-	-	-	RESIDUAL;VABR	-	-	-
1274	15	1275B	FCLAY	-	-	-	-	-	CHIPS	-	2	3
1274	15	1275B	SHCM	-	HM?	-	-	-	BSS/FLAKE;ABR;DKGRY;GRYBN EXT	-	3	17
1274	15	1275B	SHCM	JL?	HM?	-	-	-	BS 14MM THICK;GRY FB;GRY/BN SURFS;ABR	-	1	41
1274	15	1275B	SHSM	BBR	HM?	-	D	52	RIM/PT SHLDR;GRY;DIAM28?	-	1	25
1274	15	1275B	SHSM	CLSD?	HM?	-	-	-	BS THIN 4/5MM WALL;GRY W RB INT;NOT DEF HM	-	1	7
1274	15	1275B	ZDATE	-	-	-	-	-	LIA	-	-	-
1274	15	1275B	ZZZ	-	-	-	-	-	ABR	-	-	-
1194	16	1193	GYMS	-	?	-	-	-	BSS CHIPS;GRY;VPOOR COND;VVABR	-	4	14
1194	16	1193	SHCM	-	HM	-	-	-	BS DKGRY;BN EXT	-	1	10
1194	16	1193	SHCM	-	HM	1?	-	-	BSS 6-7MM THK;DKGRY;POOR COND	-	9	77
1194	16	1193	SHCM	B	HM/WF?	1?	-	-	BSS PROB X B.DWG8;DKGRY;MOST BN EXT;TRACE BURNING INT	-	26	454
1194	16	1193	SHCM	B	HM/WF?	1?	D	59	RIMS/PT WALL;THICKENED BELOW CURVE;DKGRY;DIAM22	-	2	116
1194	16	1193	SHSF	-	WM?	-	-	-	RIM TINY FR;FM U/K;THIN WALL>5MM;GRY	-	1	2
1194	16	1193	SHSF	CLSD?	WM?	-	-	-	BSS;GRY FB;BN INT;THIN 4MM	-	2	15
1194	16	1193	ZDATE	-	-	-	-	-	LIA?	-	-	-
1194	16	1193	ZZZ	-	-	-	-	-	VABR	-	-	-
1197	16	1196	SHCF	-	?	-	-	-	BS VVABR	-	1	9
1197	16	1196	SHCM	JBEV	HM?/WF?	-	-	-	RIM FR ONLY;DKGRY F&S;SOOT INT RIM	-	1	15
1197	16	1196	ZDATE	-	-	-	-	-	LIA?	-	-	-
1197	16	1196	ZZZ	-	-	-	-	-	VABR	-	-	-
1199	16	1198	CR	CLSD	-	-	-	-	BS;F.FINE FAB;ABR	-	1	9
1199	16	1198	GREY	CLSD	-	-	-	-	BS RB FAB;GRY SURFS;THIN WALL	-	1	7
1199	16	1198	SAMCG?	-	-	-	-	-	FLAKE ONLY	-	1	1
1199	16	1198	SHCM	-	HM?	-	-	-	BSS;MISC DKGRY;MOST RB/BN EXT FRAGMENTED	-	8	58
1199	16	1198	ZDATE	-	-	-	-	-	2C	-	-	-
1199	16	1198	ZZZ	-	-	-	-	-	INCLS IA FRAGS;ABR	-	-	-
-	16	1243	SHEL	-	WM?	-	-	-	BS FRAG ?BASE;DKGRY;VSPARSE MED.SHELL	-	1	14
-	16	1243	ZDATE	-	-	-	-	-	IA/ROM	-	-	-
1287	17	1286	FCLAY	-	-	-	-	-	FRAGS;?DAUB DKGRY>RB	-	4	24
1287	17	1286	NAT	-	?	-	-	-	BS VABR;DKGRY;COMMON BLK IRON ORE	-	1	6
1287	17	1286	NAT	CLSD	?	-	-	-	RIM FRAG;TINY;SAME FB W COMMON BLK IRON ORE;INT.MOULDING;5MM THICK WALL	-	1	2
1287	17	1286	SHCM	-	HM	-	-	-	BSS 7-10MM;SIMIL DKGRY;MOSTLY RB EXT	-	22	289
1287	17	1286	SHCM	-	HM	-	-	-	BSS 7-12MM;SIMIL DKGRY FB;VARIEG.GRY/BN EXT;SOME SOOTED	-	79	638
1287	17	1286	SHCM	-	HM	-	-	-	BSS/FLAKES;SIMIL DKGRY FB;VARIEG.GRY/BN EXT	-	20	89
1287	17	1286	SHCM	-	HM	1	-	-	BSS 7-12MM;HARD;DKGRY;RB EXT;THICK L'SCALE EXT	-	5	193
1287	17	1286	SHCM	-	HM	1?	-	-	BASE FRAGS;PLAIN;DKGRY;BN SURFS;DIAM ?12	-	4	60
1287	17	1286	SHCM	-	HM	1?	-	-	BASE FRAGS;PLAIN;DKGRY;DIAM C12CM	-	7	73
1287	17	1286	SHCM	BEV	HM	1	D	55	RIMS CURVED OVER;DKGRY F/S;HARD;J.SHS;DIAM20;NON J BSS	-	6	255
1287	17	1286	SHCM	BEV	WF?	1	D	53	RIMS/PT WALL;SOOTED;DKGRY;BN>GRY SURFS;HM;WF?	-	14	463
1287	17	1286	SHCM	JL	HM	1	D	54	RIM CURVED ROUND;PT WALL;DKGRY;SOOTED EXT;DIAM20	-	2	170
1287	17	1286	SHCM	JS	HM	-	D	56	RIM>SHLDR;DIAM30-32;DKGRY;BROWNISH	-	1	84
1287	17	1286	SHSF	CLSD?	WM?	-	-	-	BS DKGRY;WALL C5MM THICK;?WHEEL RIBS INT SURF	-	1	12
1287	17	1286	ZDATE	-	-	-	-	-	LIA	-	-	-

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
1287	17	1286	ZZZ	-	-	-	-	-	FRAG BURNT BONE;VABR	-	-	-
1293	17	1292	SHCM	-	HM?	-	-	-	BS&FLAKE;DKGRY;ABR	-	2	16
1293	17	1292	SHEL	-	HM?	-	-	-	BS;ABR;DKGRY;RB EXT;VSPARSE SHELL	-	1	11
1293	17	1292	ZDATE	-	-	-	-	-	IA/ROM	-	-	-
1293	17	1292	ZZZ	-	-	-	-	-	ABR	-	-	-
1025	19	1032	FCLAY	-	-	-	-	-	FRAGS;DKGRY	-	2	5
1025	19	1032	ZDATE	-	-	-	-	-	UNDATABLE	-	-	-
1298	20	1297	SHCM	-	HM?	-	-	-	CHIPS ONLY;GRY W RB SURF	-	3	4
1298	20	1297	ZDATE	-	-	-	-	-	IA	-	-	-
-	20	US	SHCM	JCUR?	-	1	-	-	RIM/NECK FRAGS;DKGRY;WM?	-	2	6
-	20	US	ZDATE	-	-	-	-	-	IA/ROM	-	-	-
1248	26	1247	DR20	A	-	-	-	-	BSS 1 W HDLE STUMP;RB FAB;UNUSUAL	-	2	465
1248	26	1247	GREY	-	-	2	-	-	BASES;VABR	-	2	18
1248	26	1247	ZDATE	-	-	-	-	-	2C?	-	-	-
1330	27	1329	SHSM	-	HM?	-	-	-	BS RB INT;GRYBN BURNT EXT;V.FEW SHEL INCLS	-	1	4
1330	27	1329	ZDATE	-	-	-	-	-	IA?	-	-	-
-	30	US	SHEL	JLS	WM?	-	-	-	RIM FR ONLY	-	1	8
-	30	US	ZDATE	-	-	-	-	-	3-4C	-	-	-
1620	151	1620	GREY	CLSD	-	-	-	-	BS ABR	-	1	7
1620	151	1620	ZDATE	-	-	-	-	-	ROM	-	-	-
1621	151	1625	TILE	-	-	-	-	-	FRAG;NO DEF SURFACES	-	1	16
1621	151	1625	ZDATE	-	-	-	-	-	ROM?	-	-	-
-	36	US	GREY	-	-	-	-	-	BS;CRUDE POTTING	-	1	22
-	36	US	GREY	BD?	-	-	-	-	BASE FR;SMOOTHED EXT	-	1	12
-	36	US	GRSH	-	WM	-	-	-	BS DKGRY;SPARSE FINE SHELL	-	1	5
-	36	US	SAMSG	27	-	-	-	-	COMP PROF	-	1	20
-	36	US	SHEL	-	?	-	-	-	FRAG LTBN-GRY NO SURV.SURFS;FINE SP.SHEL;PUNC BRACH	-	1	5
-	36	US	ZDATE	-	-	-	-	-	1C+	-	-	-
-	36	US	ZZZ	-	-	-	-	-	ONLY DATABLE SH=SAMIAN	-	-	-
1142	37	1141	GREY	-	-	-	-	-	BSS	-	3	54
1142	37	1141	GREY	BDTR	-	-	-	-	RIM FR;VABR	-	1	16
1142	37	1141	GREY	BFBH	-	-	-	-	RIM FR;PT WALL;VABR	-	1	25
1142	37	1141	GREY	JL?	-	-	-	-	BS LGE THICK	-	1	139
1142	37	1141	ZDATE	-	-	-	-	-	4C?	-	-	-
1142	37	1141	ZZZ	-	-	-	-	-	ABRADED	-	-	-
1142	37	1142	GREY	-	-	-	-	-	BSS	-	3	28
1142	37	1142	GREY	CLSD	-	-	-	-	BS HARSH RILLED	-	1	7
1142	37	1142	GREY	JDW	WM	-	D?	-	RIM>SHLDR;ABR LTGRY	-	1	20
1142	37	1142	ZDATE	-	-	-	-	-	M3	-	-	-
-	37	US	DR20	A	-	-	-	-	BS LATER FB	-	1	60
-	37	US	GREY	-	-	-	-	-	BSS	-	26	305
-	37	US	GREY	B321	-	-	D	43	RIM/MOST WALL;BURNISH EXT;DIAM FLANGE 14	-	1	21
-	37	US	GREY	B?	-	-	-	-	RIM OUT-FLARING;?B334 TYPE	-	1	7
-	37	US	GREY	BDFL	-	-	-	-	RIM FRAG;VABR	-	1	5

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	37	US	GREY	BDFL?	-	-	-	-	RIM FR;PT WALL;LTGRY;NO DIAM	-	1	15
-	37	US	GREY	BDTR	-	-	-	-	RIM FRAG ONLY	-	1	8
-	37	US	GREY	BKCAR?	-	1	-	-	BSS;DKGRY FAB;LTGRY SURFS;BURNISH EXT	-	2	17
-	37	US	GREY	DGR	-	-	-	-	RIM/PT WALL;VABR	-	1	13
-	37	US	GREY	DPR	-	-	-	-	RIM/PT WALL;RB FB;DKGRY SURFS;CURVED WALL	-	1	15
-	37	US	GREY	J	-	1	-	-	BASE STRING	-	2	146
-	37	US	GREY	J?	NOTC	-	-	-	BS W NOTC CORDON	-	1	1
-	37	US	GREY	JCUR?	-	-	-	-	RIM FRAG ONLY	-	1	5
-	37	US	GREY	JLS	-	-	D?	-	RIM BATTERED;LS;BIFURC.RIM;BURNISHED;ABR	-	1	16
-	37	US	GRSA	CP	-	-	-	-	RIM FRAG ONLY	-	1	7
-	37	US	GRSA	CP?	-	-	-	-	BASE PLAIN	-	1	22
-	37	US	GRSA	CP?	LA	-	-	-	BS;LTGRY	-	1	11
-	37	US	ZDATE	-	-	-	-	-	ML2?	-	-	-
-	37	US	ZZZ	-	-	-	-	-	SCRAPPY	-	-	-
-	38	1000	SAMSG	18	-	-	-	-	RIM/PT WALL	-	1	5
-	38	1000	ZDATE	-	-	-	-	-	1C	-	-	-
-	38	1000	ZZZ	-	-	-	-	-	SAMIAN ONLY	-	-	-
-	38	1001	AMPH	A	-	1	-	-	BSS GLOB;>17MM THICK;CR;ATYPICAL DR20?	-	6	576
-	38	1001	GREY	-	-	-	-	-	BSS	-	4	50
-	38	1001	GREY	BD?	-	-	-	-	BS SMOOTHED INT;2 GROOVES EXT;UNUS	-	1	13
-	38	1001	GREY	BEV	-	-	D	01	RIM/PT WALL;DIAM19;TYP S'POOL	-	1	67
-	38	1001	GREY	BK?	-	-	-	-	BS BASAL ZONE;BURNISH EXT	-	1	16
-	38	1001	GREY	CLSD	-	-	D	02	BASE;VERT WALL;UNUS VES;DIAM16;BURNISHED EXT	-	1	136
-	38	1001	GREY	JBL	-	-	-	-	BS THICK 15MM;ABR	-	1	85
-	38	1001	GREY	JL?	-	-	-	-	BASE FRAG;THICK;ABR	-	1	50
-	38	1001	ZDATE	-	-	-	-	-	4C	-	-	-
-	38	1001	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
-	38	1003	GREY	-	-	-	-	-	BSS	-	5	93
-	38	1003	GREY	BD	-	-	-	-	BASE FR	-	1	20
-	38	1003	GREY	BK	-	-	-	-	BASE FRAG	-	1	12
-	38	1003	GREY	BK?	BWL	-	-	-	BS 2 LINES BWL;4-5MM THICK	-	1	6
-	38	1003	GREY	JL?	BIWL	-	-	-	BS BIWL LWR WALL	-	1	120
-	38	1003	GREY	JL?	JUDD	-	-	-	BS JUDD ZONE BELOW SHLDR	-	1	34
-	38	1003	GREY	JRR	-	-	-	-	RIM FRAG ONLY;PROB SPOOL	-	1	11
-	38	1003	GREY	JRR	-	-	D?	-	RIM/PTWALL;DIAM18;AS SPOOL C35	-	1	18
-	38	1003	NVCC	BKBARB	BA	-	-	-	BS LTBN FB;BA MOST FLAKED	-	1	3
-	38	1003	SHEL	D?	?	-	D?	-	RIM FR;DIAM16;GROOVE INT RIM		1	7
-	38	1003	ZDATE	-	-	-	-	-	4C	-	-	-
1004	38	1005	GREY	JB	BS?	-	-	-	BS	-	1	33
1004	38	1005	SHEL	J?	WM?	-	-	-	BS LTGRY;?SHLDR;5-7MM	-	1	7
1004	38	1005	ZDATE	-	-	-	-	-	3-4C	-	-	-
1006	38	1007	GREY	-	-	-	-	-	BSS	-	4	19
1006	38	1007	GREY	J?	BWL?	-	-	-	BS	-	1	11
1006	38	1007	GRSA	CLSD	-	-	-	-	BS VLT GRY;QTZY;HARD;LATE FB?	-	1	13

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
1006	38	1007	OX	-	-	-	-	-	BS QTZY RB	-	1	5
1006	38	1007	SHEL	JDLS	-	-	-	-	RIM FRAG ONLY;HARD ?WM	-	1	12
1006	38	1007	ZDATE	-	-	-	-	-	L4	-	-	-
1061	38	1063	GREY	-	-	-	-	-	BSS		16	126
1061	38	1063	GREY	-	LA	2	-	-	BSS	-	2	18
1061	38	1063	GREY	BWM	-	-	-	-	RIM FRAG;DIAM26;STRONG CURVE	-	1	27
1061	38	1063	GREY	J?	-	-	-	-	BASE FR;STRING	-	1	4
1061	38	1063	GREY	JCUR	-	-	-	-	RIM/NECK	-	1	27
1061	38	1063	GREY	JCUR?	-	-	-	-	RIM FR	-	1	8
1061	38	1063	GREY	JUR	-	-	-	-	RIM FR ONLY	-	1	13
1061	38	1063	GREY	JUR	-	-	-	-	RIM/NECK	-	1	34
1061	38	1063	GREYC	JL?	SWL	-	-	-	BS COARSE ?GROG;SWL ON SHLDR?	-	1	116
1061	38	1063	GRSA	BD	-	-	-	-	BASE FR;SOME BL DEC ON U'SIDE	-	1	15
1061	38	1063	GRSA	BK	-	-	-	-	BASE FTRG;NECK;ED;BURNISHED EXT;LTGRY	-	1	28
1061	38	1063	GRSA	CPL?	-	1	D?	-	RIM/SHLDR;LTGRY QTZY FB	-	2	28
1061	38	1063	NVCC	BK	-	-	-	-	BS CR FAB	-	1	1
1061	38	1063	TILE	POT?	-	-	-	-	BS VES NOT TILE	-	1	26
1061	38	1063	ZDATE	-	-	-	-	-	3-4C	-	-	-
1061	38	1063	ZZZ	-	-	-	-	-	NO STRONG DATING	-	-	-
1062	38	1064	CR	J?	-	-	D?	-	RIM FR ONLY;DIAM13?;RND RIM;V THIN NECK?	-	1	7
1062	38	1064	CR?	JUG?	-	-	-	-	RIM FR;BURNT	-	1	2
1062	38	1064	GREY	-	-	-	-	-	CHIP	-	1	2
1062	38	1064	GREY	-	LA	-	-	-	BS	-	1	17
1062	38	1064	GREY	FS?	-	-	D	04	RIM/PT NECK;DIAM6;RB FAB;GRY SURF	-	1	5
1062	38	1064	GREYC	CLSD	-	-	-	-	BS GRY;BN CORT;CLAY PELLS?	-	1	11
1062	38	1064	SHEL	-	?	-	-	-	BS THIN WALL 5MM	-	1	3
1062	38	1064	SHEL	DH?	?	-	D	03	RIM FR;SCAR APPLIED ?HDLE;DIAM 18?	-	1	10
1062	38	1064	ZDATE	-	-	-	-	-	3-4C?	-	-	-
1062	38	1064	ZZZ	-	-	-	-	-	NO GOOD DATING	-	-	-
-	38	1065	GREY	-	-	-	-	-	BSS	-	19	264
-	38	1065	GREY	-	BIWL	-	-	-	BS	-	1	16
-	38	1065	GREY	-	BL	-	-	-	BS CURVING BL	-	1	9
-	38	1065	GREY	BD	-	2	-	-	BASE FRAGS	-	2	38
-	38	1065	GREY	BWM	-	-	D	08	RIMU'CUT;PT WALL;LTGRY;DIAM 28	-	1	87
-	38	1065	GREY	BWM?	-	-	-	-	RIM ONLY;DIAM20;U'CUT	-	1	27
-	38	1065	GREY	DFL	-	-	D	07	RIM/PT WALL;DIAM26;OUTSLOPING	-	1	58
-	38	1065	GREY	DPR	-	-	D?	-	COMP PROF;LTGRY;DKER SURFS;DIAM20?	-	1	19
-	38	1065	GREY	J	-	-	-	-	BASE STRING	-	1	33
-	38	1065	GREY	J?	-	-	-	-	RIM CURVED;DIAM16 J OR B?	-	1	10
-	38	1065	GREY	JCUR	-	-	-	-	RIM;DIAM15	-	1	22
-	38	1065	GREY	JCUR	-	-	D?	-	RIM/SHLDR;DIAM13	-	1	15
-	38	1065	GREY	JCUR	-	-	D?	-	RIM/SHLDR;DIAM17;GRY FB/SURF;LT CORT;COARSER;STRONG CURVE	-	1	38
-	38	1065	GREY	JCUR	-	-	D?	-	RIM>SHLDR;DIAM16	-	1	21
-	38	1065	GREY	JL?	-	-	-	-	BASE BADLY FLAKED;SMOOTHED U'SIDE	-	1	150

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	38	1065	GRSA	JDW?	-	-	-	-	RIM FRAG ONLY;LTGRY;QTZY	-	1	4
-	38	1065	IAGR	BNAT	WM	-	D	06	RIM/SHLDR;DIAM20;OCC FLINT;GROG	-	1	36
-	38	1065	NVCC	CLSD	-	-	-	-	BS LTRB FB	-	1	3
-	38	1065	OX	-	-	-	-	-	BS RB QTZY GRY CORED;ABR	-	1	35
-	38	1065	OX	-	-	-	-	-	BS RB QTZY	-	1	33
-	38	1065	OX	-	LA	-	-	-	BS LTRB FAB	-	1	3
-	38	1065	PART	BKEV	-	-	D	05	RIM/SHLDR;FINE SILT FB;DIAM7	-	1	2
-	38	1065	SAMCG	-	-	-	-	-	BS	-	1	2
-	38	1065	SHEL	-	?	-	-	-	BSS GRY;DENSE SM.SHEL;HARD	-	2	11
-	38	1065	TILE	POT	-	1?	-	-	BSS VESS NOT TILE	-	2	192
-	38	1065	ZDATE	-	-	-	-	-	ML3?	-	-	-
-	38	1065	ZZZ	-	-	-	-	-	SOME EARLIER;SOME ABR	-	-	-
1061	38	1066	CR	CLSD	-	-	-	-	BS BASAL AREA;F OR J?	-	1	11
1061	38	1066	GREY	-	-	-	-	-	BSS	-	9	80
1061	38	1066	GREY	J	-	-	-	-	BASE STRING	-	1	15
1061	38	1066	OX	-	LA	-	-	-	BS	-	1	5
1061	38	1066	ZDATE	-	-	-	-	-	ROM	-	-	-
1068	38	1068	DWSH	JDW	WF	-	-	-	RIM ONLY	-	1	12
1068	38	1068	DWSH?	J?	HM	-	-	-	BS	-	1	13
1068	38	1068	GREY	-	-	-	-	-	BSS	-	13	137
1068	38	1068	GREY	-	LA	-	-	-	BS	-	1	14
1068	38	1068	GREY	BK?	-	-	-	-	BASE ?3C PED TYPE	-	1	9
1068	38	1068	GREY	BKEV	-	-	D	10	RIM/PT WALL;DIAM10;GRY;RB CORT;ABR	-	2	13
1068	38	1068	GREY	CLSD	-	-	-	-	BASE;LOW FTRG	-	1	20
1068	38	1068	GREY	DTR	-	-	D?	-	RIM/PT WALL ONLY;DIAM 22	-	1	21
1068	38	1068	GREY	J	-	-	-	-	BASE STRING	-	1	14
1068	38	1068	GREY	JNN	BWL	1	D	09	RIM/SHLDR;DIAM14-15;BWL SHLDR;CF W&B F1-2	-	3	93
1068	38	1068	GREY	JNN?	-	-	-	-	RIM FRAG;QTZY FB	-	1	11
1068	38	1068	GRSA	BFB?	-	-	-	-	RIM FR;BEAD LOST;DIAM22	-	1	13
1068	38	1068	GRSA	BFBH	-	1	-	-	RIM/PT WALL;LOST FLANGE;QTZY FB	-	2	56
1068	38	1068	LCOA?	DTR	-	1	D	11	RIM/PT WALL;GRY PEBBLY;DKER BURNISH SURFS;DIAM20	-	2	34
1068	38	1068	SAMSG?	-	-	-	-	-	BS	-	1	7
1068	38	1068	SHEL	-	WM?	-	-	-	BS	-	1	5
1068	38	1068	ZDATE	-	-	-	-	-	4C	-	-	-
1070	38	1069	GREY	-	-	-	-	-	BSS	-	11	107
1070	38	1069	GREY	BWM	-	-	-	-	RIM;HIGH NECK;U'CUT;DIAM 28?	-	1	46
1070	38	1069	GREY	JBEV	-	-	-	-	RIM FR	-	1	11
1070	38	1069	GRSA	BFB?	-	-	-	-	RIM;NO FLANGE	-	1	9
1070	38	1069	ZDATE	-	-	-	-	-	L3-4	-	-	-
-	38	1071	GREY	-	-	-	-	-	BSS	-	7	111
-	38	1071	GREY	BFBL	-	-	-	-	RIM;PT WALL ONLY	-	1	16
-	38	1071	GREY	BK?	-	-	-	-	BASE FTM;DIAM 6	-	1	22
-	38	1071	GREY	BKFG?	-	-	-	-	RIM FR;DIAM13	-	1	5
-	38	1071	GREY	BWM?	-	-	-	-	RIM DIAM 20;U'CUT	-	1	13

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	38	1071	GREY	J?	-	-	-	-	BASE PLAIN	-	1	32
-	38	1071	GRFF	CLSD	-	-	-	-	BASE;DIAM7;JBK?	-	1	38
-	38	1071	MONV	M	-	-	-	-	BS;SLAG TG	-	1	12
-	38	1071	SHEL	-	?	-	-	-	BSS;NON DEF DWSH;MANUF UK	-	5	42
-	38	1071	SHEL	JB?	?	-	-	-	BASE PLAIN;DIAM12;INT SURF DESTROYED;MANUF UK	-	1	71
-	38	1071	ZDATE	-	-	-	-	-	L3-4?	-	-	-
1073	38	1072	CR	F?	-	1	-	-	FTRG BASE	-	2	42
1073	38	1072	GREY	-	-	-	-	-	BSS	-	16	173
1073	38	1072	GREY	BK?	-	-	-	-	BS BASAL ZONE	-	1	17
1073	38	1072	GREY	BWM?	-	-	-	-	RIM FR;TRIANG	-	1	10
1073	38	1072	GREY	CPL?	-	-	-	-	RIM FR ONLY	-	1	5
1073	38	1072	MONV?	M	-	-	-	-	BASE;PT STRING;THICK;HEAVY;V.WORN;NO TG;FB=?NV	-	1	175
1073	38	1072	SHEL	-	-	-	-	-	BSS;ONE ?DWSH	-	2	10
1073	38	1072	ZDATE	-	-	-	-	-	ML3?	-	-	-
1061	38	1074	GREY	-	-	-	-	-	BS	-	1	7
1061	38	1074	ZDATE	-	-	-	-	-	ROM	-	-	-
1062	38	1077	DR20	A	-	-	-	-	BS;F.SANDY FAB	-	1	51
1062	38	1077	GREY	-	-	-	-	-	BSS;SOME ABR	-	3	69
1062	38	1077	GREY	BWM	-	-	-	-	BS SHLDR;GIRTH	-	1	35
1062	38	1077	GREY	BWM	-	-	-	-	RIM RND;HIGH NECK;FLAKED	-	1	31
1062	38	1077	NVCC	BK?	-	-	-	-	BS;CR FAB	-	1	7
1062	38	1077	ZDATE	-	-	-	-	-	ML3	-	-	-
1062	38	1077	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1061	38	1078	CRSA?	D	-	-	D	12	RIM;PT WALL;DIAM22;LTBN;V QTZY;RED INCL;UNUS	-	1	8
1061	38	1078	DR20	A	-	-	-	-	BS F.GRITTY	-	1	13
1061	38	1078	GREY	-	-	-	-	-	BSS	-	2	27
1061	38	1078	GREY	BWM	-	1	D	13	RIM/PT WALL;DIAM38;SQUASHED RIM;LOW NECK TYPECF P70/375	-	4	383
1061	38	1078	GREY	J	-	-	-	-	BASE STRING	-	1	32
1061	38	1078	GREY	J	LA	-	-	-	BS	-	1	9
1061	38	1078	GREY	J?	-	1?	-	-	BSS QTZY FB LTGRY	-	5	50
1061	38	1078	GREY	JCUR	-	-	D	15	RIM/SHLDR;DIAM15;QTZY FAB	-	1	34
1061	38	1078	GREY	JUR	-	1	D	14	RIM/SHLDR;NON J BS;DIAM16;LTGRY FB;DK SURFS;QTZY	-	2	64
1061	38	1078	NVCC	BX?	-	1?	-	-	BSS;CR FAB	-	2	16
1061	38	1078	OX	DEXR	-	BIAP	D	58	COMP PROF;ORANGE-RED;SAGGING BASE;WM MADE TO LOOK HM;COMMON QTZ;NR50%	-	1	266
1061	38	1078	ZDATE	-	-	-	-	-	3C	-	-	-
1080	38	1079	GREY	J?	-	-	-	-	BSS	-	2	5
1080	38	1079	GREY	JCUR	-	-	-	-	RIM FRAG	-	1	7
1080	38	1079	ZDATE	-	-	-	-	-	L2-3	-	-	-
1102	38	1101	GREY	-	-	-	-	-	BSS;ONE VABR	-	3	31
1102	38	1101	GREY	BDRR	-	-	-	-	RIM;PT WALL	-	1	16
1102	38	1101	GREY	BPR	-	-	D	18	COMP PROF;DIAM32;UNUS;BURNISHED LINE INT/EXT	-	1	98
1102	38	1101	GREY	J	-	-	-	-	RIM FR;?SPOOL	-	1	9
1102	38	1101	GREY	JEV	-	-	-	-	RIM/SHLDR;W&B C23 ETC	-	1	28
1102	38	1101	PART	CLSD	-	-	-	-	BS;FINE;POLISH EXT	-	1	14

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
1102	38	1101	SAMCG	-	-	-	-	-	BASE FTRG	-	1	24
1102	38	1101	ZDATE	-	-	-	-	-	4C	-	-	-
1102	38	1101	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1102	38	1101E	GREY	-	-	-	-	-	BS	-	1	10
1102	38	1101E	GREY	BWM	-	-	-	-	RIM FR;HIGH NECK;LATE	-	1	40
1102	38	1101E	GREY	JDW	WM	-	-	-	RIM FRAG ONLY	-	1	10
1102	38	1101E	GREY	JDW?	WM	-	-	-	RIM FRAG	-	1	3
1102	38	1101E	GREY	JEV	-	-	-	-	RIM/PT SHLDR;SPOOL TYPE	-	1	25
1102	38	1101E	ZDATE	-	-	-	-	-	4C	-	-	-
1104	38	1103	GREY	-	-	-	-	-	BS	-	1	5
1104	38	1103	GREY	JNN?	-	-	-	-	RIM FRAG;SPOOL TYPE	-	1	11
1104	38	1103	ZDATE	-	-	-	-	-	4C?	-	-	-
1105	38	1105	DR20	A	NAME	-	D	19	HDLE FLAKE W STMP FR;A.C[C RETRO?;SF8	-	1	26
1105	38	1105	GREY	-	-	-	-	-	BSS;BASES ETC	-	12	169
1105	38	1105	GREY	B?	-	-	-	-	BASE FTRG;CARINATION;RB FAB;DKGRY SRFS;ABR	-	1	18
1105	38	1105	GREY	BWM	-	3	-	-	RIM FRAG;2XNECK/SHLDR	-	3	95
1105	38	1105	GREY	DPR	-	-	-	-	COMP PROF;RIM DAMAGED;LTGRY;NV?	-	1	15
1105	38	1105	NVCC?	BKPM	ROUZ	-	-	-	BS DK CC;RB FAB	-	1	4
1105	38	1105	ZDATE	-	-	-	-	-	4C	-	-	-
1105	38	1105	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1105	38	1108	GREY	-	-	-	-	-	BSS	-	2	27
1105	38	1108	ZDATE	-	-	-	-	-	ROM	-	-	-
1119	38	1114	GREY	-	-	-	-	-	BSS	-	3	15
1119	38	1114	GREY	BDRR	-	-	-	-	RIM/PT WALL	-	1	14
1119	38	1114	GREY	JB	-	-	-	-	BS BURNISHED EXT;?SPOOL	-	1	21
1119	38	1114	GRSA	CP	-	-	-	-	RIM FRAG	-	1	5
1119	38	1114	LCOA	JLS	-	-	-	-	RIM FRAG;JLS/JDLS?	-	1	5
1119	38	1114	SAMCG	18/31 OR 31	-	-	-	-	RIM	-	1	3
1119	38	1114	ZDATE	-	-	-	-	-	L4	-	-	-
-	38	US	DR20	A	-	-	-	-	BS LGE;LATE FINER FB W GREY CORE	-	1	440
-	38	US	GREY	JBL	-	-	-	-	BS THICK >16MM	-	1	25
-	38	US	ITAMP?	A	-	-	-	-	BS RB SANDY W BLK SAND;MICA;LTBN EXT	-	1	32
-	38	US	DWSH	JDW	WF	-	-	-	RIM ONLY;SOOTED	-	1	14
-	38	US	GREY	-	-	-	-	-	BSS	-	69	828
-	38	US	GREY	-	-	15	-	-	BASES VARIOUS	-	15	701
-	38	US	GREY	B	-	-	-	-	BASE FRAG	-	1	56
-	38	US	GREY	B	-	-	-	-	BS WALL	-	1	54
-	38	US	GREY	BFBH	-	1	-	-	RIM/WALL;FL DAMAGED;NOT DEF SPOOL	-	2	72
-	38	US	GREY	BIBF	-	-	D	25	RIM/PT WALL;FL.DIAM22	-	1	46
-	38	US	GREY	BIBF	BWL	-	D	24	RIM/PT WALL;FL.DIAM28;BWL BELOW FL.	-	1	46
-	38	US	GREY	BKEV	-	-	-	-	RIM/PT SHLDR;SPOOL TYPE	-	1	9
-	38	US	GREY	BKEV	-	-	D	21	RIM/WALL;W&B C23 ETC;DIAM10;SLIP DRIP INT	-	1	27
-	38	US	GREY	BWM	-	-	-	-	RIM ONLY;LATE HIGH NECK;DIAM 38	-	1	99
-	38	US	GREY	BWM	-	-	-	-	RIM U'CUT CURVE DIAM22	-	1	17

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	38	US	GREY	BWM	-	-	-	-	RIM U'CUT CURVE DIAM22	-	1	23
-	38	US	GREY	BWM	-	-	-	-	RIM/NECK;LATE HIGH NECK;DIAM36	-	1	55
-	38	US	GREY	BWM	-	-	D	23	RIM/PT WALL;DIAM18;FEEL SPOOL	-	1	42
-	38	US	GREY	BWM	-	1	-	-	BSS NECK/WALL;LATE LGE TYPE	-	3	184
-	38	US	GREY	BWM	-	1	-	-	RIM U'CUT CURVE DIAM28	-	2	60
-	38	US	GREY	BWM	-	4	-	-	RIM FRAG	-	5	123
-	38	US	GREY	D	-	-	-	-	BASE FRAG	-	1	82
-	38	US	GREY	J?	-	-	-	-	RIM FRAG	-	1	3
-	38	US	GREY	J?	-	1	-	-	BASE STRING	-	2	196
-	38	US	GREY	J?	BVL	-	-	-	BS	-	1	6
-	38	US	GREY	J?	BWL	-	-	-	BS;F.THICK WALL;SMALL DIAM	-	1	56
-	38	US	GREY	J?	LA	3	-	-	BSS	-	3	37
-	38	US	GREY	JB	BIWL?	-	-	-	BS	-	1	42
-	38	US	GREY	JBKEV	-	-	D	26	RIM/SHLDR;DIAM11	-	1	26
-	38	US	GREY	JCUR	-	-	-	-	RIM FRAG	-	1	9
-	38	US	GREY	JDW	-	2	-	-	RIM FRAGS	-	2	21
-	38	US	GREY	JEV	-	-	-	-	RIM ONLY;SPOOL	-	1	14
-	38	US	GREY	JL?	-	-	-	-	RIM LEAF SHAPE HEAVY;DIAM30	-	1	73
-	38	US	GREY	JL?	-	1	-	-	BASE PLAIN;LGE THICK;DIAM15	-	2	439
-	38	US	GREY	JNN	-	-	D	22	RIM/NECK;THIN WALL;DIAM12	-	1	33
-	38	US	GREY	JRUST	RNOD?	-	-	-	BS;NOT DEF RNOD	-	1	4
-	38	US	GRSA	BKCAR?	-	1	D	27	BSS ELABORATE CARINATION DIAM C 10;F.THIN WALL	-	3	21
-	38	US	GRSA?	CP	-	-	-	-	RIM FRAG	-	1	8
-	38	US	LCOA	JDLS	-	-	D?	-	RIM ONLY DIAM18	-	1	34
-	38	US	LCOA	JLS	-	-	D?	-	RIM ONLY;DIAM18	-	1	30
-	38	US	LCOA?	CLSD	-	-	-	-	BS BURNISHED CRUDELY FACETS	-	1	7
-	38	US	MOSP	M	-	-	-	-	BS PT RIM;VABR;SLAG TG	-	1	36
-	38	US	NVCC	CLSD	-	-	-	-	BS;VABR;CR FAB	-	1	6
-	38	US	OX	BWM	-	-	D	31	RIM/PT WALL;RB QTZY FB	-	1	52
-	38	US	OX	BWM?	BS?	-	-	-	BS LWR PT PROB BWM	-	1	66
-	38	US	OX	CLSD	-	-	D	34	RIM/WALL ?TUBULAR;DIAM10;GRY CORE;RB SURFS;VSANDY PEBBLY	-	1	30
-	38	US	OX	CLSD?	-	-	-	-	BS GRY CORE;LTRB SURFS;VABR	-	1	24
-	38	US	OX	JL?	-	-	D	32	RIM/NECK;LTRB FB/S;EVERT RIM;DIAM16?	-	1	49
-	38	US	OXL	LID	-	-	D	30	RIM BURNT;PT WALL;SL.MICAC.FB;NR PINK?;DIAM21-22	-	1	22
-	38	US	OXSA?	-	-	-	-	-	BS LTBN;BURNISH BAND EXT;UK CLSD/OPEN	-	1	10
-	38	US	OXSA?	CLSD?	-	-	-	-	BS LTBN;SANDY	-	1	16
-	38	US	SAMCG	-	-	-	-	-	BS	-	1	2
-	38	US	SAMCG	-	-	-	-	-	BS	-	1	8
-	38	US	SHEL	-	-	-	-	-	BSS NOT DWSH	-	4	26
-	38	US	SHEL	BTR	WM?	-	D	29	RIM/PT WALL;LTGRY;DIAM15;SPARSE SHELL	-	1	18
-	38	US	SHEL	J	WM	-	-	-	BASE	-	1	54
-	38	US	SHEL	J	WM?	2	-	-	BASES	-	2	65
-	38	US	SHEL	JLS	-	-	-	-	RIM ONLY;VABR;DAMAGED	-	1	28
-	38	US	SHEL	JSM	RILL	1?	D	28	RIM/NECK DIAM 26;PUNCT.BRACH;BSS	-	3	147

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	38	US	SPCC	BFB	-	1	D	20	RIM/WALL;DIAM23;RB FAB;NO U'SLIP	-	3	265
-	38	US	SPCC?	CLSD	PA;ROUL	-	-	-	BS BN FAB;PA LINES;2XROUL	-	1	7
-	38	US	SPOX?	BD	-	-	-	-	BASE FR;DIAM C 12;GREY CORE;RB C/S;BURNISHED	-	1	9
-	38	US	TILE	BFL	HM	-	D	33	RIM SQ./PT WALL;DIAM 24	-	1	89
-	38	US	ZDATE	-	-	-	-	-	L4	-	-	-
-	39	1000	GREY	JCUR	-	-	D	35	RIM/SHLDR;BURNISH;DIAM16	-	1	51
-	39	1000	SAMCG	-	-	-	-	-	FLAKE	-	1	1
-	39	1000	ZDATE	-	-	-	-	-	L2-3	-	-	-
-	39	1043	DWSH?	J	HM	-	-	-	BS	-	1	9
-	39	1043	GREY	-	-	-	-	-	BSS	-	4	33
-	39	1043	GREY	CLSD?	BWL	-	-	-	BS JL? OR BWM;BURNISH ZONE & BWL	-	1	39
-	39	1043	GREY	JEV	-	-	D	36	RIM/SHLDR;CF W&B C23 ETC;DIAM13.5	-	1	62
-	39	1043	GREY	JL?	-	-	-	-	RIM;V.CHIPPED;DIAM18	-	1	44
-	39	1043	NVCC	F	-	-	-	-	BASE DIAM 9;TYPE AS RPNV66	-	1	63
-	39	1043	OX	CLSD	-	-	-	-	BS V.HARD RB GRITTY BS	-	1	10
-	39	1043	OXL	BD	-	-	-	-	BASE CHAMFERED;LTBN SANDY F/S/UNDEC	-	1	47
-	39	1043	OXMS	JCOR	-	1	-	-	BSS NECK W MEDIAL CORDON>SHLDR BEND;DKGRY W LTRB SURFS;MIN.SHELL;BURNISH EXT	-	5	42
-	39	1043	SHCM	-	HM?	-	-	-	BSS POOR COND.DKGRY W GRY/BN>RB EXT	-	3	58
-	39	1043	SHEL	J	HM	1	-	-	BSS POSS DWSH	-	2	27
-	39	1043	ZDATE	-	-	-	-	-	L3-4	-	-	-
-	39	1043	ZZZ	-	-	-	-	-	INCLS LIA/ROM?	-	-	-
-	39	US	GREY	-	-	-	-	-	BSS	-	5	50
-	39	US	GREY	BFBH	-	-	D?	-	RIM/PT WALL;QTZY	-	1	65
-	39	US	GREY	CLSD	-	-	-	-	BS BURNISHED	-	1	20
-	39	US	GREY	J?	-	-	-	-	BASE/WALL;BURNISHED;?SP	-	1	39
-	39	US	GREY	JH	-	-	-	-	BS HDLE SCAR;GROOVE BELOW HDLE	-	1	38
-	39	US	LCOA	J	-	-	-	-	BASE/WALL;STRING	-	1	243
-	39	US	LCOA	JDLS	-	-	D?	-	RIM/NECK;DIAM18;MORE PEBBLY	-	1	23
-	39	US	LCOA	JDLS	-	-	D?	-	RIM/NECKDIAM18	-	1	31
-	39	US	SHEL	J	-	-	-	-	BS SAME FAB;WM	-	1	10
-	39	US	SHEL	JLS	-	-	-	-	RIM ONLY;LATE TYPE;HARD;SPARSE SHELL	-	1	26
-	39	US	ZDATE	-	-	-	-	-	VL4	-	-	-
-	40	1046	GREY	-	-	-	-	-	BSS	-	3	21
-	40	1046	ZDATE	-	-	-	-	-	ROM	-	-	-
1051	40	1050	COAR	-	HM?	-	-	-	BS TINY;4MM THICK;SANDY DKGRY;BURNISHED;?IA	-	1	1
1051	40	1050	ZDATE	-	-	-	-	-	PREH-ROM	-	-	-
1051	40	1050	ZZZ	-	-	-	-	-	TINY BS;UNDATABLE	-	-	-
-	40	US	BB1?	BD	LA	-	-	-	BS	-	1	7
-	40	US	BB1?	DGR	BIAP	-	D?	-	RIM>CHAMFER;DIAM18?	-	1	20
-	40	US	CR	CLSD	-	-	-	-	BS SMOOTH BASAL ZONE;?F	-	1	29
-	40	US	CR?	F?	-	-	-	-	RIM SM.FRAG;DIAM11;LTGRY EXT?	-	1	4
-	40	US	DR20	A	-	-	-	-	BS LGE;LATER FB 2C?	-	1	536
-	40	US	GREY	-	-	-	-	-	BSS	-	45	679
-	40	US	GREY	BWM?	-	2	-	-	RIM FRAGS;NOT LATE	-	2	29

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	40	US	GREY	CLSD	-	-	-	-	BASE NR FTM;GROOVE UNDER;THICK ?JNN	-	1	64
-	40	US	GREY	DGR	-	-	D?	-	RIM/WALL;LTGRY;DIAM 20	-	1	33
-	40	US	GREY	DISC	-	-	D?	-	DISC CUT X WALL SH;C 44MM DIAM	-	1	20
-	40	US	GREY	DRR	-	-	D?	-	RIM/PT WALL;ABR;DIAM24	-	1	35
-	40	US	GREY	J	-		-	-	RIM FRAG	-	1	9
-	40	US	GREY	J	-	2	-	-	BASES STRING	-	2	102
-	40	US	GREY	JBK?	-	-	-	-	BASE SMOOTHED	-	1	35
-	40	US	GREY	JCUR	-	-	D?	-	RIM/SHLDR 2 GROOVES;DIAM15	-	1	39
-	40	US	GREY	JEV	-	-		-	RIM FRAG	-	1	21
-	40	US	GREY	JL	-	1	-	-	BASE LGE THICK	-	3	402
-	40	US	GREY	JLH?	-	-	-	-	HDLE FRAG	-	1	19
-	40	US	GREY	JNN	-	-	-	-	BS NECK/CORDON/SHLDR	-	1	38
-	40	US	GREY	JNN	-	-	D?	-	RIM/NECK;DIAM11;RB FAB;DKGRY SURF;V.HARD	-	1	34
-	40	US	GREYC	JEV	-	-	-	-	RIM FR;DIAM14;LUMPY FB;?FLINT PEBB	-	1	21
-	40	US	LCOA	JDLS	-	-	D?	-	RIM ONLY;DIAM16	-	1	23
-	40	US	MOSP	MHH	-	-	D?	-	RIM/PT WALL;WHITE SLIP;SLAG TG;DIAM24	-	1	53
-	40	US	NVCC	BD	-	-	-	-	BASE FRAG;CR	-	1	33
-	40	US	OX	BFBH	-	-	D?	-	RIM/PT WALL;LTRB F.SANDY;DIAM22	-	1	45
-	40	US	OX?	-	-	-	-	-	BS FLAKED;LGE VES;LTBN FB;GRYISH EXT	-	1	60
-	40	US	OXRC	B38	-	-	-	-	BS W FLANGE;ABR	-	1	37
-	40	US	SHEL	-	?	-	-	-	BS GRY/RB EXT;VESIC;POSS IA?	-	1	3
-	40	US	SHEL	B	WM?	-	D	44	RIM/PT WALL;DIAM20;RIM LS;GROOVED EDGE;CORDON;F.SPARSE SHEL;GRY	-	1	58
-	40	US	SHEL	CLSD	WM?	-	-	-	BS HARD GRY;MOD SHELL;VESIC INTERIOR	-	1	41
-	40	US	SHEL	J	WM	-	-	-	NECK/SHLDR;HARD GRY;MOD SHEL	-	1	28
-	40	US	SPCC?	BKEV	-	-	-	-	RIM TINY FR;LTRB;DIAM7	-	1	5
-	40	US	ZDATE	-	-	-	-	-	2C-VL4	-	-	-
-	41	1081	GREY	-	-	-	-	-	BSS;ABR	-	8	52
-	41	1081	GREY	BFBL	-	1	-	-	RIM/PT WALL;V FRAGMENTARY	-	2	32
-	41	1081	GREY	J?	-	-	-	-	BASE STRING	-	1	40
-	41	1081	GREY	JEV	-	-	D	16	RIM/PT WALL;DIAM17;BURNISH EXT;LTGRY	-	1	38
-	41	1081	SHEL	-	-	-	-	-	BASE & BS;NOT DEF DWSH	-	2	34
-	41	1081	ZDATE	-	-	-	-	-	L3-4	-	-	-
-	41	1081	ZZZ	-	-	-	-	-	SCRAPPY;ABR	-	-	-
-	41	1082	GREY	-	-	-	-	-	BSS;SCRAPPY;ABR	-	13	81
-	41	1082	GREY	BWM	-	-	-	-	RIM;HIGH NECK;DIAM26	-	1	42
-	41	1082	GREY	JNN?	-	-	-	-	RIM FR;CF W&B F1-2?	-	1	12
-	41	1082	NVCC	BFB	-	-	D	17	RIM/WALL;LTBN FAB;ABR;DIAM18	-	1	103
-	41	1082	NVCC	BK	-	-	-	-	BS;CR/BN FAB	-	1	1
-	41	1082	OX	-	-	-	-	-	RIM FR;UK FM;BS	-	2	7
-	41	1082	OX	CLSD?	-	-	-	-	BASE FTM;DIAM12;BURNISH EXT;ATYP.SPOOL?	-	1	32
-	41	1082	SHEL	-	-	-	-	-	BSS;SCRAPPY;NOT DEF DWSH	-	4	18
-	41	1082	ZDATE	-	-	-	-	-	4C	-	-	-
-	41	1082	ZZZ	-	-	-	-	-	SCRAPPY;ABR	-	-	-
-	41	1083	DWSH	JDW	WF	3	-	-	RIM FRAGS;SCRAPPY	-	3	26

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	41	1083	DWSH?	J?	HM	-	-	-	BSS	-	3	12
-	41	1083	GREY	-	-	-	-	-	BSS;SCRAPPY;ABR	-	20	154
-	41	1083	GREY	BD	-	-	-	-	BASE/WALL;BURNISH INT	-	1	24
-	41	1083	GREY	BWM	-	-	-	-	RIM ONLY	-	1	25
-	41	1083	GREY	J	-	1	-	-	BASE STRING	-	2	120
-	41	1083	GREY	J?	-	-	-	-	BASE STRING	-	1	50
-	41	1083	MOSP	MHH	-	-	-	-	RIM ONLY;ABR;CR SLIP	-	1	19
-	41	1083	NVCC	-	-	-	-	-	BS;ABR	-	1	6
-	41	1083	NVCC	LBX?	-	-	-	-	BS;CR	-	1	2
-	41	1083	OXL	FS?	-	-	-	-	BS;2R HDLE STUB;THIN WALL	-	1	12
-	41	1083	SAMSG?	-	-	-	-	-	BS	-	1	14
-	41	1083	SHEL	-	-	-	-	-	BSS NOT DWSH	-	2	15
-	41	1083	SHEL	D	-	-	-	-	RIM FR;?RND RIM;GROOVED TOP;DAMAGED	-	1	11
-	41	1083	ZDATE	-	-	-	-	-	4C	-	-	-
-	41	1083	ZZZ	-	-	-	-	-	SCRAPPY	-	-	-
-	41	US	DR20	A	-	-	-	-	BS DIFF;LATE FAB W GREY CORE	-	1	48
-	41	US	DR20	A	-	2	-	-	BSS LATE FAB	-	2	263
-	41	US	OX?	B?	-	-	-	-	FTRG BASE SANDY RB;DIAM 12?;WORN INT;NOT DEF ROM	-	1	46
-	41	US	TILE?	-	-	-	-	-	FRAG SANDY FAB;?BASE OR TUBULAR;DIAM ?20CM;?ROM	-	1	59
-	41	US	DWSH	JDW	WF	-	-	-	RIM FRAG	-	1	11
-	41	US	DWSH?	-	HM?	-	-	-	BSS	-	3	30
-	41	US	GREY	-	-	-	-	-	BSS	-	51	737
-	41	US	GREY	BD	-	2	-	-	BASE FRAGS;DKGRY	-	3	68
-	41	US	GREY	BFB	-	-	-	-	RIM FRAG	-	1	24
-	41	US	GREY	BFB	-	-	D?	-	RIM/WALL;DKGRY;ABR;DIAM 19	-	1	36
-	41	US	GREY	BIBF?	-	-	-	-	RIM FRAG;BATTERED	-	1	28
-	41	US	GREY	BK?	-	-	-	-	BASE 60MM DIAM;THICK CLUMSY;VABR	-	1	78
-	41	US	GREY	BKEV	-	-	-	-	RIM FRAG	-	1	6
-	41	US	GREY	BWM	-	5	-	-	RIM FRAGS;VABR;NONE LATE TYPES	-	5	83
-	41	US	GREY	D	-	-	-	-	BS WALL	-	1	23
-	41	US	GREY	DISC	-	-	D?	-	DISC X WALLSHERD;DIAM C 45MM;WELL FINISHED	-	1	26
-	41	US	GREY	J	-	-	-	-	RIM FRAG	-	1	9
-	41	US	GREY	J	-	2	-	-	BASE FRAGS;STRING	-	2	102
-	41	US	GREY	JB	-	2	-	-	BASE FRAGS	-	2	89
-	41	US	GREY	JCUR	-	5	-	-	RIM FRAGS;VARIOUS	-	5	70
-	41	US	GREY	JCUR	SWL	-	D	48	RIM/WALL;DIAM16	-	1	40
-	41	US	GREY	JEV	-	-	-	-	RIM FRAG	-	1	16
-	41	US	GREY	JEV	-	-	D?	-	RIM/SHLDR;DIAM18;SPOOL	-	1	90
-	41	US	GREY	JL?	-	-	-	-	RIM/NECK ONLY;LEAF-SH.RIM;DIAM30+	-	1	61
-	41	US	GREY	JLH	-	-	-	-	HDLE LUG;SQUARISH PROF	-	1	49
-	41	US	GREY	JNN	-	-	-	-	RIM/NECK FRAG;ABR	-	1	21
-	41	US	GREY	JNN	-	-	D?	-	RIM/NECK;DIAM16;?W&B F2	-	1	45
-	41	US	GREYC	-	WM	-	-	-	BS LGE V;GRY FAB;LTBN SURF	-	1	18
-	41	US	IAGR	BNAT	-	-	D	49	RIM/PT WALL;ABR;DIAM24	-	1	75

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	41	US	LCOA	JDLS	-	-	-	-	RIM FRAG;DIAM16	-	1	31
-	41	US	NVCC	BD	-	-	-	-	BS VABR;BURNT;CR	-	1	39
-	41	US	NVCC	BFB	-	-	D	47	RIM/WALL SM.EG;CR;DIAM 13	-	1	20
-	41	US	SAMCG	31	-	-	-	-	FTRG BASE	-	1	12
-	41	US	SAMCG	31	-	-	-	-	RIM/WALL;NOT SAME AS BASE	-	1	36
-	41	US	SHEL	-	-	-	-	-	BSS NOT DWSH;VABR	-	3	37
-	41	US	SHEL	J?	WM?	-	-	-	BASE FRAG;GRY W LTBN SURFS	-	1	41
-	41	US	SHEL	JLS	?	-	-	-	RIM FRAG ABR	-	1	8
-	41	US	SPOX	BFB	-	1	D	46	RIM/PT WALL;LTRB;DIAM 30	-	3	159
-	41	US	SPOX	DL	-	-	D	45	RIM GRYCORE;LTRB;ABR;DIAM32;W&B D27	-	1	121
-	41	US	SPOX?	-	-	-	-	-	BS LTRB;COARSER FAB;SMOOTHED EXT	-	1	14
-	41	US	ZDATE	-	-	-	-	-	L2-VL4	-	-	-
-	42	1122	DR20	A	-	-	-	-	BS;GREY CORE;RB FAB	-	1	75
-	42	1122	DWSH?	J	HM	-	-	-	BSS;ONE SOOTED EXT	-	2	22
-	42	1122	GREY	-	-	-	-	-	BSS;SOME ABR	-	50	538
-	42	1122	GREY	BD	-	-	-	-	BASE FRAG	-	1	50
-	42	1122	GREY	BDTR?	-	-	-	-	RIM FR;TINY	-	1	7
-	42	1122	GREY	BDTR?	-	1?	-	-	RIM FRS;VABR;TINY;RB FB;GRY SURFS	-	2	12
-	42	1122	GREY	BWM	-	1	D	40	RIM>SHLDR;RIM U/CUT;SHORT NECK;DIAM30;MKED TR43?	-	2	172
-	42	1122	GREY	DTR	-	-	D?	-	RIM/PT WALL;DIAM26	-	1	88
-	42	1122	GREY	J	-	3	-	-	BASES;STRING MKED	-	4	219
-	42	1122	GREY	J?	-	3	-	-	BASES	-	3	106
-	42	1122	GREY	JB	-	1	-	-	BASE	-	2	59
-	42	1122	GREY	JB	-	2	-	-	BASES	-	2	150
-	42	1122	GREY	JCUR	-	1	D	37	COMP PROF;DIAM17	-	9	222
-	42	1122	GREY	JDW	-	-	-	-	RIM FR;LTRB FB;LTGRY SURF;NO SHELL	-	1	5
-	42	1122	GREY	JDW	-	-	-	-	RIM FRAG;SOOTED;GRY CORE;LTRB CORT;DKGRY SURF;OCC SHELL	-	1	10
-	42	1122	GREY	JDW	-	1	D	38	RIM/WALL;DIAM 15;LTGRY;MKED TR43?	-	3	112
-	42	1122	GREY	JLS	-	-	-	-	RIM FRAG ONLY;VABR	-	1	12
-	42	1122	GREY	JNN	-	-	D	39	RIM>SHLDR;CORDON BASE NECK;DIAM13;MKED TR43?	-	1	68
-	42	1122	OX	-	-	-	-	-	BS SANDY RB;VABR	-	1	16
-	42	1122	OX	CLSD	-	-	-	-	BS LTRB;V SANDY;VABR	-	1	8
-	42	1122	PART	BK?	-	-	-	-	BASE FR;SILTY S'WICH;DKGRY;TYPE AS ELSDON 9/31-32;?28;DIAM 12?	-	1	6
-	42	1122	SAMCG	36?	-	-	-	-	RIM FR;VABR	-	1	4
-	42	1122	SHEL	J	WM	-	-	-	BASE STRING	-	1	42
-	42	1122	SHEL	J?	WM?	-	-	-	BS;HARD DKGRY;TURNING MKS	-	1	28
-	42	1122	ZDATE	-	-	-	-	-	M3	-	-	-
-	42	1122	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1123	42	1124	SHCM	-	HM?	-	-	-	BS RB FAB;DKGRY SURFS	-	1	4
1123	42	1124	SHCM	-	HM?	-	-	-	RIM TINY;SQ CUT;DKGRY F/S	-	1	2
1123	42	1124	ZDATE	-	-	-	-	-	IA?	-	-	-
1123	42	1124	ZZZ	-	-	-	-	-	MARKED 1214 IN ERROR	-	-	-
-	42	1125	GREY	BWM?	-	-	-	-	RIM/NECK FR;ROLLED&U'CUT;SHORT NECK;VABR;DIAM20	-	1	22
-	42	1125	SAMCG	18/31 OR 31	NAME	1	-	-	FTRG BASE;STAMP FR	-	25	87

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	42	1125	ZDATE	-	-	-	-	-	M3?	-	-	-
-	42	1125	ZZZ	-	-	-	-	-	MOST SAMIAN BASE	-	-	-
-	42	1126	GREY	-	-	-	-	-	BS	-	1	21
-	42	1126	GREY	JB	-	-	-	-	BASE JL OR BWM?	-	1	37
-	42	1126	ZDATE	-	-	-	-	-	3C?	-	-	-
1127	42	1128	GREY	-	-	-	-	-	BSS	-	2	18
1127	42	1128	GREY	BD	-	-	-	-	BS RB FAB;DKGRY SURFS	-	1	4
1127	42	1128	GREY	BWM?	-	-	-	-	BASE FRAG ONLY	-	1	23
1127	42	1128	GREY	CLSD	NOTC	-	-	-	BS NOTC ZONE SHLDR ?J;ABR	-	1	12
1127	42	1128	SAMCG	37	-	-	-	-	BS W FIGURES;VABR	-	1	10
1127	42	1128	SHEL	J	?	-	-	-	BS L'SCALE INT;NOT DEF DWSH	-	1	7
1127	42	1128	ZDATE	-	-	-	-	-	3C?	-	-	-
1127	42	1128	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1127	42	1128A	GREY	-	-	-	-	-	BS	-	1	8
1127	42	1128A	ZDATE	-	-	-	-	-	ROM	-	-	-
1129	42	1130	DWSH?	J	HM	-	-	-	BASE;GRYBN;LTRB EXT	-	1	38
1129	42	1130	GREY	BFBH	-	-	-	-	RIM FRAG;PT WALL;VABR	-	1	22
1129	42	1130	GREY	BWM?	BS	-	-	-	BS BASAL AREA W B.SCROLL	-	1	37
1129	42	1130	SHEL	J	WM	-	-	-	BASE;STRING;DKGRY	-	1	55
1129	42	1130	ZDATE	-	-	-	-	-	4C	-	-	-
1129	42	1130	ZZZ	-	-	-	-	-	SOME ABR	-	-	-
1131	42	1132	DWSH?	-	HM?	-	-	-	BS THICK;VVABR;GRYBN-LTRB	-	1	19
1131	42	1132	GREY	-	-	-	-	-	BSS;VABR	-	4	40
1131	42	1132	GREY	BWM	-	-	-	-	RIM FR ONLY	-	1	16
1131	42	1132	GREY	JB	-	-	-	-	BASE FR;PROB BWM	-	1	24
1131	42	1132	NVCC	BD	-	-	-	-	BASE FR;STRING;CR FAB	-	1	35
1131	42	1132	OX	-	-	-	-	-	BS LTRB;STD FB	-	1	7
1131	42	1132	ZDATE	-	-	-	-	-	ML3?	-	-	-
1131	42	1132	ZZZ	-	-	-	-	-	VABR;POSS 4C?	-	-	-
1134	42	1133A	GREY	-	-	-	-	-	BSS VABR	-	4	52
1134	42	1133A	SHEL	-	WM	-	-	-	BSS GRY;SCATTER SHEL;VABR	-	2	36
1134	42	1133A	ZDATE	-	-	-	-	-	ROM	-	-	-
1134	42	1133A	ZZZ	-	-	-	-	-	VABR BSS	-	-	-
1134	42	1133B	GREY	-	-	-	-	-	BS;VABR	-	1	6
1134	42	1133B	GREY	-	LML	-	-	-	BS	-	1	8
1134	42	1133B	GREY	BWM?	BS	2	-	-	BSS;ONE LGE	-	2	119
1134	42	1133B	GREY	DTR	-	-	D?	-	RIM FR/PT WALL	-	1	18
1134	42	1133B	GREY	J	-	-	-	-	BASE STRING	-	1	36
1134	42	1133B	GREY	JDW	WM	-	D	42	RIM/PT WALL;PEBBLY FB;OCC FLINT;BNGRY FB;GRY SURFS;SOOT EXT	-	1	70
1134	42	1133B	NVCC	BK	-	-	-	-	BASE;39MM DIAM;RB FAB/CC;BATTERED	-	1	42
1134	42	1133B	NVCC	DPR	-	-	D	41	RIM/WALL;DIAM18	-	1	34
1134	42	1133B	OX	B38?	-	-	-	-	RIM FR ONLY;GRY CORE;?SPOX	-	1	6
1134	42	1133B	OX?	B?	-	-	-	-	BASE FTRG;LTBN DISCOL;?BURNISHED	-	1	17
1134	42	1133B	ZDATE	-	-	-	-	-	L3-4	-	-	-

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
1136	42	1137	SHEL	-	?	-	-	-	BS;NOT DWSH	-	1	5
1136	42	1137	ZDATE	-	-	-	-	-	ROM	-	-	-
-	42	US	DWSH	JDW	WF	2	-	-	RIM FRAGS;BOTH LGE J'S	-	2	85
-	42	US	GREY	-	-	-	-	-	BSS	-	28	455
-	42	US	GREY	BK?	-	-	-	-	RIM FRAG	-	1	6
-	42	US	GREY	BRR	-	-	-	-	RIM FRAG;VABR	-	1	19
-	42	US	GREY	BWM	-	-	-	-	RIM FR;BENTOVER;NECKLESS	-	1	33
-	42	US	GREY	BWM?	-	-	-	-	RIM SQUARISH;RB CORTEX	-	1	24
-	42	US	GREY	J?	-	2	-	-	BASE FRAGS	-	2	68
-	42	US	GREY	JB	-	3	-	-	BASE FRAGS	-	3	98
-	42	US	GREY	JBL	-	1	-	-	BASE LGE VESS	-	5	413
-	42	US	GREY	JCUR	-	-	-	-	RIM FRAG	-	1	8
-	42	US	GREY	JCUR	-	-	-	-	RIM FRAG;THICK;COARSER	-	1	19
-	42	US	LCOA?	J	-	-	-	-	BASE STRING	-	1	26
-	42	US	MORT	MBF	-	-	D	51	RIM/PT WALL;VABR;BURNT;CRAM?;DIAM24?	-	1	47
-	42	US	MOSP	MBF	-	-	D?	-	RIM/PT WALL;VABR;CR SLIP;SLAG TG	-	1	80
-	42	US	NVCC	B	-	-	-	-	BASE FRAG;VABR	-	1	46
-	42	US	NVCC	B	-	1	-	-	BASE FRAGS	-	2	88
-	42	US	NVCC	BD	-	-	-	-	BASAL FRAG	-	1	8
-	42	US	NVCC	BKFOS	-	1	-	-	BSS;BURNT;ABR	-	2	13
-	42	US	NVCC	BNK	-	-	D	50	RIM/PT WALL;CR FB;DIAM18	-	1	61
-	42	US	OX	JH?	-	-	-	-	HDLE SUB-R FRAG;LTRB SANDY;VABR	-	1	12
-	42	US	SHEL	-	?	-	-	-	BS GRY;LTRB SURFS;VABR	-	1	12
-	42	US	SHEL	BD?	WM?	-	-	-	BASE FRAG;VABR	-	1	19
-	42	US	SPOX	B38	PA	-	-	-	BS FLANGE PA CROSS STROKES;GRY;RB SURF	-	1	29
-	42	US	ZDATE	-	-	-	-	-	3-L4	-	-	-
-	52	?	GREY	JDW?	-	-	-	-	RIM FRAG;GRY;FAINT RB CORE	-	1	12
-	52	?	ZDATE	-	-	-	-	-	3C	-	-	-
-	58	?	CC	CLSD?	-	-	-	-	BS LTRB FB;LTER CORT;QTZ&RB INCLS;CC ?EXT ONLY RB	-	1	19
-	58	?	CR	CLSD	-	-	-	-	BS DKER CORE;HEAVILY BURNT EXT	-	1	8
-	58	?	GREY	-	-	-	-	-	BASE FRAG;PROB B OR D	-	1	25
-	58	?	GREY	-	-	-	-	-	BS MKED TR42	-	1	27
-	58	?	GREY	-	-	-	-	-	BSS	-	19	222
-	58	?	GREY	BDTR	-	-	D?	-	RIM/PT WALL ONLY;LTGRY;NR NVGW;DIAM20-21	-	1	15
-	58	?	GREY	BWM	-	-	-	-	RIM NECK;TALL;U'CUT;ABR;SH MKED TR42	-	1	49
-	58	?	GREY	BWM	-	-	D?	-	RIM/NECK;STRONG CURVE U/CUT;DIAM26	-	1	48
-	58	?	GREY	JBCAR?	-	-	-	-	BS NECK;CARIN.VES OR TALL NECK J?	-	1	18
-	58	?	GREY	JCUR	-	-	-	-	RIM ONLY;VABR;COARSER QTZY FB	-	1	23
-	58	?	GREY	JCUR	-	-	D?	-	RIM/NECK ONLY;DIAM 16;TRACES BURNING	-	1	40
-	58	?	GREY	JCUR	-	-	D?	-	RIM>SHLDR;DIAM 18;CAVETTO	-	1	42
-	58	?	GREY	JLS?	-	-	D?	-	RIM/NECK ONLY;DIAM 14;ANG INT RIM;NOT TRUE LS	-	1	13
-	58	?	GREY	JNN?	-	-	-	-	RIM PT NECK;DIAM12;SIMPLE CURVE;SH MKED TR42	-	1	12
-	58	?	OX	BDFL	-	-	-	-	RIM FRAG;PT WALL;LTRB;F.QTZY FB;BURNISH RIM/INT	-	1	11
-	58	?	OX	JBCUR	-	-	-	-	RIM FRAG ONLY;RB QTZY FB;DIAM 22? CURVED RIM	-	1	10

Cut	Tr	Cxt	Fabric	Form	Manuf+	Ves	D?	DNo	Details	Lnk	Shs	Wt
-	58	?	SHEL	BD?	-	-	-	-	BS;POSS X SAME VESS;SAME FAB;SMOOTH INT	-	1	20
-	58	?	SHEL	BDTR	-	-	-	-	RIM FRAG ONLY;F COMMON SHEL;DKGRY;GRY-BN SURFS	-	1	14
-	58	?	ZDATE	-	-	-	-	-	M3?	-	-	-
-	58	?	ZZZ	-	-	-	-	-	T58 & ?T42;LITTLE GOOD DATING;VABR	-	-	-
1941	78	1942	GREY	-	-	-	-	-	BSS;ONE VABR	-	2	10
1941	78	1942	OX	-	-	-	-	-	BS VVABR;LTRB	-	1	3
1941	78	1942	ZDATE	-	-	-	-	-	ROM	-	-	-
1941	78	1942	ZZZ	-	-	-	-	-	VABR	-	-	-
-	78	1944	NAT?	-	-	-	-	-	BS FLAKED;SOFT;SOAPY;VVABR	-	1	4
-	78	1944	ZDATE	-	-	-	-	-	PREH?	-	-	-
-	78	1944	ZZZ	-	-	-	-	-	VABR	-	-	-
-	85	2050	GREY	-	-	-	-	-	BS;VABR	-	1	6
-	85	2050	ZDATE	-	-	-	-	-	ROM	-	-	-
-	85	2050	ZZZ	-	-	-	-	-	VABR	-	-	-
-	87	2061	GREY	-	-	-	-	-	BSS VABR	-	2	16
-	87	2061	GREY	JB	-	-	-	-	BASE PLAIN FRAG;ABR	-	1	22
-	87	2061	GROG	-	-	-	-	-	BS VABR LTGRY;GROG INCLS	2067	1	7
-	87	2061	ZDATE	-	-	-	-	-	ROM	-	-	-
-	87	2061	ZZZ	-	-	-	-	-	VABR	-	-	-
-	90	2067	GREY	-	-	-	-	-	BS;ABR	-	1	3
-	90	2067	GROG	BNAT?	-	-	D?	-	RIM>SHLDR BEND ONLY;SOFT GROG FAB AS IN	2061	1	52
-	90	2067	ZDATE	-	-	-	-	-	LIA/EROM?	-	-	-
-	90	2067	ZZZ	-	-	-	-	-	ABR	-	-	-
2080	92	2083	SHCM	-	-	-	-	-	BSS DKGRY;GRY-BN & RB EXT SURFS;ABR	-	3	25
2080	92	2083	ZDATE	-	-	-	-	-	IA?	-	-	-
2080	92	2083	ZZZ	-	-	-	-	-	ABR	-	-	-
2084	92	2085	SHSF	B?	WM?	1?	-	-	BSS 1 W STRONG CURVE;BURNISH EXT	-	4	29
2084	92	2085	ZDATE	-	-	-	-	-	LIA?	-	-	-
2086	92	2087	SHCF	JCUR	WM	1	D	57	RIM/PT WALL W CORDON;DKGRY;BN SURF EXT;NON J BSS;POOR COND;DIAM18?	-	25	130
2086	92	2087	SHCM	JS?	HM	1?	-	-	BSS DKGRY FB;RB EXT;>20MM THICK;BURNT DEP INT ON SOME	-	24	424
2086	92	2087	ZDATE	-	-	-	-	-	LIA	-	-	-
-	95	2102	SHCM?	-	?	-	-	-	BS FLAKED;VABR;DKGRY;PROB HM	-	1	2
-	95	2102	ZDATE	-	-	-	-	-	IA?	-	-	-
-	95	2102	ZZZ	-	-	-	-	-	VABR	-	-	-

Archive Report on the Pottery from the Eastern Bypass, Lincoln (LEB03)

Jane Young

Introduction

One hundred and seventy-three sherds of pottery representing about one hundred and fifty-two vessels were recovered from the site. The material ranges in date from the middle Saxon to the early modern period. The pottery was examined both visually and where necessary with the aid of a x20 binocular microscope and then recorded on an Access database using locally and nationally agreed codenames.

Condition

Most of the pottery showed some sign of post-breakage abrasion and with the exception of the pottery recovered from Trenches 38, 39 and 41 it is unlikely that much of the material represents primary deposition. Only eleven vessels are represented by more than a single sherd. Less than twenty vessels have soot residues and two vessels have interior 'kettle fur' deposits suggesting that they have been used for containing or heating liquids.

The Pottery

A total of thirty-three different ware types, ranging in date from the middle Saxon to the early modern period was recovered from the site. These ware types together with their date spans are listed below in table 1.

Table 1. Ceramic codenames by sherd and vessel count

codename	full name	earliest date	latest date	sherds	vessels
BERTH	Brown glazed earthenware	1550	1800	1	1
BL	Black-glazed wares	1550	1750	13	13
ELFS	Early Fine-shelled ware	780	950	4	4
EMX	Non-local Early Medieval fabrics	1150	1230	1	1
HUM	Humberware	1250	1550	3	3
LERTH	Late earthenwares	1750	1900	3	3
LFS	Linclonshire Fine-shelled ware	970	1200	2	2
LLSW	Late Lincoln Glazed ware	1350	1500	6	6
LSH	Lincoln shelly ware	850	1000	2	2
LSW1/2	12th-13th century Lincoln Glazed ware	1100	1300	1	1
LSW2	13th to 14th century Lincoln Glazed Ware	1200	1320	6	6
LSW2/3	13th to 15th century Lincoln Glazed Ware	1200	1450	6	6
LSW3	14th to 15th century Lincoln Glazed Ware	1280	1450	4	4
LSWA	Lincoln Glazed ware Fabric A	1100	1500	6	6
MAX	Northern Maxey-type ware	680	870	3	3
MAXQ	South Lincs maxey-type ware	670	800	4	4
MEDLOC	Medieval local fabrics	1150	1450	6	6