

Marks Warren Quarry,
Whalebone Lane North,
Romford,
Essex



Part II: Appendices

**Post-Excavation Assessment
and Updated Project Design**



July 2011

Client:

OA East Report No: 1291, part 2

OASIS No: oxfordar3-105942

NGR: TQ 486 893

**Marks Warren Quarry,
Whalebone Lane North, Romford, Essex**

Post-Excavation Assessment and Updated Project Design

Part II: Appendices

Compiled by Alice Lyons BA MA MIFA

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Editor: Dr Elizabeth Popescu BA PhD MIFA

Report Date: July 2011

Report Number: 1291

Site Name: Marks Warren Farm/Marks Warren Quarry, Romford, Essex

HER Event No:

Date of Works: 1988, 2000, 2001, 2002, 2006, 2007, 2008, 2010

Client Name: Brett Lafarge Aggregates

Client Ref:

Planning Ref: 1836/88 (1988) and subsequent refs

Grid Ref: TQ 486 893

Site Code: RO-WF88, MWN 5, MWN 7, MWN 8, MWN 9, MWN10

Finance Code: XEX MWQ PX

Receiving Body: Under discussion

Accession No:

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Table of Contents

Appendix A: Context Summary with Provisional Phasing (where available)	7
Appendix A1. Total Site Survey by Passmore Edwards Museum (1988)	7
Appendix A2. Area 1 Watching Brief by JSAC (1998)	7
Appendix A3. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000)	7
Appendix A4. Area 4(north) and Area 5 Watching Brief AOC (2002)	29
Appendix A5. Area 6 Monitor and Record AS (2006)	36
Appendix A6. Area 7 Monitor and Record by AS (2007)	36
Appendix A7. Area 8 Monitor and Record by AS (2008)	37
Appendix A8. Area 9 Monitor and Record by AS (2008)	37
Appendix A9. Area 10 Monitor and Record by OA East (2010)	37
Appendix B: The Finds	38
Appendix B1: The Pottery (presented by site, in chronological order)	38
Appendix B2. Lithics	63
Appendix B3. Building Material	88
Appendix C. Environmental Remains	96
Appendix C1. The Human Skeletal Remains	96
Appendix C2. Animal Bone	102
Appendix C3. Environmental Samples	104
Appendix C4. Wood	117
Appendix D. Product Description	118
Appendix E. Risk Log	119
Appendix F. OASIS Report Form	120

NB: The relevant lettered trench locations for the Passmore Edwards Museum trenches of 1988 appear in Part I, Fig. 2. The other excavation areas are located in Part I, Fig. 4.

List of Tables (Part II)

Table 18	Total Site Survey by Passmore Edwards Museum (1988): Stratigraphic archive
Table 19	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000). context List
Table 20	Area 4(north) and Area 5 Watching Brief AOC (2002). context List.
Table 21	Total Site Survey by Passmore Edwards Museum (1988). The prehistoric pottery quantification by weight
Table 22	Total Site Survey by Passmore Edwards Museum (1988). The prehistoric pottery quantification by sherd count
Table 23	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): The prehistoric pottery quantified by fabric
Table 24	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Prehistoric pottery catalogue
Table 25	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Roman pottery catalogue
Table 26	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Medieval and post- medieval Pottery Catalogue
Table 27	Area 4(north) and Area 5 Watching Brief AOC (2002): Prehistoric pottery catalogue
Table 28	Area 4(north) and Area 5 Watching Brief AOC (2002): Post-medieval pottery catalogue
Table 29	Area 8 Monitor and Record by AS (2008): sherds by number and weight by period
Table 30	Area 8 Monitor and Record by AS (2008): The Prehistoric fabrics
Table 31	Area 8 Monitor and Record by AS (2008): quantification of Romano-British pottery in feature groups/types
Table 32	Area 8 Monitor and Record by AS (2008): quantification of the Saxon fabrics
Table 33	Area 8 Monitor and Record by AS (2008): the Saxon cremation vessels by sherd number and weight
Table 34	Area 10 Monitor and Record by OA East (2010): the pottery catalogue
Table 35	Total Site Survey by Passmore Edwards Museum (1988): struck flint quantification
Table 36	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Summary of flint by type and area
Table 37	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of flint by type and area Summary of the flint recovered from Area 3
Table 38	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of the flint recovered from Area 4
Table 39	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of the flint recovered from unstratified deposits
Table 40	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): worked flint catalogue
Table 41	Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of flint assemblage by type
Table 42	Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of flint assemblage by c context
Table 43	Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of burnt flint assemblage by context
Table 44	Area 10 Monitor and Record by OA East (2010): summary of quantified worked flint
Table 45	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): the quern quantified by context
Table 46	Total Site Survey by Passmore Edwards Museum (1988): the building material
Table 47	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Catalogue of the Fired Clay Finds
Table 48	Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Catalogue of the Fired Clay Finds: Catalogue of the Brick & Tile
Table 49	Area 8 Monitor and Record by AS (2008): occurrence of CBM and daub in phased groups by fragment count (f) and weight (w) in grams
Table 50	Area 9 Monitor and Record by AS (2008): cremation 1085 weight (g) of bone in spits and fractions
Table 51	Area 9 Monitor and Record by AS (2008): cremation 1104 weight (g) of bone in spits and fractions
Table 52	Area 9 Monitor and Record by AS (2008): cremation 1109 weight (g) of bone in spits and fractions

Table 53	Area 9 Monitor and Record by AS (2008): cremation 1114 weight (g) of bone in spits and fractions
Table 54	Total Site Survey by Passmore Edwards Museum (1988): the animal bones from Warren Farm general summary
Table 55	Total Site Survey by Passmore Edwards Museum (1988): a detailed summary of the animal bones
Table 56	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): list of samples taken for environmental analysis
Table 57	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): archaeological finds from the processed samples
Table 58	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): environmental finds from the samples
Table 59	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): frequency of samples with identified charred botanical remains present in flots.
Table 60	Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): botanical remains from the richer flots.
Table 61	Area 4 (north) and Area 5 Watching Brief AOC (2002); environmental finds from the samples
Table 62	Area 8 Monitor and Record by AS (2008); dimensions and species of the timbers recorded

Appendix A: Context Summary with Provisional Phasing (where available)

Appendix A1. Total Site Survey by Passmore Edwards Museum (1988)

Type	Description	Quantity	Notes
Contexts	Evaluation	247	
Plans		25	25 evaluation trench plans
Sections		Not quantified	

Table 18: Total Site Survey by Passmore Edwards Museum (1988): Stratigraphic archive

Appendix A2. Area 1 Watching Brief by JSAC (1998)

No significant remains found.

Appendix A3. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000)

Context	Part of	Description	Phase	Date	Area
1		topsoil		2000	2
2		natural		2000	2
3		sub-oval cut, contains 04	4?	2000	2
4		fill of cut 03		2000	2
5		oval posthole, contains 06	4?	2000	2
6		fill of posthole 05		2000	2
7		circular posthole, contains 08	4?	2000	2

Context	Part of	Description	Phase	Date	Area
8		fill of posthole 07		2000	2
9		sub-circular posthole, contains 10	4?	2000	2
10		fill of posthole 09		2000	2
11		rectangular posthole, contains 12	4?	2000	2
12		fill of cut 11		2000	2
13		posthole, contains 14	4?	2000	2
14		fill of posthole 13		2000	2
15		sub-oval / rectangular cut, contains 16	4?	2000	2
16		fill of cut 15		2000	2
17		posthole, contains 18	4?	2000	2
18		fill of posthole 17		2000	2
19		posthole, contains 20	4?	2000	2
20		fill of posthole 19		2000	2
21		posthole, contains 22	4?	2000	2
22		fill of posthole 21		2000	2
23		posthole, contains 24	4?	2000	2
24		fill of posthole 23		2000	2
25		posthole, contains 26	4?	2000	2
26		fill of posthole 25		2000	2
27		oval pit cut, contains 28		2000	2
28		fill of pit 27		2000	2
29		posthole, contains 30	4	2000	2
30		fill of posthole 29		2000	2
31		Enclosure ditch cut, contains 32a/b/c	5	2000	2
32		fill of enclosure ditch 31		2000	2
101		topsoil		2001	3 south

Context	Part of	Description	Phase	Date	Area
102		natural		2001	3 south
103		sub circular/oval cut, contains 104	2	2001	3 south
104		fill of cut 103		2001	3 south
105		rectangular cut, contains 106	2	2001	3 south
106		fill of cut 105		2001	3 south
107		sub-oval pit cut, contains 108	3	2001	3 south
108		fill of pit 107		2001	3 south
109		small oval pit, contains 110	2-4?	2001	3 south
110		fill of pit 109		2001	3 south
111		large oval pit, contains 112	2-4?	2001	3 south
112		fill of pit 111		2001	3 south
113		linear	2-4?	2001	3 south
114		fill of cut 113		2001	3 south
115		oval pit, contains 116	2-4?	2001	3 south
116		fill of pit 115		2001	3 south
117		pit, contains 118	2-4?	2001	3 south
118		fill of pit 117		2001	3 south
119		circular pit, contains 120	2-4?	2001	3 south
120		fill of pit 119		2001	3 south
121		sub-rectangular cut, contains 122, 123	2	2001	3 south
122		lower fill of cut 121		2001	3 south
123		upper fill of cut 121		2001	3 south
124	126/156	linear, contains 125, 195	2-4?	2001	3 south
125		fill of linear cut 124		2001	3 south
126	124/156	section through linear, contains 127, 194		2001	3 south
127		fill of linear 126		2001	3 south

Context	Part of	Description	Phase	Date	Area
128	130/185/187/335	section of longer ditch, closest to pond, contains 128	2-4?	2001	3 south
129		fill of ditch 127		2001	3 south
130	128/185/187/335	2nd section through longer ditch	2-4?	2001	3 south
131	186, 188	fill of ditch section 130		2001	3 south
132	134	small circular cut, contains 133	2-4?	2001	3 south
133		fill of circular cut 132		2001	3 south
134	132	large sub-oval cut, contains 135	2-4?	2001	3 south
135		fill of sub-oval cut 134		2001	3 south
136		small oval cut, contains 137	2-4?	2001	3 south
137		fill of oval cut 136		2001	3 south
138		small oval cut, contains 139,140	1	2001	3 south
139		fill of oval cut 138		2001	3 south
140		fill of oval cut 138		2001	3 south
141		small circular cut, contains 142	2-4?	2001	3 south
142		fill of circular cut 141		2001	3 south
143		rectangular cut, contains 144	1	2001	3 south
144		fill of rectangular cut 143		2001	3 south
145	181/183	cut for linear feature, contains 146	2-4?	2001	3 south
146		fill of linear cut 145		2001	3 south
147		clay layer		2001	3 south
148		sub-oval pit, contains 149	2	2001	3 south
149		fill of pit 148		2001	3 south
150		circular pit, contains 151	2-4?	2001	3 south
151		fill of pit 150		2001	3 south
152		fill of pit 150		2001	3 south

Context	Part of	Description	Phase	Date	Area
153		fill of pit 150		2001	3 south
154		fill of pit 150		2001	3 south
155		fill of pit 150		2001	3 south
156	124/126	terminal of linear 124, contains 157, 158		2001	3 south
157		fill of linear 156		2001	3 south
158		fill of linear 156		2001	3 south
159		sub-rounded pit, contains 160	2-4?	2001	3 south
160		fill of pit 159		2001	3 south
161		small pit, contains 162	2-4?	2001	3 south
162		fill of pit 161		2001	3 south
163		possible linear, contains 164	2-4?	2001	3 south
164		fill of linear 163		2001	3 south
165		pit, contains 166	2-4?	2001	3 south
166		fill of pit 165		2001	3 south
167		pit, contains 168	2-4?	2001	3 south
168		fill of pit 167		2001	3 south
169		pit, contains 170	2-4?	2001	3 south
170		fill of pit 169		2001	3 south
171	173, 175,177,200,204, 337	cut, contains 172	6	2001	3 south
172		fill of cut 171		2001	3 south
173	171, 175,177,200,204, 337	cut, contains 174	6	2001	3 south
174		fill of cut 173		2001	3 south

Context	Part of	Description	Phase	Date	Area
175	171, 173,177,200,204, 337	fill of cut 173, contains 189?	6	2001	3 south
176		fill of cut 175		2001	3 south
177	171, 173,175,200,204, 337	ditch cut, contains 178	6	2001	3 south
178		fill of cut 177		2001	3 south
179	145,181, 183	terminus of ditch 145, contains 180	2-4?	2001	3 south
180		fill of cut 179		2001	3 south
181	145,179,183	ditch cut, contains 182	2-4?	2001	3 south
182		fill of cut 181		2001	3 south
183	179,145,181	ditch cut, contains 184	2-4?	2001	3 south
184		fill of cut 183		2001	3 south
185	128,130,18,335	2nd section through longer ditch	2-4?	2001	3 south
186	131	fill of ditch section 185		2001	3 south
187	128,130,185,335	2nd section through longer ditch	2-4?	2001	3 south
188	131	fill of ditch section 187		2001	3 south
189		bank slippage, contained by 175		2001	3 south
190		cut for pit series, contains 191	2-4?	2001	3 south
191		fill of pit 190		2001	3 south
192		cut for intercutting pit, contains 193	2-4?	2001	3 south
193		fill of pit 192		2001	3 south
194		basal fill of linear 126		2001	3 south
195		basal fill of linear 126		2001	3 south
196		cut, contains 197	7	2001	3 south
197		fill of cut 196		2001	3 south

Context	Part of	Description	Phase	Date	Area
198		cut, contains 199	7	2001	3 south
199		fill of cut 198		2001	3 south
200	171, 173,175,177,204, 337	cut, contains 201	6	2001	3 south
201		fill of cut 200		2001	3 south
202	216,321,323	cut, contains 203	2-4?	2001	3 south
203		fill of cut 202		2001	3 south
204	171, 173,175,177,200, 337	cut, contains 205	6	2001	3 south
205		fill of cut 204		2001	3 south
206	208,211	cut, contains 207	2-4?	2001	3 south
207		fill of cut 206		2001	3 south
208	206,211	cut, contains 209, 210	2-4?	2001	3 south
209		fill of cut 208		2001	3 south
210		fill of cut 208		2001	3 south
211	206,208	cut, contains 212, 213	2-4?	2001	3 south
212		fill of cut 212		2001	3 south
213		fill of cut 212		2001	3 south
214		terminal of small gully, contains 215		2001	3 south
215		fill of cut 214		2001	3 south
216	202,321,323	cut for enclosure ditch, contains 217	2-4?	2001	3 south
217		fill of cut 216		2001	3 south
218		group cut for postholes, contains 219	1	2001	3 south
219		posthole, contains 220	1	2001	3 south
220		fill of posthole 219		2001	3 south

Context	Part of	Description	Phase	Date	Area
221		posthole, contains 222	1	2001	3 south
222		fill of cut 221		2001	3 south
223		pit cut, contains 224	6	2001	3 south
224		fill of pit cut 223		2001	3 south
225		cut, contains 226	6	2001	3 south
226		fill of cut 225		2001	3 south
227		oval pit cut, contains 228, 229	6	2001	3 south
228		fill of cut 227		2001	3 south
229		fill of cut 227		2001	3 south
230		posthole, contains 231	6	2001	3 south
231		fill of cut 230		2001	3 south
232		pit cut, contains 233	1	2001	3 south
233		fill of pit cut 232		2001	3 south
234		pit cut, contains 235, 236	2-4?	2001	3 south
235		fill of pit cut 234		2001	3 south
236		fill of pit cut 234		2001	3 south
237		cut for possible hearth, contains 238, 293, 294	6	2001	3 south
238		fill of hearth cut 237		2001	3 south
239		group no for narrow linears	6	2001	3 south
240		gully segment, contains 241	2-4?	2001	3 south
241		fill of 240		2001	3 south
242		gully section, contains 243	2-4?	2001	3 south
243		fill of gully section 242		2001	3 south
244		gully section, contains 245	2-4?	2001	3 south
245		fill of gully section 244		2001	3 south

Context	Part of	Description	Phase	Date	Area
246		gully section, contains 247	6	2001	3 south
247		fill of gully section 246		2001	3 south
248		gully section, contains 249	2-4?	2001	3 south
249		fill of gully section 248		2001	3 south
250	289	gully section, contains 251	6	2001	3 south
251		fill of gully section 250		2001	3 south
252		cut for pit , contains 253	7	2001	3 south
253		fill of pit 252		2001	3 south
254	309, 311	gully section, contains 255	6	2001	3 south
255		fill of gully section 254		2001	3 south
256	300	gully section, contains 257	6	2001	3 south
257		fill of gully section 256		2001	3 south
258	305	gully section, contains 259	6	2001	3 south
259		fill of gully section 258		2001	3 south
260		cut for pit, contains 261	7	2001	3 south
261		fill of pit 260		2001	3 south
262	264,266,307	gully section, contains 263	6	2001	3 south
263		fill of gully section 262		2001	3 south
264	262,266,307	gully section, contains 265	6	2001	3 south
265		fill of gully section 264		2001	3 south
266	262,264,307	gully section, contains 267	6	2001	3 south
267		fill of gully section 266		2001	3 south
268		gully section, contains 269	6	2001	3 south
269		fill of gully section 268		2001	3 south
270		gully section, contains 271	6	2001	3 south
271		fill of gully section 270		2001	3 south

Context	Part of	Description	Phase	Date	Area
272	313	gully section, contains 273	6	2001	3 south
273		fill of gully section 272		2001	3 south
274		cut for pit, contains 275	7	2001	3 south
275		fill of pit 274		2001	3 south
276	278/280/315	gully section, contains 277	7	2001	3 south
277		fill of gully section 276		2001	3 south
278	276/280/315	gully section, contains 279	7	2001	3 south
279		fill of gully section 278		2001	3 south
280	276/278/315	gully section, contains 281	7	2001	3 south
281		fill of gully section 280		2001	3 south
282		cut for pit, contains 283	1	2001	3 south
283		fill of pit 282		2001	3 south
284		posthole, cuts 283, contains 285	1	2001	3 south
285		fill of posthole 284		2001	3 south
286		large pit, contains 287, 288	3	2001	3 south
287		upper fill of pit 286		2001	3 south
288		second fill of pit 286		2001	3 south
289	250	gully section, contains 290	6	2001	3 south
290		fill of gully section 289		2001	3 south
291		gully section, contains 292	6	2001	3 south
292		gully section, contains 291		2001	3 south
293		fill of pit 237		2001	3 south
294		fill of pit 237		2001	3 south
295		fill of pit 298 :pottery -base of vessel		2001	3 south
296		fill of pottery vessel 295		2001	3 south
297		fill of pit 298		2001	3 south

Context	Part of	Description	Phase	Date	Area
298		pit, contains 295,296,297	6	2001	3 south
299		fill of gully 300		2001	3 south
300	256	north-south aligned gully	6	2001	3 south
301		irregular pit cut, contains 302, 303, 304		2001	3 south
302		upper fill of pit 301		2001	3 south
303		second fill of pit 301		2001	3 south
304		fill of pit 301		2001	3 south
305	258	gully intervention-cut, contains 306	6	2001	3 south
306		fill of 305		2001	3 south
307	262,264,266	gully intervention-cut, contains 308	6	2001	3 south
308		fill of 307		2001	3 south
309	254,311	gully intervention-cut, contains 310	6	2001	3 south
310		fill of 309		2001	3 south
311	254, 309	gully intervention-cut, contains 312	6	2001	3 south
312		fill of 311		2001	3 south
313	272	gully intervention-cut, contains 314	6	2001	3 south
314		fill of 313		2001	3 south
315	276/278/280	gully intervention-cut, contains 316	7	2001	3 south
316		fill of 315		2001	3 south
317		burnt flint pit, contains 318, 325	2-4?	2001	3 south
318		fill of pit 317		2001	3 south
319		gully intervention-cut, contains 320		2001	3 south
320		fill of 319		2001	3 south
321	202,216,323	narrow enclosure ditch, contains 322	2-4?	2001	3 south
322		fill of ditch 321		2001	3 south
323	202,216,321	narrow enclosure ditch, contains 324	2-4?	2001	3 south

Context	Part of	Description	Phase	Date	Area
324		fill of ditch 323		2001	3 south
325		fill of pit 317		2001	3 south
326	341	ditch on E boundary, contains 327, 328		2001	3 south
327		lower fill of ditch 326		2001	3 south
328		upper fill of ditch 326		2001	3 south
329	345	1st ditch on E boundary, contains 330	5	2001	3 south
330		fill of ditch 329		2001	3 south
331	333	modern ditch cut, contains 332	7	2001	3 south
332		fill of ditch 331		2001	3 south
333	331	modern ditch cut, contains 334	7	2001	3 south
334		fill of ditch 333		2001	3 south
335	128/130/185/187	ditch, contains 336	2-4?	2001	3 south
336		fill of ditch 335		2001	3 south
337	171, 173,175,177,200, 204	enclosure ditch cut, contains 338	6	2001	3 south
338		fill of enclosure ditch 337		2001	3 south
339		cut for narrow linear, contains 340	3	2001	3 south
340		fill of linear 339		2001	3 south
341	326	large ditch on E boundary, contains 342, 343, 344	6	2001	3 NE
342		lower fill of ditch 341		2001	3 NE
343		second fill of ditch 341		2001	3 NE
344		upper fill of ditch 341		2001	3 NE
345	329	linear, cut by 341, contains 346	5	2001	3 NE
346		fill of linear 345		2001	3 NE
347		upper fill of cut 349		2002	3 NE

Context	Part of	Description	Phase	Date	Area
348		lower fill of cut 349		2002	3 NE
349		cut, contains 347, 348	1	2002	3 NE
350		fill of cut 351		2002	3 NE
351		cut, contains 350	2?	2002	3 NE
352		fill of cut 353		2002	3 NE
353	355	cut, contains 352	2?	2002	3 NE
354		fill of cut 355		2002	3 NE
355	353	cut, contains 354	2?	2002	3 NE
356		upper fill of cut 358		2002	3 NE
357		lower fill of cut 358		2002	3 NE
358		cut, contains 356, 357	2?	2002	3 NE
359		shallow pit cut, contains 360	2?	2002	3 NE
360		fill of cut 359		2002	3 NE
361		pit cut, contains 362	2?	2002	3 NE
362		fill of pit 361		2002	3 NE
363		fill of modern ditch 364		2002	3 NE
364		modern ditch cut, contains 363	7	2002	3 NE
365		fill of ditch cut 366		2002	3 NE
366	368	ditch cut, contains 365	2?	2002	3 NE
367		fill of ditch cut 368		2002	3 NE
368	366	ditch cut, contains 367	2?	2002	3 NE
369		fill of ditch cut 370		2002	3 NE
370	372,374	ditch cut, contains 369	2?	2002	3 NE
371		fill of ditch cut 372		2002	3 NE
372	370,374	ditch cut, contains 371	2?	2002	3 NE
373		fill of ditch 374		2002	3 NE

Context	Part of	Description	Phase	Date	Area
374	370,372	ditch cut, contains 373	2?	2002	3 NE
375		upper fill of ditch 377		2002	3 NE
376		lower fill of ditch 377		2002	3 NE
377		ditch cut, contains 375, 376	2?	2002	3 NE
378		fill of cut 379		2002	3 NE
379		cut, contains 378	3?	2002	3 NE
380		fill of cut 381		2002	3 NE
381		cut, contains 380	2?	2002	3 NE
382		fill of cut 383		2002	3 NE
383		modern ditch re-cut, contains 382	8	2002	3 NE
384		fill of cut 385		2002	3 NE
385		modern ditch cut, contains 384	7	2002	3 NE
386		fill of ditch 387		2002	3 NE
387		ditch cut, contains 386	7	2002	3 NE
388		upper fill of pit 390		2002	3 NE
389		lower fill of pit 390		2002	3 NE
390		pit cut, contains 388, 389	1	2002	3 NE
391		fill of ditch 392		2002	3 NE
392		ditch cut, contains 391	7	2002	3 NE
393		fill of ditch 394		2002	3 NE
394		cut, contains 393	1	2002	3 NE
395		fill of cut 396		2002	3 NE
396		cut, contains 395	7	2002	3 NE
397		fill of cut 398		2002	3 NE
398	435,440,485,491, 493	cut, contains 397	8	2002	3 NE

Context	Part of	Description	Phase	Date	Area
399		fill of ditch 400		2002	3 NE
400	431,487 & 481,489??	ditch cut, contains 399	8	2002	3 NE
401		fill of ditch 402		2002	3 NE
402		ditch cut, contains 401	7	2002	3 NE
403		upper fill of pit 405		2002	3 NE
404		lower fill of pit 405		2002	3 NE
405		pit cut, contains 403, 404	3?	2002	3 NE
406		fill of ditch 407		2002	3 NE
407		ditch re-cut, contains 406	8	2002	3 NE
408		fill of ditch 409		2002	3 NE
409		ditch cut, contains 408	7	2002	3 NE
410		small pit, contains 411	3?	2002	3 NE
411		fill of pit 410		2002	3 NE
412		small pit, contains 413	3?	2002	3 NE
413		fill of pit 412		2002	3 NE
414		small pit, contains 415	2?	2002	3 NE
415		fill of pit 414		2002	3 NE
416		fill of pit 424		2002	3 NE
417		void		2002	3 NE
418		small pit, contains 419, 420	2?	2002	3 NE
419		clay lining of pit 418		2002	3 NE
420		fill of pit 418		2002	3 NE
421		small pit, contains 423, 423	2?	2002	3 NE
422		clay lining of pit 421		2002	3 NE
423		fill of pit 421		2002	3 NE

Context	Part of	Description	Phase	Date	Area
424		small pit, contains 425, 426	2?	2002	3 NE
425		clay lining of pit 424		2002	3 NE
426		fill of pit 424		2002	3 NE
427		ditch cut, contains 428	3?	2002	3 NE
428		fill of ditch 427		2002	3 NE
429		ditch cut, contains 430	7	2002	3 NE
430		fill of ditch 429		2002	3 NE
431	400,487	re-cut of ditch 429, contains 432	8	2002	3 NE
432		fill of re-cut 431		2002	3 NE
433	437,438,465	ditch cut, contains 434	2?	2002	3 NE
434		fill of ditch 433		2002	3 NE
435	398,440,485,491, 493	ditch cut, contains 436	8	2002	3 NE
436		fill of ditch 435		2002	3 NE
437		ditch cut, contains 437a	2?	2002	3 NE
437a	433,438,465	fill of ditch 437		2002	3 NE
438	433,437,465	ditch cut, contains 439	2?	2002	3 NE
439		fill of ditch 438		2002	3 NE
440	398,435,485,491, 493	ditch cut, contains 441	8	2002	3 NE
441		fill of ditch 440		2002	3 NE
442		rectilinear pit, contains 443	2?	2002	3 NE
443		fill of pit 442		2002	3 NE
444		rectilinear pit, contains 445		2002	3 NE
445		fill of pit 444	2?	2002	3 NE
446		pit, contains 447		2002	3 NE
447		fill of pit 446	2?	2002	3 NE

Context	Part of	Description	Phase	Date	Area
448		pit, contains 449		2002	3 NE
449		fill of pit 448	2?	2002	3 NE
450		pit, contains 451		2002	3 NE
451		fill of pit 450	2?	2002	3 NE
452		upper fill of ditch 457		2002	3 NE
453		fill of ditch 457		2002	3 NE
454		fill of ditch 457		2002	3 NE
455		fill of ditch 457		2002	3 NE
456		fill of ditch 457		2002	3 NE
457		ditch cut, contains 452, 453, 454, 455, 456	2?	2002	3 NE
458		fill of cut 459		2002	3 NE
459		cut, contains 458	2?	2002	3 NE
460		fill of cut 461		2002	3 NE
461		cut, contains 460	2?	2002	3 NE
462		fill of cut 463		2002	3 NE
463		cut, contains 462	2?	2002	3 NE
464		fill of cut 465		2002	3 NE
465	433,437,438	cut, contains 464	2?	2002	3 NE
466		fill of cut 467		2002	3 NE
467		cut, contains 466	2?	2002	3 NE
468		fill of cut 469		2002	3 NE
469		cut, contains 468	2?	2002	3 NE
470		not designated			3 NE
471		not designated			3 NE
472		not designated			3 NE
473		not designated			3 NE

Context	Part of	Description	Phase	Date	Area
474		not designated			3 NE
475		not designated			3 NE
476		not designated			3 NE
477		not designated			3 NE
478		not designated			3 NE
479		not designated			3 NE
480		fill of ditch 481		2002	3 NE
481		ditch cut, contains 480		2002	3 NE
482		fill of ditch 483		2002	3 NE
483		ditch, contains 482		2002	3 NE
484		fill of cut 485		2002	3 NE
485	398,435,440,491, 493	cut, contains 484	8	2002	3 NE
486		fill of cut 487		2002	3 NE
487	400,431	cut, contains 486	8	2002	3 NE
488		fill of cut 489		2002	3 NE
489		cut, contains 488		2002	3 NE
490		fill of cut 491		2002	3 NE
491	398,435,440,485, 493	cut, contains 490	8	2002	3 NE
492		fill of cut 493		2002	3 NE
493	398,435,440,485, 491	cut, contains 492	8	2002	3 NE
494		not designated		2002	
495		not designated		2002	
496		not designated		2002	
497		not designated		2002	

Context	Part of	Description	Phase	Date	Area
498		not designated		2002	
499		not designated		2002	
500		cut, contains 501	2?	2002	4
501		fill of cut 500		2002	4
502		cut, contains 503	2?	2002	4
503		fill of cut 502		2002	4
504		cut, contains 505	2?	2002	4
505		fill of cut 504		2002	4
506		cut, contains 507	2?	2002	4
507		fill of cut 506		2002	4
508		cut, contains 509	2?	2002	4
509		fill of cut 508		2002	4
510		cut, contains 511, 512	2?	2002	4
511		upper fill of cut 510		2002	4
512		lower fill of cut 510		2002	4
513		cut, contains 514	2?	2002	4
514		fill of cut 513		2002	4
515		cut, contains 516	2?	2002	4
516		fill of cut 515		2002	4
517		cut, contains 518	2?	2002	4
518		fill of cut 517		2002	4
519		cut, contains 520	2?	2002	4
520		fill of cut 519		2002	4
521		cut, contains 522	2?	2002	4
522		fill of cut 521		2002	4
523		not designated?	3?		

Context	Part of	Description	Phase	Date	Area
524		not designated?			
525		cut, contains 526, 527, 528		2002	4
526		upper fill of cut 525		2002	4
527		fill of cut 525		2002	4
528		fill of cut 525		2002	4
529		cut, contains 530	3?	2002	4
530		fill of cut 529		2002	4
531		natural gravel & sand deposit		2002	4
532		natural overburden deposit		2002	4
533		sub-circular pit/well, contains 534, 535, 536	9	2002	4
534		fill of pit/well 533		2002	4
535		topsoil fill within well 533		2002	4
536		upper fill of well 533		2002	4
537		pit, contains 537	1	2002	4
538		fill of 536		2002	4
539		small pit, contains 540	3?	2002	4
540		fill of pit 539		2002	4
541		small pit/posthole, contains 542	2?	2002	4
542		fill of pit/posthole 541		2002	4
543	549	S terminal of boundary ditch, contains 544, 545, 546, 547, 548	3?	2002	4
544		basal fill of terminal 543		2002	4
545		fill of terminal 543		2002	4
546		bank erosion of terminal 543		2002	4
547		bank erosion of terminal 543		2002	4
548		upper fill of terminal 543		2002	4

Context	Part of	Description	Phase	Date	Area
549	543	intervention into boundary ditch, contains 550, 551	3?	2002	4
550		basal fill of 549		2002	4
551		upper fill of 549		2002	4
552		posthole, contains 553	2?	2002	4
553		fill of posthole 552		2002	4
554		probable natural feature, contains 555	1	2002	4
555		fill of feature 554		2002	4
556	558	intervention into gully, contains 556	2?	2002	4
557		fill of gully 556		2002	4
558	556	intervention into gully, contains 559	2?	2002	4
559		fill of gully 558		2002	4
560		tree-throw hole, contains 561, 562, 563	1	2002	4
561		basal fill of tree-throw 560		2002	4
562		fill of tree-throw 560		2002	4
563		upper fill of tree-throw 560		2002	4
564		pocket feature in natural gravels, contains 565	3?	2002	4
565		fill of feature 564		2002	4
566		pocket feature in natural gravels, contains 567	1	2002	4
567		fill of feature 566		2002	4
568		two scoops containing burnt flint (569)	2?	2002	4
569		fill of feature/s 568		2002	4
570		linear scoop, contains 571	2?	2002	4
571		fill of feature 570		2002	4
572	576,579,581	enclosure ditch terminal, contains 573	2?	2002	4

Context	Part of	Description	Phase	Date	Area
573		fill of terminal 572		2002	4
574		natural? feature, contains 575	2?	2002	4
575		silt pocket within natural gravels		2002	4
576	572,579,581	intervention through linear ditch, contains 577, 578	2?	2002	4
577		basal fill of ditch 576		2002	4
578		upper fill of ditch 576		2002	4
579	572,576,581	intervention through linear ditch, contains 580	2?	2002	4
580		fill of ditch 579		2002	44
581	572,576,579	S terminal of enclosure ditch, contains 582	2?	2002	4
582		fill of ditch terminal 581		2002	4
583		probable tree-throw hole, contains 584		2002	4
584		fill of tree-throw 583		2002	4
585	587,589,591	ditch, contains 586	2?	2002	4
586		fill of ditch 585		2002	4
587	585,589,591	ditch, contains 588	2?	2002	4
588		fill of ditch 587		2002	4
589	585,587,591	ditch, contains 590	2?	2002	4
590		fill of ditch 589		2002	4
591	585,587,589	intervention through ditch, contains 592	2?	2002	4
592		fill of ditch 591		2002	4
593		terminal of ditch, contains 594		2002	4
594		fill of ditch 593		2002	4

Table 19. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000). context list

Appendix A4. Area 4(north) and Area 5 Watching Brief AOC (2002)

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1000	Topsoil	Site	Site	>0.20m	Flint, burnt flint	-	-	-	-	None
1001	Natural gravel	Site	Site	N.F.E	None	Digital	-	-	-	None
1002	Pit fill	0.51m	0.51m	0.20m	Bone, burnt bone	Digital	-	1	-	CS, BW
1003	Pmed pit	0.51m	0.51m	0.20m	N/A	Digital	-	1	-	CS, BW
1004	Ditch fill	1.20m+	0.50m	0.10m	None	Digital	-	2	-	CS, BW
1005	Ditch fill	1.2m+	1.30m	0.28m	Burnt flint	Digital	-	2	-	CS, BW
1006	Pmed ditch	30.0m+	1.30m	0.38m	N/A	Digital	-	2	-	CS, BW
1007	Posthole fill	<0.60m	<0.60m	?	None	Digital	-	-	-	No
1008	Modern posthole	<0.60m	<0.60m	?	N/A	Digital	-	-	-	No
1009	Pit fill	0.40m	0.40m	?	None	Digital	-	-	-	No
1010	Modern pit	0.40m	0.40m	?	N/A	Digital	-	-	-	No
1011	Ditch fill	1.5m+	0.36m	0.12m	Pot, flint, burnt flint	Digital	-	-	-	No
1012	Pmed ditch	6.0m+	0.36m	0.12	N/A	Digital	-	-	-	No
1013	Tree throw fill	2.95m	1.02m	0.50m	Flint, burnt flint	Digital	-	5	-	CS, BW
1014	Tree throw	2.95m	1.02m	0.50m	N/A	Digital	-	5	-	CS, BW
1015	Pit fill	0.73m	0.62m	0.15m	None	Digital	-	1016 (sketch)	-	No
1016	Pit	0.73m	0.62m	0.15m	N/A	Digital	-	1016 (sketch)	-	No
1017	Pit fill	0.72m	0.56m	0.21m	Flint	Digital	-	6	-	CS, BW
1018	Pit	0.72m	0.56m	0.21m	N/A	Digital	-	6	-	CS, BW
1019	Ditch fill	1.50m+	0.64m	0.34m	Flint, burnt flint	Digital	-	3	-	CS, BW
1020	Pmed ditch	30.0m+	0.65m	0.34m	N/A	Digital	-	3	-	CS, BW

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1021	Ditch fill	1.50m+	0.65m	0.26m	None	Digital	-	3	-	CS, BW
1022	Pmed ditch	30.0m+	0.65m	0.26m	N/A	Digital	-	3	-	CS, BW
1023	Ditch fill	1.50m+	0.65m	0.16m	None	Digital	-	4	-	CS, BW
1024	Ditch	15.0m+	0.65m	0.16m	N/A	Digital	-	4	-	CS, BW
1025	Tree throw	3.0m	3.0m	?	None	Digital	-	-	-	No
1026	Pit fill	0.80m	0.60m	0.16m	None	Digital	-	1027 (sketch)	-	No
1027	Pit	0.80m	0.60m	0.16m	N/A	Digital	-	1027 (sketch)	-	No
1028	Pit fill	0.85m	0.85m	0.13m	Flint	Digital	-	7	-	No
1029	Pit	0.85m	0.85m	0.13m	N/A	Digital	-	7	-	No
1030	Modern pit	-	-	?	None	Digital	-	-	-	No
1031	Modern pit	-	-	?	None	Digital	-	-	-	No
1032	Tree throw	2.86m	2.86m	?	None	Digital	-	-	-	No
1033	Tree throw	2.45m	2.45m	?	None	Digital	-	-	-	No
1034	Tree throw	1.95m	1.95m	?	None	Digital	-	-	-	No
1035	Tree throw	2.32m	2.32m	?	None	Digital	-	-	-	No
1036	Tree throw	1.88m	1.88m	?	None	Digital	-	-	-	No
1037	Pit fill	0.90m	0.80m	0.24m	Burnt flint	Digital	-	9	-	CS, BW
1038	Pit	0.90m	0.80m	0.24m	N/A	Digital	-	9	-	CS, BW
1039	Tree throw fill	3.50m	0.95m	0.62m	Pot, flint, burnt flint	Digital	-	8	-	CS, BW
1040	Tree throw	3.50m	0.95m	0.62m	N/A	Digital	-	8	-	CS, BW
1041	Ditch fill	1.50m+	0.72m	0.10m	Pot, flint, burnt flint	Digital	-	10	-	CS, BW
1042	Prehistoric Ditch	10m+	0.72m	0.10m		Digital	-	10	-	CS, BW
1043	Tree throw	3.37m	3.37m	?	None	Digital	-	-	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1044	Tree throw fill	4.22m	0.98m	0.41m	Flint, burnt flint	Digital	-	37	-	No
1045	Tree throw	4.22m	0.98m	0.41m	N/A	Digital	-	37	-	No
1046	Pit fill	0.90m	0.90m	0.33m	Flint	Digital	-	18	-	No
1047	Pit	0.90m	0.90m	0.33m	N/A	Digital	-	18	-	No
1048	Ditch fill	1.25m+	1.03m	0.32m	None	Digital	-	38	-	CS, BW
1049	Ditch fill	10.0m+	1.03m	0.32m	N/A	Digital	-	38	-	CS, BW
1050	Ditch fill	1.0m+	0.92m	0.25m	Burnt flint	Digital	-	11	-	CS, BW
1051	Ditch	45.0m+	0.30-1.20m	0.25m	N/A	Digital	-	11, 12, 13	-	CS, BW
1052	Ditch fill	1.0m+	0.63m	0.20m	Pot, flint, burnt flint	Digital	-	12	-	No
1053	Ditch fill	1.0m+	0.73m	0.16m	Burnt flint	Digital	-	13	-	No
1054	Ditch fill	1.50m+	0.35m	0.10m	None	Digital	-	1055 (sketch)	-	No
1055	Ditch	17.0m+	0.25-0.40m	0.17m	N/A	Digital	-	1055 (sketch)	-	CS, BW
1056	Ditch fill	1.0m+	0.50m	0.17m	None	Digital	-	14	-	CS, BW
1057	Tree throw fill	2.20m	0.72m	0.40m	None	Digital	-	15	-	No
1058	Tree throw	2.20m	0.72m	0.40m	N/A	Digital	-	15	-	No
1059	Pit fill	0.90m	0.58m	0.12m	Flint	Digital	-	19	-	No
1060	Pit	0.90m	0.58m	0.12m	N/A	Digital	-	19	-	No
1061	Tree throw	2.50m	2.50m	?	None	Digital	-	-	-	No
1062	Tree throw	2.55	2.20	?	None	Digital	-	-	-	No
1063	Ditch fill	1.5m+	1.23m	?	CBM	Digital	-	-	-	No
1064	Pmed ditch	11.0m	1.23m	?	N/A	Digital	-	-	-	No
1065	Ditch fill	1.0m+	0.85m	0.17m	None	Digital	-	27	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1066	WWII cable trench	92.0m+	0.15m	?	None	Digital	-	-	-	No
1067	Ditch fill	1.50m+	0.78m	0.35m	CBM	Digital	-	33	-	CS, BW
1068	Pmed ditch	95.0m+	0.78m	0.35m	N/A	Digital	-	33	-	CS, BW
1069	Ditch fill	1.50m+	1.30m	0.45m	Pot	Digital	-	17	-	No
1070	Pmed ditch	45.0m	1.30m	0.45m	N/A	Digital	-	17	-	No
1071	Pit fill	3.60m	1.80m+	0.36m	Pot, flint, burnt flint	Digital	-	46, 52	-	CS, BW
1072	Pit	4.20m	2.75m+	0.67m	N/A	Digital	-	46, 52	-	CS, BW
1073	Ditch fill	5.0m+	0.73m	0.14m	None	Digital	-	21	-	No
1074	Ditch	10.0m+	0.73m	0.14m	N/A	Digital	-	21	-	No
1075	Tree throw	4.15m	4.15m	?	None	Digital	-	-	-	CS, BW
1076	Tree throw	2.68m	2.68m	?	None	Digital	-	-	-	No
1077	Tree throw	3.35m	3.35m	?	None	Digital	-	-	-	No
1078	Tree throw	2.76m	2.76m	?	None	Digital	-	-	-	No
1079	Tree throw fill	2.28m	0.73m	0.40m	Flint, burnt flint	Digital	-	40	-	No
1080	Tree throw	2.28m	2.28m	0.40m	N/A	Digital	-	40	-	No
1081	Pit fill	2.70m	2.70m	0.48m	Pot, flint, burnt flint	Digital	-	30	-	CS, BW
1082	Pit	3.20m	3.20m	0.71m	N/A	Digital	-	30	-	CS, BW
1083	Ditch fill	2.20m+	0.89m	0.17m	None	Digital	-	34	-	CS, BW
1084	Pmed ditch	94.0m+	0.89m	0.17m	N/A	Digital	-	35, 36	-	CS, BW
1085	Ditch fill	1.0m+	0.60m	0.08m	None	Digital	-	31	-	CS, BW
1086	Pmed ditch	71.0m+	1.20m	0.28m	N/A	Digital	-	31, 42	-	CS, BW
1087	Ditch fill	1.50m+	0.70m	0.16m	Pot, flint	Digital	-	16	-	No
1088	Ditch	15.0m	0.70m	0.16m	N/A	Digital	-	16	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1089	Ditch fill	1.0m+	0.50m	0.17m	None	Digital	-	20	-	No
1090	Ditch	3.0m+	0.50m	0.17m	N/A	Digital	-	20	-	No
1091	?stakehole fills	0.11m	0.11m	0.09m	None	Digital	-	-	-	No
1092	?stakeholes	0.11m	0.11m	0.09m	N/A	Digital	-	-	-	No
1093	Ditch fill	12.0m+	0.58m	0.16m	Flint	Digital	-	22	-	No
1094	Ditch	40.0m+	0.58m	0.16m	N/A	Digital	-	22, 27	-	No
1095	Ditch fill	1.0m+	0.69m	0.20m	None	Digital	-	23	-	No
1096	Pmed ditch	156.0m+	0.69m	0.20m	N/A	Digital	-	23	-	No
1097	Ditch fill	1.50m+	0.50m	0.10m	None	Digital	-	24	-	No
1098	Ditch	4.0m+	0.50m	0.10m	N/A	Digital	-	24	-	No
1099	Ditch fill	2.0m+	0.62m	0.18m	Flint	Digital	-	25	-	CS, BW
1100	Ditch	18.0m	0.62m	0.18m	N/A	Digital	-	25, 32	-	CS, BW
1101	Modern pit	3.82m	3.82m	?	None collected	Digital	-	-	-	No
1102	Tree throw fill	2.10m	0.85m	0.30m	Flint	Digital	-	1103 (sketch)	-	No
1103	Tree throw	2.10m	2.10m	0.30m	N/A	Digital	-	1103 (sketch)	-	No
1104	Tree throw fill	4.0m	1.37m	0.33m	Pot, flint	Digital	-	26	-	No
1105	Tree throw fill	4.0m	0.57m	0.37m	None	Digital	-	26	-	No
1106	Tree throw	4.0m	1.37m	0.70m	N/A	Digital	-	26	-	No
1107	Tree throw fill	2.30m	1.20m	0.45m	Flint	Digital	-	-	-	No
1108	Tree throw	2.30m	1.20m	0.45m	N/A	Digital	-	-	-	No
1109	Tree throw fill	4.0m	4.0m	0.40m	Flint	Digital	-	-	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1110	Tree throw	4.0m	4.0m	0.40m	N/A	Digital	-	-	-	No
1111	PH/pit fill	0.57m	0.57m	0.14m	None	Digital	-	28	-	CS, BW
1112	PH/pit	0.57m	0.57m	0.14m	N/A	Digital	-	28	-	CS, BW
1113	Ditch fill	1.30m+	1.21m	0.29m	Pot	Digital	-	29	-	CS, BW
1114	Pmed ditch	35.0m	1.21m	0.29m	N/A	Digital	-	29	-	CS, BW
1115	Pit fill	1.60m	1.60m	0.35m	Pot, flint, burnt flint	Digital	-	30	-	CS, BW
1116	Pit fill	1.50m	1.50m	0.30m	Pot, shale bracelet frag.	Digital	-	30	-	CS, BW
1117	Ditch fill	1.20m+	1.0m	0.28m	Flint, burnt flint	Digital	-	31	-	CS, BW
1118	Ditch fill	2.0m+	0.62m	0.18m	None	Digital	-	32	-	CS, BW
1119	Ditch fill	1.40m+	0.85m	0.20m	Flint	Digital	-	34	-	No
1120	Ditch	22.0m	0.85m	0.20m	N/A	Digital	-	34, 51	-	No
1121	Ditch fill	1.75m+	0.98m	0.24m	None	Digital	-	36	-	CS, BW
1122	Ditch	115.0m+	1.03m	0.32m	N/A	Digital	-	38, 39	-	CS, BW
1123	Ditch fill	1.60m+	1.30m	0.20m	None	Digital	-	42	-	No
1124	Pit fill	0.77m	0.77m	0.23m	Burnt flint	Digital	-	41	-	No
1125	Pit	0.77m	0.77m	0.23m	N/A	Digital	-	41	-	No
1126	Tree throw fill	1.35m	0.85m	0.32m	Flint, burnt flint	Digital	-	43	-	No
1127	Tree throw	1.35m	1.35m	0.32m	N/A	Digital	-	43	-	No
1128	Burnt hollow fill	0.76m	0.74m	0.07m	None	Digital	-	44	-	No
1129	Burnt hollow	0.76m	0.74m	0.07m	N/A	Digital	-	44	-	No
1130	Ditch fill	1.20m+	1.05m	0.28m	Flint	Digital	-	45	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1131	Burnt hollow fill	0.79m	0.62m	0.10m	Burnt flint	Digital	-	47	-	CS, BW
1132	Burnt hollow	0.79m	0.62m	0.10m	N/A	Digital	-	47	-	CS, BW
1133	Tree throw fill	2.09m	0.64m	0.25m	None	Digital	-	-	-	No
1134	Tree throw	2.09m	0.64m	0.25m	N/A	Digital	-	-	-	No
1135	Pit fill	0.92m	0.74m	0.36m	Burnt flint	Digital	-	48	-	No
1136	Pit	0.92m	0.74m	0.36m	N/A	Digital	-	48	-	No
1137	Ditch fill	1.20m+	1.15m	0.33m	None	Digital	-	49	-	CW, BW
1138	Ditch fill	10m	1.15m	0.40m	Flint	Digital	-	50	-	No
1139	Ditch	10m	1.15m	0.40m	N/A	Digital	-	50	-	No
1140	WWII trench fill	30.0m+	2.0m	?	Pot	Digital	-	-	-	No
1141	WWII trench	30.0m+	2.0m	?	N/A	Digital	-	-	-	No
1142	Modern ditch	6.0m+	1.40m	?	None collected	Digital	-	-	-	No
1143	Modern ditch	1.0m+	0.80m+	?	None collected	Digital	-	-	-	No
1144	Ditch fill	6.0m+	2.0m+	?	None collected	Digital	-	-	-	No
1145	Modern/ pmed ditch	6.0m+	2.0m+	?	N/A	Digital	-	-	-	No
1146	Ditch fill	30.0m+	0.70m	?	Pot	Digital	-	-	-	No
1147	Ditch	30.0m+	0.70m	?	N/A	Digital	-	-	-	No
1148	Findspot	-	-	-	Pot	-	-	-	-	No
1149	Tree throw	3.0m	3.0m	?	None	Digital	-	-	-	No

NUMBER	CONTEXT	LENGTH	WIDTH	DEPTH	FINDS	PLANS	S. CONT. PLANS	SECTIONS	OTHER DRAWINGS	PHOTOS
1150	Tree throw	2.48m	2.48m	?	None	Digital	-	-	-	No
1151	Tree throw	3.70m	3.70m	?	None	Digital	-	-	-	No
1152	Ditch fill	1.40m+	0.85m	0.20m	Pot, flint	Digital	-	51	-	No
1153	Pit fill	1.10m+	1.10m+	0.14m	None	Digital	-	52	-	CS, BW
1154	Pit fill	1.10m	1.10m	0.35m	Flint	Digital	-	52	-	CS, BW
1155	Pit fill	0.60m	0.60m	0.40m	None	Digital	-	52	-	CS, BW
1156	Pit fill	1.50m	1.50m	0.20m	None	Digital	-	52	-	CS, BW
1157	Pit fill	2.70m	2.70m	0.35m	Burnt flint	Digital	-	52	-	CS, BW
1158	Tree throw fill	2.60m	1.47m	0.30m	Flint, burnt flint	Digital	-	53	-	No
1159	Tree throw fill	2.60m	0.71m	0.25m	None	Digital	-	53	-	No
1160	Tree throw	2.60m	0.71m	0.42	N/A	Digital	-	53	-	No
1161	Ditch fill	1.30m	1.15m	0.28m	Flint	Digital	-	54	-	No
1162	Ditch	115.0m+	1.15m	0.28m	N/A	Digital	-	54	-	No
1163	Ditch fill	1.30m	1.30m	0.29m	Flint	Digital	-	55	-	No

Table 20. Area 4(north) and Area 5 Watching Brief AOC (2002). context list

Appendix A5. Area 6 Monitor and Record AS (2006)

No significant remains found.

Appendix A6. Area 7 Monitor and Record by AS (2007)

Parallel Linear ditches F2007 and F2010, prehistoric pits F2020, F2005 and F2030, and Furrow F2014, F2016, F2033. Details in archive

Appendix A7. Area 8 Monitor and Record by AS (2008)

Details in archive

Appendix A8. Area 9 Monitor and Record by AS (2008)

Details in archive

Appendix A9. Area 10 Monitor and Record by OA East (2010)

Details in archive

Appendix B: The Finds

Appendix B1: The Pottery (presented by site, in chronological order)

B1.1 Total Site Survey by Passmore Edwards Museum (1988)

B1.1.1 Prehistoric Pottery by Dan Swift (2004)

Summary/Introduction

A total 758 sherds, weighing 6503g of prehistoric pottery was recovered from the initial total site survey in 1988. All of the prehistoric pottery from the site was assessed. The site assemblage was recorded according to the guidelines set out by the Prehistoric Ceramics Research Group (PCRG 1995). The sherds were examined with x20 binocular microscope and recorded by fabric form and decoration where appropriate. All of the sites in the East London Gravels project have been recorded using a single type series that has been created during the assessment phase of the project. This type series can be found in the global assessment for prehistoric pottery. The pottery was also quantified by sherd count and weight.

Fabrics

It is of note that 84% of the assemblage by weight, and 74% by sherd count, contains varying quantities of flint-tempered fabrics. Brown feels that 'Late Bronze Age assemblages tend to be dominated by flint-tempered fabrics, Early Iron Age pottery showing a much more diverse range of fabrics...' (1995i, 30). It is interesting that FLIN8 and FLIN8B fabrics, which both have common to very common flint temper, make up 21% of the assemblage by weight, as these fabrics are associated with Late Bronze Age forms and traits in the East London Gravels project. The relatively small proportion of FLIN8 and FLIN8B by sherd count (7%) is most likely to be because some of the sherds have been reconstructed, and therefore recorded as one sherd.

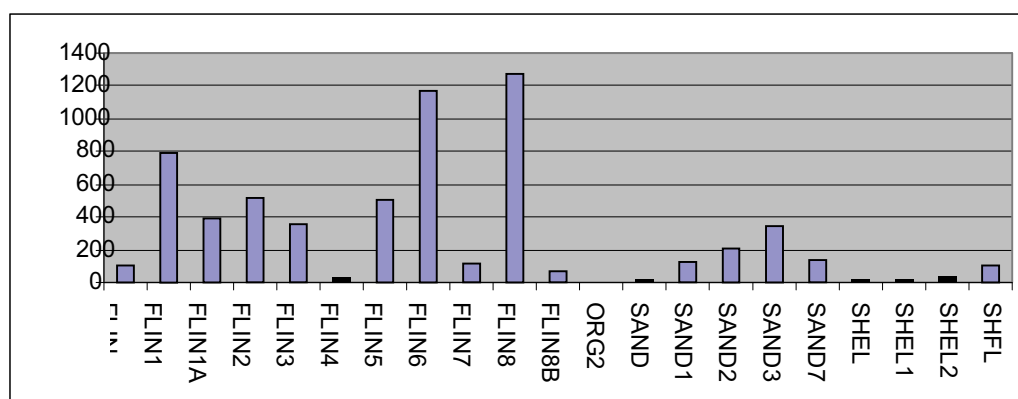


Table 21: Total Site Survey by Passmore Edwards Museum (1988). The prehistoric pottery quantification by weight

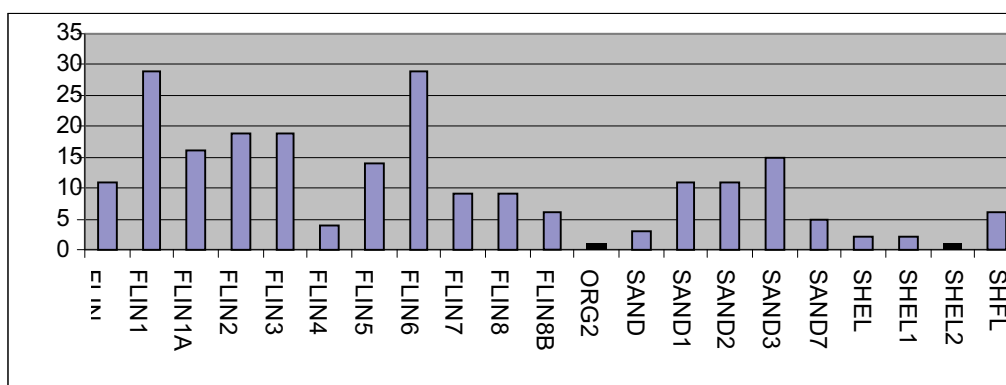


Table 22: Total Site Survey by Passmore Edwards Museum (1988). The prehistoric pottery quantification by sherd count

The relatively small amount of shell-tempered sherds (2% by weight and 5% by sherd count) is a contrast to the data from Uphall Camp, where shell-tempered sherds dominate the assemblage. Of course, as the prehistoric pottery from Uphall Camp has only been sampled, this dominance may well change when the entire site assemblage has been assessed.

Forms

There is just one possible piece of Neolithic pottery in the assemblage, a Peterborough Ware rim in context 96, although at only 3g, it is too small to be sure of the sub-style of Peterborough Ware. Although not in noticeably worse condition than the other sherds in the context, it is a residual sherd in a Late Bronze Age context and it is at best indicative of a 'background' Late Neolithic activity.

There are eleven vessels in this assemblage with flint-gritted bases, a trait traditionally associated with Late Bronze Age coarseware jars. However, amongst these coarseware sherds, there is an interesting biconical bowl made in SAND3 from 211 which has light but deliberate fine flint-gritting on the outer edges of the base.

Context 3 contains a carinated coarseware jar with a neat row of stabbed lines on the shoulder, however, as the rim and body does not survive the form is not paralleled. Also in this context and in 94 are coarseware jar sherds with slashed decoration on the shoulder. Another decorative feature is fingertip impressions, which are found on eleven coarseware sherds. Fingertip decoration tends to be above the shoulders on the coarseware jars, a trait paralleled at North Shoebury in both the Late Bronze Age and Early Iron Age assemblages (Brown 1995ii). As at other sites in the East London Gravels project, context 3 contains a couple of coarseware jar sherds with cabled rims: here they appear in Early Iron Age contexts, as they also do at Great Sunnings Farm.

Ten percent of the sherds (by sherd count) are fine ware vessels. There are three examples of Early Iron Age Darmsden-Linton style tripartite bowls with grooves on the shoulder found in context 3, as well as three examples in context 94. These can be paralleled at Beacon Green (Brown 1992). There are also carinated bowl sherds in 3, 94, 129 and 149 which may also belong to tripartite fine ware bowls.

Discussion

This is a relatively small assemblage and although the site has not been sub-grouped at the time of writing, there are certain features which can be assigned a date from the pottery. The earliest features are context 120, a well, and context 20, 84 and 95, all ditches, all date to the Late Bronze Age. context 50, a ditch, appears to have phases from Late Bronze age through to the Early Iron Age, but the bulk of the contexts appear to be Early Iron Age. Two contexts are Late Bronze Age/Early Iron Age Transition: context 1 (sealing layer of ploughsoil) and 155, and there are two Early Iron Age ditches, context 94 and 140.

This site assemblage is almost exclusively Late Bronze Age and Early Iron Age pottery. There are a number of Late Bronze Age coarseware jars, which can be classified as Barrett Class i (Barrett 1980, 303), which would be in keeping with a domestic assemblage. Of interest as a group is the Darmsden-Linton style bowls that are paralleled to Beacon Green (Brown 1992), and are common in Early Iron Age sites in central Essex such as Rook Hall Farm (Adkins *et al.* 1984-5) and Lofts Farm (Brown 1988) as well as more widely in the Lower Thames area. However, such vessels are almost absent at North Shoebury (Brown 1995ii, 87).

The pottery will add to understanding of local/regional ceramic traditions in the LBA/EIA period(s).

B1.1.2 Late Iron Age and Roman pottery by Joyce Compton

Introduction/Methodology

Late Iron Age and Roman pottery was recovered from twenty-one contexts and was recorded without recourse to context information. The pottery was recorded by fabric and form onto Museum of London pottery *pro forma* sheets adapted for the project. The fabrics were recorded using the ECC FAU fabric series, and forms recorded using the type series devised for Chelmsford (Going 1987, 13-54) and that for *Camulodunum* (Hawkes and Hull 1947, 215-75). Reference was also made to the Southwark type series (Marsh and Tyers 1978) where appropriate. Once recording was completed, the data were entered onto an 'embedded' spreadsheet supplied by the Museum of London.

Pottery factual data

The assemblage comprises 171 sherds, weighing a total of 2027g. Only four contexts contained more than ten sherds each, and there is only one medium-sized group of 43 sherds. Consequently, dating information is poor and close dating has been provided for just seven contexts. These are all early Roman in character. There are no later Roman fabrics or forms present in the assemblage. The assemblage is too small to warrant any further work and does not have great potential other than to add to the corpus of LIA/Roman pottery from this area.

B1.1.3 Medieval Pottery (c. 400-1500) by Lyn Blackmore

Methodology

Sherds were examined macroscopically and using a binocular microscope (x 20) where appropriate, and recorded on paper and computer using standard Museum of London codes for fabrics, forms and decoration. The numerical data comprises sherd count, estimated number of vessels and weight.

Fabrics

Thirty sherds, weighing 221g (representing 23 individual vessels) were recovered which comprise a range of medieval and later medieval red wares. Most are from Mill Green, although some contain sands that are more typical of Harlow. Where the source could not be determined the sherds were recorded as

medieval oxidised wares. Also present is a small sherd of 12th- or 13th-century London-type ware and one or two sherds of late London ware (one of these could be a sandier Mill Green ware).

Given the longevity of the shell-tempered tradition in Essex, and the similarity of Roman fabric ESH to them medieval fabrics (EMSHX/SESH), it is very hard to be certain of period attributions where only body sherds are concerned. A sherd from G46 is probably Roman or earlier, but could be of post-Roman date.

Forms

Most sherds cannot be assigned to a specific form type, but the glazed and slip-decorated pieces are from jugs, while a few cooking pot/jar rims were also found (DD1, DD206, J114, S92). The latter are of standard necked and everted form and typical for the Essex industries. A dish or skillet rim from D1/204 could be from London or Mill Green (H Walker *pers. comm.*).

Discussion

Medieval to late medieval pottery was found in 1 (DD, EE), D1/204, A79 (clay-lined pit), S92, A101, J114, S115 (ditch cut) and DD204. It comprises general domestic rubbish and mainly dates to the 13th century or later. The finds from trenches J, S and DD (current total 28 sherds, including all the rims) are related to a building, while the finds from trench A are from the area of the windmill. In addition there is one possible 12th-century sherd from G46. It is not possible to say more as there is currently no information on the stratigraphic relationship of the contexts.

The medieval pottery has limited potential for analysis. The bulk of it can be related to a small-scale settlement, but the number of sherds is so limited that it will be difficult to say more than what has already been stated. None of the pottery merits illustration: the rims are small and the profiles are quite typical.

B1.1.4 Post-medieval pottery (c. 1500-1900) by Lyn Blackmore

Methodology

No post-Roman pottery was noted on the original bulk finds or spot date records for this site, and so it was difficult to be sure that all had been located. The pottery was packed in boxes marked as being from prehistoric and from Roman features. The former were not examined, but the latter were scanned together with boxes containing finds from a range of contexts, and a number of post-Roman sherds were found. These were examined macroscopically and using a binocular microscope (x 20) where appropriate, and recorded on paper and computer using standard Museum of London codes for fabrics, forms and decoration. The numerical data comprises sherd count, estimated number of vessels and weight.

Fabrics

A total of ten sherds, weighing 307g (representing 9 individual vessels) comprise post-medieval redwares and a 19th-century transfer-printed ware. The former includes sherds that are probably of later 15th-century date and part of the transition from medieval to later forms. Some could be from Harlow, but it is not possible to be specific and so they were coded as fabric PMRE.

Forms

The most diagnostic forms comprise the ladle handle from a pipkin (DD1) and a jar rim from DD204. In addition there are a few sherds of flowerpot and 19th-century transfer-printed tableware.

Discussion

At present there is little information on the nature or relationship of the contexts, but the finds from DD are related to a building. Post-medieval redwares were found in contexts C1, DD1, M1 and DD204; 19th-century pottery was found in F21 and Q87; there is also one unstratified 19th-century sherd.

The post-medieval pottery has limited potential for analysis. The bulk of it can be related to a small-scale settlement, but the number of sherds is so limited that it will be difficult to say more than what has already been stated. None of the pottery merits illustration: the rims are small and the profiles are quite typical.

B1.2 Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002)

B1.2.1 Prehistoric Pottery by N. J. Lavender

Introduction and Methodology

The excavation produced a small assemblage (430 sherds, 4103g) of prehistoric pottery from 33 contexts. This has been recorded according to a system devised for prehistoric pottery in Essex (Brown 1988. Details in archive) with subsequent reference to the guidelines outlined by the Prehistoric Ceramics Research Group (PCRG 1992; revised 1997; 1992). The pottery was recorded by fabric, class (after Barrett 1980), form, decoration, surface treatment and condition. The assemblage was quantified by sherd count and weight.

Fabric	Description	Sherd	Weight	%sherd	%weight
A	Flint, S 2 well sorted.	4	36	1	1
B	Flint, S-M 2.	17	83	4	2
C	Flint, S-M with occasional L 2.	212	2891	49	70.5
D	Flint, S-L 2 poorly sorted.	31	155	7	4
E	Flint and sand, S-M 2.	31	174	7	4
F	Sand, S-M 2-3 with addition of occasional L flint.	4	25	1	0.5
H	Sand, S 2.	2	12	0.5	0.5
I	Sand, S-M 2-3.	29	97	7	2
J	Sand with veg. Voids particularly on surface.	24	114	5.5	3
M	Grog, often with some sand or flint and occasional small rounded or sub-angular voids.	10	66	2.5	1.5
R	Shell, M-L 2, soft fabric.	50	306	12	7.5
Z	Unclassifiable.	2	2	0.5	<0.1
Z1	Shell and flint.	14	142	3	3.5
Total		430	4103	100	100

Table 23. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): The prehistoric pottery quantified by fabric

Where: *Size of inclusions*: S = less than 1mm diameter, M = 1-2mm diameter, L = more than 2mm diameter. *Density of inclusions*: 1 = less than 6 per cm², 2 = 6-10 per cm², 3 = more than 10 per cm².

The assemblage is mainly composed of flint-tempered fabrics (58% by sherd count, 81% by weight), with sand-tempered pottery making up only 14% of the total sherd count (6% by weight). On the whole the material is relatively unabraded and sherds are large (average sherd size 9.5g).

Area 2 produced only 14 sherds of undiagnostic pottery, which can only be dated to the 'prehistoric period' generally, apart from two sherds of fabric H, from context 30 (posthole 29), which suggest a date in the Early to Middle Iron Age.

Most of the pottery came from Area 3 (south) (54.5% by sherd count, 34% by weight) and Area 4 (36% by sherd count, 60% by weight). These relative percentages are affected by the large number of small sherds in context 108 (pit 107, Area 3 (south)) and the relatively small number of large sherds from the fills of cut 525 (Area 4). These two features between them produced more than 50% of the site assemblage.

Diagnostic material is quite common and includes a distinctive shoulder sherd from a Form K tripartite bowl, decorated with shallow grooves above and below the carination (context 108) round and angular shouldered

jars with short upright rims (Forms A and F) and a shallow cup with an omphalos base and overall scored decoration on the exterior (context 108). One small jar has at least one vertical and one horizontal line of impressed dots.

These traits indicate a date in the Early Iron Age. The angular tripartite vessels of Forms F and K in particular are typical of Cunliffe's (1968) Darmsden-Linton style of pottery. The assemblage can be paralleled at a number of sites in Essex, particularly Orsett (Barrett 1978) and North Shoebury (Brown 1995), where they have been dated to the 4th to 5th centuries BC. At Marks Warren Quarry a slightly later date may be suggested by the presence of a small quantity of sand-tempered pottery. Sand-tempered fabrics are generally associated with the Middle Iron Age in Essex (Drury 1975), but appear earlier towards the south of the county as is demonstrated by the sherd from a fabric F tripartite bowl and fabric I jar from context 108. The very small quantity of sand-tempered material would suggest that occupation probably did not extend into the Middle Iron Age.

All of the materials used for the production of this assemblage would have been available locally, except, perhaps, for the shell in fabrics R and Z1. However, this could certainly have been acquired a reasonably short distance away, either as raw materials or complete pots.

Shell-tempered pottery makes up only 15% of the assemblage (11% by weight) and this relatively small quantity offers further evidence for how the fabric becomes less common even quite a short distance from the Thames. It is common at Thurrock (Potter 1974 and North Shoebury (Brown 1995), but completely absent at Orsett (Barrett 1978). This may suggest that production was very localised and that trade in pottery was uncommon even over short distances.

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Context Number	Fabric	Sherd No	Sherd Weight	Comments
6	E	1	10	
10	C	6	16	
30	H	2	12	
108	C	16	421	Fine Form F tripartite jar. EIA
108	C	1	18	Coarse Form A(?) jar. Rounded rim, EIA.
108	F	1	14	Fine Form K tripartite bowl. Single shoulder sherd decorated with shallow grooves above and below carination. EIA
108	C	63	200	Fragments of several vessels, some with angular shoulders. EIA
108	E	20	114	Shallow cup with scored exterior, rounded rim and omphalos base.
108	I	29	97	Small round-shouldered jar with rounded, slightly everted rim and flat base. Widely separated vertical and horizontal rows of impressed dots.
108	E	7	12	
108	A	2	12	Rim of fine jar.
110	B	12	60	
120	C	1	4	
202	C	5	25	
202	J	2	9	Burnt
202	M	1	2	
203	M	2	14	Burnt
205	J	3	15	
241	J	5	9	
247	J	1	4	
288	J	13	77	Coarse jar. Very flat finger impressed cordon on shoulder. Flat-topped, everted rim. EIA
288	R	37	242	Fine Form A jar with externally thickened rim and flat base. EIA
295	M	1	2	

Context Number	Fabric	Sherd No	Sherd Weight	Comments
340	R	11	49	Coarse jar. Rounded, everted rim. EIA?
378	E	1	21	Coarse Form A(?) jar. Rounded rim. over 300mm diameter
403	C	2	29	
308	Z	1	1	
411	E	1	12	
413	D	10	24	
428	R	2	15	Burnt?
428	Z	1	1	
526	B	1	16	
526	C	23	126	
526	E	1	5	
527	C	53	1767	Flat topped rim and flat base of large jar. Rim diameter unknown, base diameter 180mm. EIA
528	C	1	16	Rim sherd. Same vessel as above
530	C	7	22	
530	C	18	98	
540	Z1	14	142	Rounded rim
540	M	6	48	
548	D	2	30	
551	C	15	132	Odd sherds from several vessels, including a pedestal base. E-MIA
564	D	14	58	
5007	C	1	17	
5007	A	1	10	
32C	D	5	43	
U/S	A	1	14	
U/S	B	4	7	
		430	4103	

Table 24. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002). Prehistoric pottery catalogue

B1.2.2 Roman Pottery by Joyce Compton

Introduction

A total of 165 sherds of Roman pottery, weighing 1234g, were recorded by count and weight, in grams, by context. The details, by context, were entered onto standard paper *pro formas*, and an Excel spreadsheet, both of which form part of the archive.

Pottery from just four contexts was recorded, and very little can be deduced or inferred from the results. A small rim sherd in sandy grey ware was recovered unstratified in 2001. The sherd cannot be closely dated within the Roman period. A single vessel was recorded in the fill (103) of a linear feature (104) excavated within Test pit 1 in Area 3, comprising a sandy grey ware G24 jar (Going 1987, fig.10). The entire rim circuit is present and numerous body sherds, but no base sherds were apparent.

A large section from a second G24 jar, also in sandy grey ware, friable and with brown surfaces, was recovered from fill 328 (of ditch 326 – although the context number is unclear and could be 32B, the fill of ditch 31). Rim, base and body sherds were recorded, but not all of the vessel is present. G24 jars are long-lived, with the form developing early in the 2nd century and current into the 4th (Going 1987, 25).

Two small sherds were recovered from Test pit 6 (5002), the first is a small rim sherd in grog-tempered ware, the second a body sherd in coarse oxidised ware. Neither sherd is closely datable within the Roman period, although grog-tempered ware was current from the mid 1st century BC into the AD70s.

It is notable that, with the exception of three small sherds, the assemblage comprises just two vessels. It could be inferred that each jar had originally been buried complete, especially that from 103 in Test pit 1, although further context information would be necessary to be able to confirm this hypothesis.

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Context	Feature	Count	Weight	Pottery date	Fabric code	Count	Weight
u/s		1	2	Roman	GRS	1	2
TP1 Area 3	Cut 103 No 104)	120	900	2nd to 4th C	GRS	120	900
328/32B	Area 3 (?)	42	326	2nd to 4th C	GRS	42	326
5002	TP6 Area 4	2	6	Roman	GROG	1	2
5002					RED	1	4
Total		165	1234			165	1234

Table 25. Areas 2, 3 and 4 (south) watching briefs by JSAC (2000-2002): Roman pottery catalogue

B1.2.3 Medieval Pottery by Helen Walker

Introduction

A modest assemblage of 291 sherds, weighing 5kg, was excavated from forty-one contexts. Much of the pottery is fragmented and abraded indicating high residuality. Medieval fine wares, used at table and for display, comprise single examples of Hedingham ware and London-type ware and a larger quantity of Mill Green ware. The London-type ware, perhaps from a small carinated jug (cf. Pearce et al. 1985, pl. 4), is not unexpected as the site is only 20km from central London. Hedingham ware is however commonest in the northern half of the county and along the Essex coast, so here it is occurring to the south of the normal limits of distribution. The fragment of Hedingham ware shows traces of red slip-coating and splashes of glaze. Both the London-type ware and Hedingham ware are likely to date to the early to mid 13th century.

Mill Green fine ware is slightly later than Hedingham ware and London-type ware, dating from the mid 13th to 14th centuries. This ware was produced at Mill Green, near Ingatestone, some 19km to the north of Marks Warren Farm, although recently another, much closer, production site has been discovered at Noak Hill, only 7km to the NE of Marks Warren Farm (Meddens forthcoming). All the examples of Mill Green fine ware are from jugs, some showing slip-coating beneath a green-glaze, often accompanied by combed decoration, with one example, a rim sherd, showing slip-painted decoration. In addition, small quantities of sandy orange ware are present; this is a general category for oxidised sand-tempered fabrics. None of the sherds are diagnostic, although one sherd may be an example of medieval Harlow ware.

As is typical of medieval assemblages most of the pottery comprises coarse wares in which kitchen wares, especially cooking pots were produced. Examples of shell-tempered ware are particularly common, with smaller quantities of shell-and-sand-tempered ware. Vessel forms in shell tempered wares comprise cooking pot fragments with either thickened or beaded rims dating from the 11th and 12th centuries, and examples of the more developed B2 rims datable to c.1200. There is also the base and sides of a large thick-walled vessel in shell-tempered ware, perhaps from a large cooking pot or a bowl. A number of shell-tempered ware body sherds are thin-walled and contain finely divided shell, and may be later, perhaps dating to the 13th century. The fact that some shelly wares occur in the same contexts as the Mill Green ware also indicates that some of the shelly ware continues into the 13th century.

Examples of early medieval ware are also present; this is a sand-tempered ware with a similar date range to that of the shell-tempered fabrics. The only featured material comprises sherds from a cooking pot with a thickened everted rim dating from the 11th/12th centuries and is unusual in that it has buff surfaces, rather than the usual red-brown.

By far the most unusual vessel is the top of a grog-tempered curfew decorated with thumbled applied strips and showing a faint post-firing scratch mark in the form of a loop pattern. Curfews are generally in the form of large unturned bowls which were placed over the hearth at night to damp down the fire. This vessel is of intrinsic interest and should be glued together and illustrated for publication. A beaded rim in grog-tempered ware is also present. Grog-tempered fabrics are not common in Essex, although as they have been found at Waltham Abbey (Walker unpublished) and Chipping Ongar (Walker forthcoming) it may be more frequent in the SW of the county. Grog-tempered ware also occurs in small amounts in London (Vince and Jenner 1991, 80-1).

Fragments from cooking pots in Mill Green coarse ware were found; this is a sand-tempered coarse ware typically red-brown in colour. There are two examples of cooking pots with H1-type rims, current throughout the 13th century and one example that is in between the H1 rim and the typologically later E5A rim, datable to the late 13th to 14th centuries. One cooking pot shows a thick band of sooting around the girth and another shows an area of spalling on the shoulder with a corresponding patch of fire-blackening on the internal surface. Such unusual sooting patterns indicate specialised use of some kind. There is only one sherd of grey-firing medieval coarse ware.

The overall date range of this pottery is 11th/12th to 14th centuries, and although the assemblage is rather small, there is enough pottery to indicate medieval settlement of this area. Apart from the Mill Green ware cooking pots with the unusual sooting patterns, this would appear to be a typical domestic assemblage. Curfews are fairly unusual, but still indicate domestic occupation. The range wares present is also typical of this area, with the exception of the Hedingham ware. There is no evidence of settlement after the late 13th/14th century, the only later pottery comprising a couple of sherds of post-medieval red earthenware, and fragments of modern china and flowerpot.

Context	Feature	Count	Weight (g)	Descripti	Date
Area 1 well	-	4	15	Modern white earthenware including flanged rim with transfer-printed floral border and example of flow blue	1820s-30s and later
		1	4	Yellow ware	Late 18th to 20th C
		1	3	Modern stoneware, lead-glazed	19th to 20th C
??U/S upper fill	-	5	52	Shell-tempered ware	10th to 13th C
		1	9	Sandy orange ware, unglazed, pronounced throwing lines	13th to 16th C
U/S	-	1	2	Sandy orange ware	13th to 16th C
MWQ98 106	-	1	11	Modern flowerpot rim	19th to 20th C
106	105	1	3	Shell-tempered ware	10th to 13th C
		1	2	Mill Green ware, sandy, slip-coated and combed	Mid 13th to 14th C
118	117	1	1	Unidentifiable, no surfaces	-
		2	4	Sandy orange ware, comprising sherd with spots of glaze on internal surface, and fragment of hooked rim with inclusions of red sands	13th to 14th C
120	119	1	4	Mill Green coarse ware internally glazed base, sooted externally, abraded	Mid 13th to 14th C
146	145	5	17	Shell-tempered ware, joining sherds	10th to 13th C
149	148	1	6	Mill Green coarse ware, over-fired	Mid 13th to 14th C
168	167	2	1	Mill Green coarse ware	Mid 13th to 14th C
174	173	2	9	Shell-tempered ware, joining sherds	10th to 13th C
		3	7	Mill Green coarse ware, including two joining sherds with external fire-blackening	Mid 13th to 14th C
191	190	1	5	Unidentifiable	-
197	196	1	15	Shell-tempered ware, abraded	10th to 13th C
224	223	5	16	Shell-tempered ware	10th to 13th C
		2	8	Shell-and-sand-tempered ware	10th to 13th C
226	225	1	2	Mill Green coarse ware	Mid 13th to 14th C
228	227	18	193	Shell-tempered ware including several sherds from a cooking pot with a hooked, beaded rim and a thumbled applied cordon around the shoulder	12th to 13th C
		1	5	Mill Green ware, slip-coated with traces of decomposed glaze	Mid 13th to 14th C
231	230	5	98	Shell-tempered ware from same cooking pot as in context 228, but less fragmented	12th to 13th C
238	237	1	2	Shell-tempered ware	10th to 13th C
245	244	1	3	Shell-tempered ware	10th to 13th C
249	248	1	6	Shell-tempered ware	10th to 13th C
		1	2	Sandy orange ware	13th to 16th C
251	250	4	14	Shell-tempered ware including one thickened rim and one beaded rim	From 12th C
257	256	1	27	Medieval coarse ware sagging base, most likely from a cooking pot	12th to 14th C
259	258	7	137	Mill Green coarse ware including an H1 cooking pot rim, two base sherds, a sherd with a thumbled applied strip, and a thick-walled sherd with rilled surfaces	?mid to late 13th C
		3	67	Mill Green fine ware including a slip-coated and green-glazed sherd and a burnt sherd from the lower part of a jug	Mid 13th to 14th C

Context	Feature	Count	Weight (g)	Descripti	Date
263	262	18	162	Mill Green coarse ware including an H1 cooking pot rim and sherds from a cooking pot with an H1/E5A rim showing external spalling on the shoulder with a corresponding patch of fire-blackening on the internal surface – an unusual pattern of use	Mid 13th to 14th C
		5	50	Mill Green fine ware, slip-coated and green-glazed, comprising an inturned jug rim with incised bands, a strap handle and a body sherd showing combed decoration	Mid 13th to 14th C
265	264	3	10	London-type ware, joining sherds, partial green-glaze perhaps from a small carinated jug	Early to mid 13th C
267	266	3	25	Shell-tempered ware, joining sherds	10th to 13th C
271	270	2	10	Shell-tempered ware	10th to 13th C
		2	13	Mill Green coarse ware	Mid 13th to 14th C
		2	4	Heddingham ware, joining sherds, abraded, showing traces of red slip-coating and splashes of glaze	?early to mid 13th C
281	280	1	4	Shell-tempered ware	10th to 13th C
		1	3	Mill Green fine ware, slip-coated and green-glazed	Mid 13th to 14th C
295	298	70	1284	Shell-tempered ware from walls and thick base of large vessel, several joining sherds	10th to 13th C
303	301	3	12	Shell-tempered ware, joining sherds	10th to 13th C
308	307	12	94	Mill Green coarse ware including body of small cooking pot showing external band of sooting around girth	Mid 13th to 14th C
310	309	1	3	Shell-tempered ware	10th to 13th C
312	311	1	5	Shell-tempered ware	10th to 13th C
		3	16	Early medieval ware	10th to 13th C
324	323	1	2	Shell-tempered ware	10th to 13th C
		1	6	Mill Green fine ware, flat-topped everted jug rim showing band of slip-painting, rim form paralleled by Pearce (et al.1982, fig.5.8)	
326	326	10	64	Shell-tempered ware, some joining sherds	10th to 13th C
		14	79	Unidentified early medieval ware fabric with buff surfaces and thick grey core from cooking pot with thickened everted rim	From 11th/12th C
327	326	3	9	Shell-tempered ware including a B2 ?cooking pot rim	10th to 13th C
		36	2303	Grog-tempered ware from the top a curfew decorated with thumbbed applied strips and faint post-firing scratch mark	12th to 13th C
328	326	2	10	Shell-tempered ware	10th to 13th C
		1	39	Shell-and-sand-tempered ware B2 cooking pot rim	c.1200
		1	1	Sandy orange ware, externally glazed (Heddingham-like fabric)	13th to 14th C
338	337	3	20	Shell-tempered ware	10th to 13th C
		1	18	Grog-tempered ware upright beaded rim, rather narrow for a cooking pot	12th to 13th C
363	364	1	4	Sandy orange ware, unglazed slip-painted, could be medieval Harlow ware	Residual 13th to 16th C
382	383	2	2	Modern white earthenware	19th to 20th C
406	407	2	121	Post-medieval red earthenware from same vessel, thick-walled and internally glazed	Later 16th/17th C – 19th C
		291	5123		

Table 26. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Medieval and post-medieval Pottery Catalogue

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B1.3 Area 4(north) and Area 5 Watching Brief AOC (2002)

B1.3.1 Prehistoric Pottery by N. J. Lavender

Introduction

Thirty-six sherds of prehistoric pottery, weighing 288g, were recovered from 12 contexts. The material has been recorded using a system devised for prehistoric pottery in Essex (Brown 1988, details in archive). Fabrics are identified on the basis of type, size and frequency of inclusions. Fabrics present in the Marks Warren Quarry assemblage are:

- A Flint, S 2 well sorted.
- B Flint, S-M 2.
- C Flint, S-M with occasional L 2.
- D Flint, S-L 2 poorly sorted.
- M Grog, often with some flint or sand and occasional small rounded subangular voids.
- U Flint, S-L 2 with some occasional irregular voids.

Where:

Size of inclusions:	S	=	less than 1mm diameter.
	M	=	1-2mm diameter.
	L	=	more than 2mm diameter.
	2	=	6-10 per cm ²
	3	=	more than 10 per cm ²

Feature	Context	Fabric	Sherd No.	Sherd wt. (g)	Comments
1040	1039	Indet	4	2	
1042	1041	A	1	4	Small sherd from relatively fine vessel
1051	1052	U	3	2	
1072	1071	D	3	44	Joining sherds from large jar(?)
1082	1081	C	13	160	Probably jar sherds.
1082	1081	A	1	6	Flat-topped, slightly flared rim. EIA
1082	1115	B	1	8	
1082	1115	A	2	10	Tripartite, angular shouldered jar. EIA
1082	1116	D	1	16	
1086	1117	Indet	1	>1	
1088	1087	U	1	4	
Findspot	1148	D	1	10	Flat base sherd. LBA/IA
1120	1152	M	1	6	
	U/S	U	3	16	Carinated sherds. Poss EIA bowl.
Total			36	288	

Table 27. Area 4(north) and Area 5 Watching Brief AOC (2002): Prehistoric pottery catalogue

Description

Almost all of the pottery comprised flint-tempered body sherds, with a single grog tempered sherd from context 1152. The absence of diagnostic pieces from the assemblage makes precise dating impossible for most contexts. However, tripartite angular-shouldered jars or bowls in quite fine flint-tempered fabrics are represented by sharply carinated sherds from (1115), and were also found unstratified. A single flat-topped rim sherd from (1081) is probably from a similar jar. Most of the remaining body sherds are in coarse fabrics, including a flat base fragment from (1148).

Date and Affinities

Three joining sherds from 1071 are in a very coarse heavily tempered fabric, and may come from a large jar of Late Bronze Age or Early Iron Age date. A sherd from a tripartite angular shouldered jar (context 1115) belongs to the Darmsden-Linton style of the Early Iron Age (Cunliffe 1968). Fabrics U and M, which contain vegetable voids may also indicate an Early Iron Age date. Certainly the unstratified carinated sherds appear to be from a Darmsden-Linton style bowl or jar. The flint-tempered body sherds, whilst not closely dateable, would not be out of place in an Early Iron Age assemblage.

The evidence of the small number of diagnostic sherds indicates that this is an Early Iron Age assemblage of a type quite common in Essex (Brown 1988, 1992, forthcoming). A date in the 8th to 5th century BC, probably within the earlier part of the range, is indicated. Earlier suggestions (Cunliffe 1978) that Darmsden-Linton style pottery continued in use until the 3rd century now seems unlikely in Essex in the light of the distinctive Middle Iron Age assemblages from Little Waltham (Drury 1978) and a number of other sites in the county.

Manufacture

The pottery is almost all flint or flint and vegetable tempered, with a single grog tempered sherd. There is nothing to suggest a non-local origin for any of the assemblage. The three sherds from 1071 are particularly densely tempered, although they do not appear to be from the base of a vessel, where such a concentration would not be unusual.

There is a slight void visible in the break of the single base sherd from 1148, indicative of slightly imperfect bonding in a coil-built vessel. Other than this, there are no clear indications of manufacturing techniques beyond possible finger wiping on the shoulder sherd from 1115.

Conclusion

The assemblage is indicative of activity during the Early Iron Age, but the quantity of material recovered is too small and undiagnostic to define the nature of that activity. Whilst there is nothing from the prehistoric pit fills (1071, 1081, 1115 and 1116) to suggest anything other than rubbish disposal, the very small quantities involved may suggest selected deposition.

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B1.3.2 Post-Medieval Pottery by N. J. Lavender

Introduction

A total of ten sherds (not weighed) of post-medieval pottery was recovered during this intervention. The pottery has been identified and spot dated (Table 28). It is not thought worthy of further analysis.

Context	Fabric	Sherd Count	Comments/Date
1005	Post-med black glazed ware		1 Jug shoulder fragment 1580-1700. A common early post-medieval (transitional) assemblage ware in London and environs.
1011	White-glazed earthenware		11800+
1069	Pearlware		11770-1850
1113	Pmed coarse red earthenware		117 th to early 18 th century - ?residual

1117	Pmed red earthenware		11580-1900
1140	China		41940's Marked: "1941 North Staffordshire Pottery Co. Ltd. Globe Pottery Cobridge Stoke on Trent", "Pountnets W 1941", and "YMCA"
1146	White-glazed earthenware		11800+

Table 28. Area 4(north) and Area 5 Watching Brief AOC (2002): Post-medieval pottery catalogue

B1.4 Area 6 Monitor and Record AS (2006)

No significant remains found.

B1.5 Area 7 Monitor and Record by AS (2007)

B1.5.1 Prehistoric Pottery by Peter Thompson

The excavation recovered 18 abraded sherds weighing 143g. pit 2002 (L2003) contained 2 sherds one with a friable fabric of common coarse flint and fine sand, the other with sparse very coarse flint and coarse sand. pit 2030 (L2032) contained a single grass tempered sherd also with sparse very coarse flint with a rough surface. pit 2020 (L2021) contained 19 sherds with common fine to medium crushed flint and sparse grass temper. One sherd is angled suggesting it came from the shoulder of a closed vessel otherwise there are no diagnostic forms. The flint with grass or sand temper suggests the pottery is Middle Iron Age c.350-100 BC/AD 50 although an earlier date cannot be ruled out.

B1.5.2 Post-Medieval Pottery by Peter Thompson

A single glazed post-medieval red earthenware sherd (10g) from ditch 2007 (L2009) was recovered. The ditch also contained ceramic building material.

B1.6 Area 8 Monitor and Record by AS (2008)

Introduction

The excavation recovered 687 sherds weighing 4.820 kg. The assemblage is multi-period comprising late Bronze Age (with some sherds possibly a little earlier), Saxon, medieval and modern wares (Table 1).

Period	Sherd number	Fabric weight (g)
Late Bronze Age	195	1,755
Saxon	429	2,616
Medieval	59	264
Post-medieval to modern	4	185

Table 29: Area 8 Monitor and Record by AS (2008): sherds by number and weight by period

B1.6.1 Prehistoric Pottery by Peter Thompson

Introduction

The later Bronze Age pottery comprises 28.4% of the assemblage, and is in poor condition being generally quite heavily abraded. It consists of flint tempered coarse wares with rough brown, orange or mottled surfaces, and fine wares with fine flint and sandy fabrics. The latter usually have brown smoothed or burnished surfaces (Table 30).

Fabric	Sherd number	Fabric weight (g)
F1: Sparse to moderate crushed white flint, sparse to moderate quartz sand and organics or voids. Buff orange surfaces.	17	250
F1a: As F1 but moderate to common coarse to very coarse flint and little or no sand	11	52
F2: Moderate to common coarse crushed white flint with orange, buff or brown surfaces	101	1,220
F3: Sparse to common fine to coarse crushed white flint, usually with a little sand. Surfaces frequently mid to dark brown and smoothed or polished	60	212
F4: Quartz sand	6	21
Total	195	1,755

Table 30: Area 8 Monitor and Record by AS (2008): The prehistoric fabrics

Discussion

Postholes F1039 and F1044 contained what potentially could be the earliest fabrics. F1044 contained 11 abraded sherds in F1a fabric comprising very coarse flint with burnt organics. F1039 yielded 17 F1 sherds in similar fabric to F1a, but with generally finer flint, and containing more organics and sand. Two sherds from F1039 showed evidence of applied finger decorated cordons (Figure 11.1, not included in grey literature supplied), whilst a part profile came from a jar shoulder in F2 coarse flint fabric. It is possible the F1 and F1a sherds, which are quite thick, could relate to the middle Bronze Age Deverel-Rimbury tradition. The fabric and decoration is of broadly similar type to that found at Barrington's Farm, Orsett Cock suggested as mid 2nd millennium BC (Brown 1987, 27). Similar fabrics, however, are also found at late Bronze Age Mucking North Ring from contexts radiocarbon dated to the 9th and 8th centuries BC (Barrett and Bond 1988, 26 and 37).

Pit F1013 contained 43 sherds including the upper profile of a carinated bowl or jar (Figure 11.2, not included in grey literature supplied) in coarse flint fabric, and is similar in form to early Iron Age examples found in Essex, for example, Linford located 21 km to the south-east (Barton 1962, fig.1.1). The Linford assemblage is suggested as mainly pre-dating the 5th century BC but with some of the pottery as late as the 4th century BC (Drury 1980, 52). Several small sherds in finer fabric with incised decoration, including one with horizontal lines with diagonal lines below are probably from bowls relating to Barrett's Class IV of the decorated phase which is centred on the 8th century BC (Barrett 1980, 303, 308 and fig. 6.10). A similar burnished, carinated sherd with an incised decorative line came from posthole F1098, and pit F1177 (L1178) contained the upper profile of a thin burnished bowl (Figure 11.4) similar to examples from Mucking North Ring (Barrett and Bond 1988, fig. 23.90 and 103).

Pit F1007 (L1008) contained 79 sherds of similar character to those from pit F1013. The ratio between coarse flint fabrics and smoothed or burnished finer wares was approximately 1:1. The fine wares included several sherds from carinated bowls, one with horizontal line decoration. The coarse wares contained several reconstructable body sherds and a flat base indicating Barrett's Class I coarser jars (Barrett 1980, 302). The base contained a comparatively large amount of crushed flint impressed on the underside. This production

technique occurs in the late Bronze Age, dying out before the end of the early Iron Age and is found on sites including Mucking and Runnymede Bridge (Philip 1984, 127). The above evidence suggests the prehistoric assemblage would best fit a date of c. late 9th to 7th century BC, supported by the absence of early Iron Age shell temper which became quite common South-East Essex, although postholes F1039 and F1044 could be earlier.

B1.6.2 Romano-British Pottery by Andrew Peachey

Introduction

Excavations produced a total of 1368 sherds (9831g) of Romano-British pottery, comprising moderately to highly abraded and fragmented sherds of mid 1st to late 1st/early 2nd century AD date. The Romano-British pottery was principally concentrated in ditches F1233, F1235, F1253 and F1255, with a sparse distribution of further sherds in features within a barrow and associated with cremations.

Methodology

The assemblage was recorded by sherd count, weight (g) and R.EVE. All fabrics were examined at x20 magnification and are referenced wherever possible to the National Roman Fabric Reference Collection (Tomber & Dore 1998), to equivalent fabric descriptions from local or regional typologies (notably Chelmsford (Going 1987)), or described fully in the site report. All form and fabric data was recorded by context and entered into Microsoft Excel spreadsheets that will be deposited as part of the archive.

Fabric Descriptions

SOB GT:	Southern British ('Belgic') grog-tempered ware (Tomber & Dore 1998, 214)
SEX SH:	South Essex shell-tempered ware (Going 1987, 10: Fabric 50))
BSW:	Romanizing/Black-surfaced reduced ware (Going 1987, 9: Fabric 45)
GRS:	Sandy grey ware (Going 1987, 9: Fabric 47)
GRX:	Silvery micaceous grey ware (Symonds & Wade 1999, 418)
OX CS:	Miscellaneous white/cream- slipped sandy oxidised ware, probably of Colchester origin (Going 1987, 6)
?HAD OX1:	Fine oxidised ware of probable Hadham origin. Oxidised red-brown (5YR 5/6-7.5YR 5/4), sometimes with a slightly darker or reduced thin core. Inclusions comprise common quartz (<0.1mm), sparse red and black clay pellets/ironore (0.1-0.5mm) and sparse fine mica. Moderately hard with a smooth to slightly powdery feel. Almost certainly an early Hadham product.
COL WH:	Colchester white/buff ware (Tomber & Dore 1998, 133)
LON RE:	London ware (Davies et al 1994, 151)
NK RE:	North Kent fine ware (Davies et al 1994, 152)
LGF SA:	La Graufesenque samian ware (Tomber & Dore 1998, 28)

Discussion

The largest Romano-British pottery group in the assemblage was recovered from three segments of ditch F1235 (Table 31), with particularly high concentrations present in L1236 Seg. I and L1236 Seg. J (which included Vessel V1257): 151 sherds (1628g) and 321 sherds (3410g) respectively. Vessel V1257 was isolated during excavation but is no more complete than several vessels from within L1236 Seg. J. The pottery in these concentrations (and those in other features) includes fabric and form types that may be associated with pre- and post-Conquest occupation, however the groups appear homogenous and include important elements of early Roman pottery - therefore they appear to be entirely post-conquest.

Feature Type/Group	Feature (s)	Sherd Count	Weight (g)
Ditch	F1233	133	820
Ditch	F1235	514	5428
Ditch	F1253	338	1017
Ditch	F1255	252	1349
Other ditches	F1169, F1173, F1237	50	489
Features within the barrow	F1193, F1201, F1203, F1210	39	278
Pits previously identified as cremations	F1247, F1248	35	370
Pit	F1243	7	80
Total		1368	9831

Table 31: Area 8 Monitor and Record by AS (2008): quantification of Romano-British pottery in feature groups/types

The total pottery group from ditch F1235 represents a minimum of 22 vessels (total R.EVE: 5.84). Locally produced coarse wares (SEX SH, BSW and GRS) account for the bulk of sherds in this group and in terms of form and comprise nearly entirely jars. The SEX SH jars are remarkably consistent neckless jars with angular rims and slight internal beading (Going 1987: G4). The BSW vessels demonstrate a greater degree of variability and include a ledge rim jar (Going 1987: G5) and necked jars (Going 1987: G17.2 and G20). The vessel recovered from ditch F1235 (Seg. J) comprises a necked jar with a bead rim and pear shaped body, and was probably a pedestal urn however the base is missing. The vessel conforms to Thompson's (1982) Belgic type A1 and is comparable to an ancillary burial vessel recorded at Billericay (Rudling 1990, 31: vessel 5).

Very similar to the BSW vessels is a single necked jar with a plain shoulder cordon in SOB GT (Thompson 1982: type B3-6). The GRS is dominated by everted bead rims that are too fragmentary to be classified, but also present in the fabric is a flask/narrow-neck jar (Symonds & Wade 1999: type Cam.231/232) and a bead rim dish (Going 1987, type B2.1). The flask/narrow-neck jar shares a date in the latter half of the 1st century AD into the early 2nd century AD with the local coarse ware jars, however the bead rim dish was probably not produced until the late 1st/early 2nd century AD and is probably one of the latest vessels in the ditch F1235 group. The chronology of this homogenous ditch group is corroborated by the evidence of the minority fabrics, whose sherds represent a single vessel in each fabric type. ditch F1235 (L1236, Seg. J) contained a near complete imitation of a samian Form 30 bowl in ?HAD OX1 (Going 1987: C15 1.1), a ring-necked flagon in COL WH (Going 1987: J3.2) and fragments from a globular beaker with a short everted rim in GRX (Going 1987: H10). ditch F1235 (L1236 Seg. I) contained fragments of a beaker with a tall, re-curved neck and a mid-body carination in NK FW (Going 1987: H10) as well as body sherds probably derived from a bowl with incised decoration in LON RE. All of these vessels suggest a date in the mid to late 1st century AD.

The slightly smaller pottery groups from ditches F1233 (L1234), F1253 (L1254) and F1255 (L1256) are dominated to an even greater extent by SEX SH, BSW and SOB GT in forms that, like those from ditch F1235, may be associated with pre- or post-conquest occupation if supplementary early Roman pottery was not present. The SEX SH includes neckless jars with small out-turned rims (Rudling 1990: vessels 17-20) or with angular rims (Going 1987: G4), while the SOB GT includes necked jars with shoulder cordons (Thompson 1982: type B3-5) and a butt beaker with a cupped rim (Thompson 1982: type G5-5). Jars in GRS and OX CS are also consistently present but are represented by body sherds or rim fragments that are too fragmentary for further classification. Most notable in these three groups is the presence of a single, highly abraded sherd of LGF SA in ditch F1253 (L1254, Seg. A), the only fragment of samian ware present in the assemblage. Although containing less diagnostic pottery indicative of a mid to late 1st/early 2nd century AD date than ditch F1235, these three groups present sufficient evidence to suggest that they are almost certainly contemporary with the group recorded in ditch F1235. Of the other 'Ditches' and 'Pit' assigned to Phase 2, ditches F1169, F1173 and pit F1243 contained relatively rare sherds of early Roman pottery, while ditch F1237 (L1238) produced a small group of sherds (41 sherds, 392g) that included body sherds of COL WH and unclassified everted bead rim jars/bowls in GRS, BSW and SOB GT that suggest a chronology contemporary with the larger ditch groups (F1233, F1235, F1253 and F1255).

Vessel F1248 (V1251) has been badly truncated. It comprises the base and lower body of a BSW jar or bowl of probably early Roman date. pit F1245 also contained fragments of early Roman pottery in the form of a neckless jar with an angular rim in SEX SH (Going 1987: G4) comparable to those common in the major ditch groups, and in association with body sherds of SOB GT. These relatively small sherds do not appear to represent any sort of cremation or associated vessel. The pottery from 'within the barrow' is comprised of sparse fragments of SOB GT, BSW and GRX that again are probably contemporary with the major ditch groups and are unlikely to have formed a direct part of the cremations. The only notable vessels in this group include a GRX globular beaker with a short everted rim and panels of barbotine dot decoration (Going 1987: H1.6) that dates to the mid to late 1st century AD, and a small portion (at 25 sherds, 234g) of a SOB GT storage jar (Going 1987: G44) in Barrow ditch F1210 (L1047).

Conclusions

The Romano-British pottery assemblage recovered from Marks Warren Quarry appears to represent a single period of activity in the mid to late 1st/early 2nd centuries AD. The principle concentrations in ditches F1233, F1235, F1253 and F1255 exhibit traits, especially in the local coarse wares, that suggest they are both primary deposits and contemporary, while the remaining features across the site produced scarce to rare sherds that exhibit similar characteristics. ditch F1235 is notable for containing a range of regionally imported fine wares (NK FW, LON RE, ?HAD OX1 and COL WH) in addition to locally produced coarse wares. With the exception of badly truncated Vessel F1248 (V1251) none of the pottery appears to represent any form of *in situ* vessel, however given the spatial association of the pottery distribution to the cremations and barrow on site, it cannot be ruled out that the pottery distribution is not related to some form of related activity. The closest comparable group in the region to this assemblage are 1st century AD Groups 1 and 2 from Billericay Secondary School (Rudling 1990, 29-31) which were largely comprised of cremations and associated vessels, therefore such an association would be consistent with this activity. However this distribution of fabrics and forms in both fine and coarse wares is also comparable to that recorded in Phase 1 (c. AD 60 - 80) at Chelmsford (Going 1987, 106) with the exception of SEX SH, which is more common here as is to be expected in south Essex, therefore a relationship with a local occupation site remains a possibility.

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B1.6.3 Early Saxon Pottery by Peter Thompson

Introduction

The early Saxon pottery accounts for over 60% of the site assemblage. It almost exclusively comes from five vessels, F1030 (V1032), F1079 (V1081), F1105 (V1107), F1110 (V1107) and F1115 (V1117), all of which

except V1032) were associated with cremations. These vessels are in very poor condition with mainly only fragments of lower profiles surviving. The fabrics are all black with mid to dark brown surfaces and contain grass temper, usually with fine sand (Tables 32 and 33).

Fabric	Sherd Count	Fabric Weight
F5 common burnt grass with rare to sparse fine sand, and occasionally rare medium to coarse rounded quartz or flint	417	2483
F5: Moderate burnt grass, charcoal and voids. Fabric mid grey throughout	12	133
Total	429	2616

Table 32: Area 8 Monitor and Record by AS (2008): quantification of the Saxon fabrics

Pit F1030 contained V1032, a simple everted rim and rounded base angle leading to a narrow flat base (Figure 11.5). Vessel 1082 from Cremation pit F1079 (Figure 11.6), Vessel 1109 from Cremation pit F1110, and Vessel F1117 from Cremation pit F1115 all contained similar type bases but from larger vessels. Vessel 1107 from F1105 contained no diagnostic evidence to indicate form.

The exception to the above, pit F1195 (L1048) contained 12 sherds probably all from the same vessel although there is not enough material to indicate a profile. The thickness, uniform mid grey colour, and higher firing of the sherds, together with the location within Barrow F1205 differentiates this pottery from the rest of the Saxon assemblage.

Feature	Vessel	Sherd Count	Fabric Weight
1030	1032	20	284
1079	1081	30	449
1105 b	1107	208	895
1110	1109	68	110
1115	1117	91	745
Total		417	2483

Table 33: Area 8 Monitor and Record by AS (2008): the Saxon cremation vessels by sherd number and weight

The vessels are all undecorated and such plain, crudely made pots are common in Anglo-Saxon cremation cemeteries. Grass temper in pottery was used throughout the early and middle Saxon periods and even on rare occasions in the late Saxon period, and therefore close dating is not possible. However, at the Saxon settlement at Mucking twelve *grubenhauser* that contained datable objects showed statistically that there was a marked increase in the use of grass tempered pottery in the sixth and seventh centuries (Hamerow 1993, 31).

B1.6.4 Medieval Pottery by Peter Thompson

The fill surrounding windmill F1191 (L1192) yielded 59 sherds, weighing 264g, (8.5%) of heavily abraded medieval pottery. The fabrics are sand tempered with oxidised surfaces and flanged rims, and two or three sherds have decorative white slip under green glaze. The sherds can be classed as Colchester-type wares although most are lacking the usual characteristic coarse white quartz of 'classic' Colchester wares (Cottar 2000, 107-108). A minimum of four vessels were represented by two squared, an everted and a flanged jar rim (Figure 11.6, not included in grey literature supplied). A mid 13th to 14th century date is probable for this assemblage.

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B1.7 Area 9 Monitor and Record by AS (2008)

Introduction

Excavations recovered a total of 334 sherds (3623g) of pottery, principally in prehistoric fabrics with a smaller element of Roman pottery and rare medieval and post-medieval sherds. The sherds from all periods are in a relatively poor and abraded condition, however the prehistoric pottery does include the bulk of a single vessel deposited complete in pit F2022.

Methodology

The pottery was quantified by sherd count, weight (g) and R.EVE with fabrics examined at x20 magnification (described below). All data was entered into a Microsoft Excel spreadsheet that will form part of the archive.

B1.7.1 Prehistoric Pottery by Andrew Peachey

Discussion

The 223 sherds (2994g) of prehistoric pottery appear to be composed entirely of later Bronze Age fabrics, although the relative lack of diagnostic sherds limits this conclusion. The bulk of the prehistoric pottery: 140 sherds (2754g) are accounted for by Vessel V2026, a later Bronze Age Beaker vessel contained in pit F2022. The fabric of the vessel: SQ1 is of quite poor quality, a fact reflected by the relatively thick-walled and crude manufacture of the vessel. The vessel was observed as truncated (the rim is missing, possibly more) but partially intact during excavation, however the preservation conditions and friable nature of the fabric and prevented any attempts at reconstruction once the fragments of the vessel had been excavated. Vessel V2026 appears to have been a globular Beaker with finger-pinched rustication extended over the entirety of the exterior. Such extensive rustication is relatively uncommon on Bronze Age vessels in Essex although it is more common to the north in assemblages from Norfolk and Suffolk. Limited body sherds with comparable decoration have been recorded in the region at North Shoebury (Brown 1995, 85: fig.66.120) and

Kelvedon (Rodwell 1988, 102: fig.78.4). Previously recorded examples of comparable rustication include decoration that has been pinched from the body of the vessel, as is the case here, and clay pellets applied to the vessel.

The remaining prehistoric sherds are in the better quality fabric FQ1 which is consistently harder and thinner walled. The inclusions and manufacture of the fabric still suggest a (late) Bronze Age date, but without complementary diagnostic sherds and date in the Iron Age cannot be completely ruled out. Small concentrations of body sherds in FQ1 were recovered from pit F2014 (L2015) and as surface finds (close to F2034), while sparsely scattered sherds of the fabric were also recovered from Postholes F2002, F2044, F2066, ditch F2031 Seg. B, Field Drain F2008 and a further surface finds.

Fabric Descriptions

QF1: The fabric has pale brown surfaces, red-brown margins and a thick very dark grey to black core. Inclusions comprise sparse flint (0.5-2.5mm), sparse quartz (<0.25mm), sparse rock fragments (2-8mm) and sparse vegetable matter or voids (largely grass). The fabric has a soft to moderate hardness and a slightly abrasive to powdery feel.

FQ1: Flint and sand tempered ware. The fabric has oxidised red-brown surfaces and a dark- brown/black core. Inclusions comprise common flint (generally <3mm, occasionally larger) and sparse quartz (0.1-0.25mm). The fabric has a moderate to high hardness and has a slightly abrasive feel.

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B1.7.2 Roman Pottery by Andrew Peachey

Discussion

A total of 108 sherds (624g) of Roman pottery were present in the assemblage. The bulk of the Roman pottery: 92 sherds (521g) are present as a group of BSW sherds in pit F2070 (L2071), which include substantially abraded fragments from at least two vessels. These include a jar with a splayed, everted plain rim (Going 1987: type G9) that is probably a copy of a black-burnished ware 1 type and dates from the early 2nd to the 3rd centuries AD. A bead rim dish is also present but the fragments too insubstantial to provide further information.

Further diagnostic Roman pottery was present in pit F2078 (L2079) in the form of basal, neck and handle sherds from a small flagon. The flagon would have had an everted (bead?) rim with a 2-rib strap handle and is comparable to 2nd century AD types recorded at Chelmsford (Going 1987: type J4) and Mucking (Jones and Rodwell 1973: type V124-5). The remaining Roman pottery comprises sparse BSW body sherds in pit F2064 (L2065) and as surface finds.

Fabric Descriptions

GRS: Sandy grey ware (Going 1987, 9: Fabric 47)

BSW: Romanizing/Black-surfaced reduced ware (Going 1987, 9: Fabric 45)

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B1.7.3 Medieval Pottery by Andrew Peachey

A single small body sherd (3g) of medieval OXS was present in Posthole F2010 (L2011). Two very small sherds (2g) of post-medieval TPW were present in Field Drain F2008 (L2009), however none have any further diagnostic value.

Fabric Description: OXS: Medieval oxidised sandy ware. The fabric is oxidized red-orange throughout. Inclusions comprise common quartz and iron rich grains (0.1-0.25mm). The fabric is hard with a slightly abrasive to pimply feel.

B1.7.4 Post-medieval Pottery by Andrew Peachey

Two very small sherds (2g) of post-medieval TPW were present in Field Drain F2008 (L2009), however none have any further diagnostic value.

Fabric Description: TPW: Post-medieval transfer printed ware.

B1.8 Area 10 Monitor and Record by OA East (2010)

B1.8.1 Pottery

Pottery was recorded from 11 contexts and weighed 0.53kg (Table 34). No detailed analysis has yet taken place on this pottery.

Context	Material	Object Name	Weight (kg)
110	Ceramic	Vessel	0.00
115	Ceramic	Vessel	0.01
160	Ceramic	Vessel	0.01
155	Ceramic	Vessel	0.00
179	Ceramic	Vessel	0.00
127	Ceramic	Vessel	0.00
111	Ceramic	Vessel	0.01
118	Ceramic	Vessel	0.00
114	Ceramic	Vessel	0.09
166	Ceramic	Vessel	0.40
125	Ceramic	Vessel	0.01
Total			0.53

Table 34. Area 10 Monitor and Record by OA East (2010): the pottery catalogue

Appendix B2. Lithics

Appendix B2.1. Struck and Burnt Flint

B2.1.1 Total Site Survey by Passmore Edwards Museum (1988)

B2.1.1.1 Worked flint by Lynne Bevan

Summary/Introduction

All of the worked flint from this site has been assessed and quantified by number and weight. Recording of the data was difficult, due to the original recording system used, in which feature/layer and grid numbers were used instead of context numbers.

The flints were identified according to tool or waste type and, where possible, assigned a general date. No re-fits were identified but utilisation was noted. The flints were weighed by context (or other) group for inputting into the MoLAS database.

Discussion

The worked flint comprised 106 items, weighing 1.769kg. Flint colours ranged from light to medium brown and grey, often tinged with yellow. The unpredictable quality and, where present, thin remnant cortex, indicated that most, if not all, of the flint originated from a secondary, probably river gravel, source.

The earliest items in the assemblage comprised a broken backed bladelet, possibly of Early Mesolithic date (DD189), a core rejuvenation flake (EE183) and five Later Mesolithic blade cores (E1, EE1, EE183 and unstratified x 2), including three of pyramidal type. A recorticated blade (W1) and a second core rejuvenation flake with blade detachments (DD189) were also of probable Mesolithic date.

Potentially Early Neolithic material comprised a retouched flake with pressure-flaking, possibly an abandoned preform for a leaf-shaped arrowhead (45), three blades (EE184 x 2 and M133), a blade core (B3), and two narrow, blade-like unretouched flakes (AA 152 and J114). Four flake cores were probably of Later Neolithic to Bronze Age date (e.g. B3 x 2, DD189 and V1) and some more substantial flake cores, one of which had been re-used as a hammerstone (Y1), and rough chunks were more typical of Bronze Age industries (Herne 1991; Bevan forthcoming). There is also the possibility of Late Bronze Age to Early Iron Age flintworking (Humphrey and Young 2003), although this appears less likely than in some other East London Gravel assemblages, mainly due to the number of formal cores rather than smashed chunks and the fairly high incidence of retouched items in the assemblage. Retouched material included five scrapers, all of which had been extensively utilised, the only datable one of which was an Early Bronze Age 'thumbnail' type (J1). Scrapers are a class of material generally associated with habitation *foci* (Schofield 1987), although, as with the assemblage from Manor Farm, Ockenden, contemporaneity cannot be assumed between the thumbnail scrapers and the other scrapers which are common Neolithic to Bronze Age types and might date to either period. Other retouched items included two borers (EE1 and W1), three denticulates (EE1 x 2 and EE184) and a composite tool with a retouched edge and point (EE1). Although not closely datable, denticulates are usually regarded as Bronze Age tools (Stone 1937, Plate vi; No 3; Saville 1981, 21; Harding 1991,

Figure 45, 84-85) and some similar forms occurred at the Late Bronze Age riverside zone at Runnymede Bridge (Bevan forthcoming).

Traces of possible utilisation were noted on some of the material, particularly the retouched items, although much of the unretouched flakes and other debitage appears to have sustained edge damage which is easily confused with utilisation.

CONTEXT	NUMBER OF PIECES	WEIGHT (g)
181	10	6
53	1	4
186	21	163
189	3	64
184	7	56
4	1	9
3	20	757
190	1	5
3	7	208
133	4	51
65	3	53
1	1	11
45	1	23
115	1	8
25	19	314
95	1	16
95	2	42
1	1	67
3	1	50
115	1	12
52	2	77
52	2	76
15	1	17
46	3	92
81	13	191
3	2	63
3	5	208

Table 35. Total Site Survey by Passmore Edwards Museum (1988): struck flint quantification

B2.1.2 Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002)

B2.1.2.1 Worked Flint by Rebecca Devaney

Introduction

A total of 98 pieces of worked flint and just two fragments (22 g) of burnt unworked flint were recovered from the archaeological investigations at Marks Warren (Table 36). A further four pieces of natural (unmodified) flint was discarded. The assemblage appears to be technologically and chronologically mixed, including a couple of cores that date to the Mesolithic or early Neolithic, and debitage that is consistent with flint industries

stretching from the Mesolithic to the early Bronze Age. The flint therefore suggests small-scale activity at the site throughout this period.

Flint category	Area				Total
	1	3	4	Unstratified	
Flake	1	46	6	13	66
Blade		6		2	8
Blade-like flake		3			3
Bladelet				1	1
Irregular waste		3		1	4
Rejuvenation flake core face/edge		1			1
Single platform blade core				1	1
Opposed platform blade core				1	1
Single platform flake core		1		1	2
Multi-platform flake core		5		4	9
Tested nodule				1	1
Retouched flake		1			1
Total	1	66	6	25	98
Burnt unworked flint by count				2	2
Burnt unworked flint by weight (g)				22	22

Table 36: Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Summary of flint by type and area

Methodology

The worked flint was catalogued using a typological system in which each piece was assigned a category (debitage, core or retouched tool). Information about burning and breaks was recorded and, where identifiable, raw material type was noted. Where possible, dating was attempted. In addition, cores were weighed and burnt unworked flint was quantified by count and weight.

Provenance

The worked flint was recovered from 33 contexts within Areas 1, 3 and 4 of the investigation area. Most of the flint was located within Area 3 (66 pieces), with smaller groups of material (one and six pieces respectively) being recovered from Areas 1 and 4. The majority of contexts contained less than five pieces of flint, however, context 106 (the fill of a rectangular cut in Area 3) produced 17 pieces. A further 25 pieces, nearly a quarter of the assemblage, was recovered from unstratified deposits.

Raw material

Where identifiable, the most predominant raw material is gravel flint. In general, these pieces have a thin and abraded cortex and are likely to be locally derived. A small number of chalk derived flints, which are identified by a thick white cortex, were also present. Chalk bedrock is present to the south, alongside the River Thames, and may have been the closest source of this material. However, the chalk is overlain by gravels and alluvium is likely to have been hard to extract.

Technology and dating

Area 2

Just one flake was recovered from Area 2 (context 202). It is a side trimming flake with a distal break and made on gravel derived flint. The butt exhibits platform edge abrasion which suggests it was removed during

a planned and prepared reduction strategy. The piece has suffered slight post-depositional damage but no surface alteration.

Area 3

A total of 66 pieces of worked flint were recovered from 26 contexts within Area 3 (Table 37). Most of the flint has suffered slight to moderate levels of post-depositional damage, although a few pieces are in a fresh condition. Just one piece is lightly corticated and three are iron stained. Furthermore, 12 pieces are broken and two are quite heavily burnt.

As expected, the assemblage is dominated by unretouched debitage (89%). Of this total, 46 pieces are flakes and nine are blades and blade-like flakes. This proportion (16% blades) is quite high and within the range suggested for an early Neolithic assemblage (Ford 1987, 79, table 2).

Flint category	Total
Flake	46
Blade	6
Blade-like flake	3
Irregular waste	3
Rejuvenation flake core face/edge	1
Single platform flake core	1
Multi-platform flake core	5
Retouched flake	1
Total	66

Table 37: Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of flint by type and area Summary of the flint recovered from Area 3

The flakes were probably created by hard hammer knapping as clear points and cones of percussion, pronounced ripples and hinge terminations are present on many pieces (Ohnuma and Bergman 1982, 163). About half of the blades and blade-like flakes exhibit dorsal blade scars, which indicate that they were removed from prepared blade cores. Platform edge abrasion was seen on five pieces (including three blades) and suggests a degree of preparation and planning in the reduction sequence. Roughly equal numbers of secondary (34 pieces) and tertiary flakes (20 pieces) are present in the assemblage, with just one primary flake being present. The rejuvenation flake, from context 106, removed the abraded edge of a core. It has a proximal break and a cortical distal end. The debitage exhibits characteristics reminiscent of both early and late Neolithic flint industries and may imply the assemblage is mixed; although the assemblage size precludes further precise dating.

A total of six cores were recovered from Area 3. They are all flake cores and are small in size, weighing between 10 g and 41 g. On the whole, the cores were heavily reduced and more or less exhausted. Three retain small areas of cortex which suggests the utilisation of small nodules. A single retouched flake was recovered from context 105. It is a side trimming flake, which has probably been hard-hammer struck. The cortical edge provides a natural backing, the retouched edge being formed by crude direct retouch on the left side. This piece may have been used as a side scraper or small knife.

Area 4 (south)

Just six flakes were recovered from six separate contexts in Area 4 (south) (Table 38). The pieces are rather irregular in nature, one is made on very coarse material and one has a thermal flaw on its ventral surface. The condition of the flakes varies, with three pieces being in a fresh condition and three suffering post-depositional damage. The flake from context 551 exhibits light cortication while the rest remain unaltered. All of the flakes are complete and that from context 512 is burnt. The small assemblage size and the lack of any chronologically diagnostic pieces preclude precise dating.

Flint category	509	512	518	538	551	573	Total
Flake	1	1	1	1	1	1	6

Table 38: Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of the flint recovered from Area 4

The unstratified deposits

A total of 25 pieces of worked flint and two pieces (22 g) of burnt unworked flint were recovered from unstratified deposits (Table 39). A small number of pieces are in a fresh condition, but most of the assemblage has suffered from post-depositional damage, which is consistent with its recovery from unstratified deposits. However, surface alteration is not present on any of the flint. Four pieces are broken.

Clear points and cones of percussion, pronounced ripples and hinge terminations are present on many of the flakes and suggest the material was probably hard-hammer struck (Ohnuma and Bergman 1982; 163). Platform edge abrasion was not seen on the flakes or blades and just two pieces (one flake and one blade) exhibit dorsal blade scars. The debitage is therefore reminiscent of late Neolithic/early Bronze Age flint industries, but the small assemblage size limits the interpretative value of this assertion.

Flint category	Total
Flake	13
Blade	2
Bladelet	1
Irregular waste	1
Single platform blade core	1
Opposed platform blade core	1
Single platform flake core	1
Multi-platform flake core	4
Tested nodule	1
Total	25
Burnt unworked flint by count	2
Burnt unworked flint by weight (g)	22

Table 4: Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): summary of the flint recovered from unstratified deposits

Like those from Area 3, the cores are quite small in size, ranging from 26 g to 80 g. The blade cores are neatly worked and are likely to be Mesolithic or early Neolithic in date. The flake cores are more varied; some have been irregularly reduced in a haphazard fashion whereas others are neater and exhibit platform edge abrasion. The tested nodule has just two removals taken from one surface of an otherwise cortical nodule.

Discussion and potential

The flint from Marks Warren is technologically varied and representative of activity at the site from the Mesolithic through to the early Bronze Age. The blade cores found in the unstratified deposits and some of the blade debitage are likely to be the oldest part of the assemblage, whereas most of the flake cores and the flake debitage are likely to be later in date. The range of material is therefore consistent with that recovered during previous work at the site by the Passmore Edwards Museum (Fuentes 1988; Greenwood 1987).

The small number of pieces limits the potential for further work and so its value lies in the implication of activity at the site from the Mesolithic to the early Bronze Age. This assessment report will form the basis of the final

report and a small number of flints (c. four pieces, in particular the blade cores and two flake cores) should be illustrated in order to characterise the assemblage.

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Flint ID	Area	Context	SF No	Flint category	Total	Burnt	Broken	Weight (g)	Comments	Cortcation Category	Post Depositional Damage Category
3	2	32		Natural (thrown away)	1						
4	3 south	104		Flake	1		1		Side trimming, proximal break	Light Cortication	Slight post depositional damage
5	3 south	104		Flake	1				Cortical platform, side trimming	Uncorticated	Slight post depositional damage
6	3 south	104		Flake	1				Cortical platform, possibly naturally struck	Uncorticated	Fresh
7	3 south	105		Retouched flake	1				Probably hard hammer struck, side trimming, gravel flint, crude direct retouch on left edge, possibly a side scraper or knife	Uncorticated	Moderate post depositional damage
8	3 south	106		Flake	1				Cortical platform	Uncorticated	Moderate post depositional damage
9	3 south	106		Blade	1				Dorsal blade scars, distal trimming, platform edge abrasion	Uncorticated	Slight post depositional damage
10	3 south	106		Flake	1		1		Side trimming, gravel flint, distal break	Uncorticated	Slight post depositional damage
11	3 south	106		Blade	1		1		Dorsal blade scars, proximal & distal breaks	Uncorticated	Slight post depositional damage
12	3 south	106		Flake	1				Side trimming, gravel flint, thick	Uncorticated	Moderate post depositional damage
13	3 south	106		Flake	1				Side trimming, gravel flint	Uncorticated	Moderate post depositional damage
14	3 south	106		Multiplatform flake core	1			10	Tiny, thermal platform, heavily reduced	Uncorticated	Slight post depositional damage
15	3 south	106		Flake	1				Probably hard hammer struck	Uncorticated	Moderate post depositional damage
16	3 south	106		Flake	1				Distal trimming	Uncorticated	Slight post depositional damage
17	3 south	106		Flake	1		1		Side trimming, gravel flint, distal break	Uncorticated	Moderate post depositional damage
18	3 south	106		Blade-like flake	1		1		Proximal & distal breaks, possible dorsal blade scars	Uncorticated	Slight post depositional damage
19	3 south	106		Blade-like flake	1				Proximal & distal breaks	Uncorticated	Slight post depositional damage
20	3 south	106		Rejuvenation flake core face/edge	1		1		Proximal break, distal trimming, platform edge abrasion on previous core edge	Uncorticated	Fresh
21	3 south	106		Flake	1		1		Distal break	Uncorticated	Moderate post depositional damage
22	3 south	106		Flake	1				Hinge termination, cortical platform	Uncorticated	Slight post depositional damage
23	3 south	106		Flake	1		1		Fragment only	Uncorticated	Slight post depositional damage
24	3 south	106		Flake	1				Hinge termination	Uncorticated	Slight post depositional damage
25	3 south	108		Flake	1				Tiny bulb	Uncorticated	Slight post depositional damage

26	3 south	108		Blade	1					Uncorticated	Slight post depositional damage
27	3 south	108		Irregular waste	1				Irregular, some struck surfaces, others natural	Uncorticated	Slight post depositional damage
28	3 south	108		Natural (thrown away)	1						
29	3 south	110		Flake	1				Side and distal trimming, gravel flint, clear point of percussion, probably hard hammer struck	Uncorticated	Fresh
30	3 south	110		Flake	1				Side trimming, gravel flint	Uncorticated	Slight post depositional damage
31	3 south	110		Flake	1		1		Proximal & distal breaks, stained, appears older than other flints in the context	Iron Stained	Fresh
32	3 south	118		Flake	1				Gravel flint, distal trimming, probably hard hammer struck, clear point of percussion	Uncorticated	Moderate post depositional damage
33	3 south	118		Flake	1				Cortical platform, distal trimming	Uncorticated	Moderate post depositional damage
34	3 south	118		Flake	1		1		Side trimming, gravel flint	Uncorticated	Moderate post depositional damage
35	3 south	118		Flake	1				Cortical platform, side trimming, gravel flint	Uncorticated	Slight post depositional damage
36	3 south	120		Flake	1				Cortical platform	Uncorticated	Moderate post depositional damage
37	3 south	120		Flake	1				Side trimming	Uncorticated	Heavy post depositional damage
38	3 south	125		Flake	1				Distal trimming, gravel flint, possibly hard hammer struck	Uncorticated	Slight post depositional damage
39	3 south	125		Flake	1				Side trimming, gravel flint	Uncorticated	Fresh
40	3 south	125		Natural (thrown away)	1						
41	3 south	129		Irregular waste	1					Uncorticated	Moderate post depositional damage
42	3 south	131		Flake	1				Side trimming, gravel flint	Uncorticated	Slight post depositional damage
43	3 south	133		Single platform flake core	1			23	Heavily reduced, slight gloss	Uncorticated	Slight post depositional damage
44	3 south	145		Flake	1				Pronounced ripples, hinge termination, probably hard hammer struck, gravel flint	Uncorticated	Fresh
45	3 south	145		Blade	1				Platform edge abrasion, dorsal blade scars	Uncorticated	Slight post depositional damage
46	3 south	145		Flake	1		1		Side trimming, gravel flint, proximal break	Iron Stained	Slight post depositional damage
47	3 south	149		Flake	1				Side trimming	Uncorticated	Moderate post depositional damage
48	3 south	149		Flake	1				Distal trimming, gravel flint	Uncorticated	Slight post depositional damage
49	3 south	149		Multiplatform flake core	1			32	Small amount of cortex remains, so small nodule, gravel flint	Uncorticated	Slight post depositional damage

50	3 south	168		Flake	1				Gravel flint, side trimming	Uncorticated	Moderate post depositional damage
51	3 south	174		Flake	1				Tiny bulb, primary removal	Uncorticated	Slight post depositional damage
52	3 south	174		Flake	1				Platform edge abrasion	Uncorticated	Moderate post depositional damage
53	3 south	174		Flake	1				Distal trimming, chalk flint	Uncorticated	Heavy post depositional damage
54	3 south	174		Flake	1				Cortical platform, gravel flint	Uncorticated	Moderate post depositional damage
55	3 south	178		Blade-like flake	1	1			Modern break, platform edge abrasion	Uncorticated	Fresh
56	3 south	178		Multiplatform flake core	1		41		Cortex remains, so small nodule	Uncorticated	Slight post depositional damage
57	3 south	178		Irregular waste	1				Definite scars, possibly part of a broken core	Uncorticated	Slight post depositional damage
58	3 south	192		Flake	1				Distal trimming, pronounced ripples, gravel flint, dorsal blade scars	Uncorticated	Slight post depositional damage
59	3 south	197		Flake	1	1			Distal break	Uncorticated	Moderate post depositional damage
60	3 south	217		Multiplatform flake core	1		39		Small amount of cortex remains, gravel flint	Uncorticated	Slight post depositional damage
61	3 south	238		Blade	1				Distal trimming, gravel flint, dorsal blade scars, pronounced ripples	Uncorticated	Slight post depositional damage
62	3 south	249		Multiplatform flake core	1		22		Gravel flint	Uncorticated	Slight post depositional damage
63	3 south	251		Flake	1				Platform edge abrasion	Uncorticated	Slight post depositional damage
64	3 south	251		Flake	1				Clear point of percussion	Uncorticated	Slight post depositional damage
65	3 south	251		Blade	1					Uncorticated	Slight post depositional damage
66	3 south	271		Flake	1				Gravel flint, hinge termination, secondary removal	Uncorticated	Fresh
67	3 south	328		Flake	1				Gravel flint, secondary removal	Iron Stained	Moderate post depositional damage
68	3 south	336		Flake	1					Uncorticated	Moderate post depositional damage
69	3 NE	428		Flake	1					Uncorticated	Slight post depositional damage
70	3 NE	428		Flake	1	1			Side trimming, quite heavily burnt	Uncorticated	Slight post depositional damage
71	3 NE	428		Flake	1				Irregular	Uncorticated	Slight post depositional damage
72	4	509		Flake	1				Thermal flaw on ventral surface	Uncorticated	Slight post depositional damage
73	4	512		Flake	1	1				Uncorticated	Moderate post depositional damage
74	4	518		Flake	1				Side trimming, gravel flint	Uncorticated	Fresh

75	4	538		Flake	1				Secondary removal, gravel flint	Uncorticated	Fresh
76	4	551		Flake	1				Cortical platform	Light Cortication	Slight post depositional damage
77	4	573		Flake	1				Coarse material	Uncorticated	Fresh
78	NO CONTEXT	0	3	Flake	1				Pronounced ripples. No context on bag	Uncorticated	Moderate post depositional damage
79	1	202		Flake	1		1		Side trimming, gravel flint, distal break, platform edge abrasion	Uncorticated	Slight post depositional damage
80	UNSTRAT	0		Bipolar (opposed platform) blade core	1		44		Slightly irregular	Uncorticated	Slight post depositional damage
81	UNSTRAT	0		Tested nodule	1		41		2 clear removals from one surface, reverse is cortical, gravel flint	Uncorticated	Moderate post depositional damage
82	UNSTRAT	0		Single platform blade core	1		36		Couple of removals, gravel flint	Uncorticated	Fresh
83	UNSTRAT	0		Flake	1					Uncorticated	Moderate post depositional damage
84	UNSTRAT	0		Flake	1		1		Probably hard hammer struck, primary removal, distal break	Uncorticated	Slight post depositional damage
85	UNSTRAT	0		Burnt unworked	1		3		Heavily burnt, hard to say if worked prior to burning		
86	UNSTRAT	0		Burnt unworked	1		19				
87	UNSTRAT	0		Flake	1				Cortical platform, side trimming, gravel flint	Uncorticated	Slight post depositional damage
88	UNSTRAT	0		Bladelet	1					Uncorticated	Fresh
89	UNSTRAT	0		Blade	1		1		Side trimming, gravel flint, distal break	Uncorticated	Slight post depositional damage
90	UNSTRAT	0		Flake	1					Uncorticated	Slight post depositional damage
91	UNSTRAT	0		Flake	1				Pronounced cone of percussion	Uncorticated	Moderate post depositional damage
92	UNSTRAT	0		Flake	1				Side trimming, gravel flint, hinge termination	Uncorticated	Slight post depositional damage
93	UNSTRAT	0		Flake	1					Uncorticated	Slight post depositional damage
94	UNSTRAT	0		Natural (thrown away)	1						
95	UNSTRAT	0		Multiplatform flake core	1		32		Irregular, hinge terminations	Uncorticated	Moderate post depositional damage
96	UNSTRAT	0		Flake	1		1		Distal break, dorsal blade scars	Uncorticated	Slight post depositional damage
97	UNSTRAT	0		Single platform flake core	1		40		Gravel flint, some blade removals	Uncorticated	Slight post depositional damage
98	UNSTRAT	0		Flake	1				Side trimming, gravel flint	Uncorticated	Moderate post depositional damage
99	UNSTRAT	0		Flake	1				Distal trimming, gravel flint	Uncorticated	Slight post depositional damage

100	UNSTRAT	0		Flake	1				Pronounced ripples, primary removal, gravel flint	Uncorticated	Slight post depositional damage
101	UNSTRAT	0		Multiplatform flake core	1		26		Gravel flint, removals from both sides	Uncorticated	Fresh
102	UNSTRAT	0		Flake	1				Distal trimming, gravel flint	Uncorticated	Fresh
103	UNSTRAT	0		Irregular waste	1				Gravel flint, thermal flaws	Uncorticated	Slight post depositional damage
104	UNSTRAT	0		Blade	1		1		Proximal & distal breaks, dorsal blade scars	Uncorticated	Slight post depositional damage
105	UNSTRAT	0		Multiplatform flake core	1		80		Some blade removals, platform edge abrasion	Uncorticated	Slight post depositional damage
106	UNSTRAT	0		Multiplatform flake core	1		58		Chalk flint, irregular	Uncorticated	Fresh

Table 40. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): worked flint catalogue

B2.1.3 Area 4 (north) and Area 5 Watching Brief AOC (2002)

B2.1.3.1 Worked Flint (MWQ02) by Tim Stevens

Introduction

A total of 172 pieces of worked flint was recovered from 35 securely stratified contexts, in addition to 28 pieces from unstratified locations. The stratified worked flint was found in association with prehistoric and post-medieval pottery, along with quantities of burnt flint. The assemblage is summarized by type in Table 41 and by context in Table 42. Where four-figure numbers in brackets are included in the text these refer to contexts in which the relevant artefacts were found, along with (u/s) for unstratified pieces.

Methodology

The flint was examined and recorded onto a spreadsheet using a standard typological recording system (after Ballin 2000). Observations on the condition of the flint, raw materials used, dimensions, and pertinent technological aspects were also noted. Two pieces of naturally occurring flint were also identified; these were noted and then discarded.

Raw Materials and Condition

The assemblage predominantly utilises moderate quality flint, with one piece of better quality black flint (1028). The majority of the flint ranges from light to dark grey, with a lesser percentage of brown flint. A few pieces were of olive or reddish-brown material. The cortex is mainly buff or brown, occasionally white, and is quite fresh, although a few pieces have a more worn darker grey cortex as would be expected on pebbles derived from a watercourse or stream bed. Most of the worked flint appears to be from moderate sized nodules or pebbles, the largest pieces being a 78mm long flake (1115) and a 70mm long blade-like flake (1102), so it appears that large nodules from the Chalk were probably not being used at the site. Two pieces were struck from grey chert nodules (10812).

The majority of the flint recovered is quite fresh with relatively sharp edges, which suggests that most of the pieces have not moved far from their original places of deposition. Cortication was light to medium, and only 12 pieces displayed varying degrees of white patination, of which four were fully patinated.

A few pieces (1028,10812) show signs of having been heated, but are only moderately calcined. This leaves open the possibility that the cores from which these three flakes were derived may have undergone some form of heat-treatment, although no heat-treated cores were recovered to further this suggestion. However, burnt flint was ubiquitous at the site, and a few pieces of burnt worked flint are to be expected.

Primary Technology

Flake Technology

Of the 15 flake cores, 12 were multiplatform and 3 were single platform cores, with a further six fragmentary examples. There were no bipolar cores despite the presence of one definite (1041) bipolar flake, and another possible example (u/s), in the assemblage. Platform preparation in the form of trimming was visible on about a third of the flake cores, but the rest were relatively *ad hoc* cores on small-medium nodules, most with at least 3 platforms during their use.

It is interesting that very few of the flakes are primary flakes, with the assemblage showing more or less equal proportions of secondary and inner flakes. This may suggest that prepared nodules were brought onto the site prior to secondary working, but is also often due to recovery bias, more heavily corticated pieces being harder to spot in gravelly contexts.

With two probable exceptions all the flakes were the product of single polar percussion, the virtual absence of pronounced bulbs of percussion suggesting that most core reduction was performed using a soft or medium hard hammer. This is in contrast to the flake scars evident on the cores themselves, which suggest that quite a hard hammer was often used. There is a fair occurrence of knapping errors in the form of hinge and step fractures, although one flake was seen to have corrected a stepped fracture from a previous flake removal (u/s). Deep rippling and plunging terminations were also occasionally evident. Two thinning flakes were noted (1046,1071), which may imply finer working of possibly bifacially retouched pieces, using a softer hammer such as an antler tine.

Two flakes from context (1115) were seen to refit, and constitute two parts of the same removal. The break seems to have occurred as a result of a fracture within the body of the flake towards the distal end, possibly caused by an irregularity within the flint, and did not occur post-depositionally. This certainly implies that knapping occurred very close to the pit from which the pieces were later recovered. No other flakes or cores obviously refit.

Blade Technology

It is of note that, including retouched forms, just over 25% of the debitage assemblage consists of blades (32 pieces) or blade-like flakes (13 pieces). There are also two blade cores, both single platform (1115, 1158), and a further flake core displaying blade-like removals (u/s), along with a flake showing blade scars on its dorsal face (u/s).

Although the material cannot be said to be a classic blade assemblage there has obviously been some attempt to formalise blade production, as the presence of the two blade cores attest. The production of blade-like flakes shows a degree of control over the knapping required to produce debitage that is significantly longer than it is wide, but the production of parallel-sided blades is a more refined skill. That the knappers responsible had knowledge of blade technology is further evinced by the presence of core rejuvenation tablets (10813, u/s).

Whether the lack of a truly developed blade technology, or the absence of suitable raw material, is responsible for the relatively small size of the blades, is not known, although it is likely to be a combination of factors. Many of the blades are truncated, often at both distal and proximal ends, and once these are removed from consideration the average length of the blades is 41mm. Of these, three are microblades proper (where $W < 10\text{mm}$), with an additional truncated example.

Indeterminate Pieces

A small number of pieces (6) were recorded which could neither be identified as debitage (with at least one convex face), or as cores (with only concave faces). Of these, two may actually be naturally occurring.

Secondary working

A small number (14) of modified artefacts were identified. Secondary working was limited to retouching. Scrapers are represented by two unstratified pieces: a 'thumbnail' example (u/s), and an end-and-side scraper (u/s), which shows evidence of having been used. Also, one stratified piece (1071) consists of a slightly abraded end scraper on a broad and thick non-cortical flake. One piece (1095) has fine lateral retouch along one edge and a notch on the opposite edge. Notches are relatively common in the assemblage, with five pieces being notched, and a further flake displaying denticulation (1115). One thick retouched, and unfortunately abraded, blade (1130) may be what is sometimes termed an 'awl', though its condition precludes accurate identification. Where retouch occurs, as opposed to edge damage, which occurs on several pieces of debitage, it is of the normal variety, except for a retouched flake (1158) where the retouch is initiated from the dorsal face.

Taphonomy and Interpretation

Material in association with pottery

Worked flint from 11 contexts was found in association with pottery (1011, 1039, 1041, 1052, 1071, 1081, 1087, 1115, 1117, 1148, 1152). Some flint is obviously residual, such as that from contexts (1011, 1052 and 1117), which are fills in post-medieval ditches 1012, 1051 and 1086 respectively.

Some flint can be identified as no more than general prehistoric background noise, in association with similarly undiagnostic pottery, such as (1039), fill of tree throw 1040, and 1152, fill of ditch 1120, which may actually be post-medieval in date, and in which one of the three flakes found was sufficiently abraded to be almost certainly residual.

Some flint generally accords with pottery dates, such as (1154) and (1071), fills of pit 1072, and (1087), fill of ditch 1088, in which the lithic material found corresponds well to the Late Bronze Age-Early Iron Age and Early Iron Age pot respectively.

There are also two features where the flake technology accords with the pottery dates, but the presence of a not insignificant blade component is unusual. This situation is exacerbated by the lack of diagnostic flint pieces. context (1041), fill of ditch 1042, contains components of both blade and flake technology in association with probably Early Iron Age pottery. Although flakes predominate in this assemblage, there are also two blades and a blade-like flake, which suggests that blade production in this area of East London may have continued through into the Iron Age period, if these pieces are not residual.

Feature 1082 is a prehistoric pit dated to the early Iron Age on the basis of the recovered ceramics. Both the secondary fill (1115) and tertiary fill (1081) contain relatively large quantities of lithic material relative to other features at the site. Whilst the blades from ditch fill (1041) could be discounted as statistically insignificant or possibly residual, those from pit 1082 cannot. A total of 14 blades were recovered, along with one retouched blade and five blade-like flakes. In addition, one small blade core and three core rejuvenation tablets were also found. Flake technology is represented by nine flake cores (two multi-platform, three single platform, and four fragments), 47 flakes, and a denticulated flake. Again it seems that crude blade production may have continued into the early Iron Age in the vicinity of the site. It has been suggested that the pottery in this deposit may have been deliberately placed rather than being a refuse deposit (Lavender 2002), and this raises the possibility that the lithic material was deposited as a result of deliberate curation of an earlier, perhaps early Neolithic, blade assemblage, along with elements of a more general prehistoric flake technology. If we accept that blade production was a local anomaly (in terms of a broader perspective of British knapping

technology) during the early Iron Age, the concept of a placed deposit of lithic material is still relevant. Certainly, the presence of blade and flake cores and debitage, along with retouched examples of both flakes and blades, hints at deliberate selection of artefacts for deposition.

The association of lithic material with Iron Age pottery has been denied by some writers (Saville 1981), but a recent re-examination of such occurrences strongly suggests that not all of this material is residual and that flintworking technology continued into the Iron Age (Young & Humphrey 1999). The suggested characteristics of such late assemblages are all present in the Marks Warren assemblage. Blades have been noted in late Bronze Age assemblages from Broads Green in Essex (Holgate 1988), and in Iron Age assemblages elsewhere in southern England. A similarity between late Bronze Age and Iron Age flintworking assemblages is suggested at a number of sites and, with the exception of a blade component, the Marks Warren material is similar in nature to the early/late Iron Age material from Birchanger in North Essex (Austin 1994).

Material not in association with pottery

Worked flint was recovered from 24 contexts (1079, 1093, 1095, 1099, 1102, 1104, 1107, 1109, 1119, 1126, 1130, 1138, 1154, 1158, 1161, 1163), which produced no ceramic material.

A number of tree throws were excavated which produced a moderate quantity of lithic material, none of which can be considered chronologically diagnostic. Several contained blades (1044, 1079, 1102, 1104, 1107, 1109) and another a blade core (1158) which would ordinarily suggest a date range from the Mesolithic-early Neolithic, but given the discussions above regarding possible early Iron Age blade production at the site, this inference may be incorrect. Only two tree throw fills (1013, 1126) produced only flake technology. The end-and-side scraper from (1158) is a rough example of a Late Neolithic form. It is possible that this apply earlier material was originally derived from an early land surface disturbed by root action, and subsequently horizontally truncated by ploughing.

Several features have been presumed prehistoric, and this suggestion is corroborated by flint finds from fills (1028, 1046, 1049, 1059, 1093, 1099, 1161, 1163). None of this material is directly datable, as most of it is undiagnostic debitage, although a thinning flake from (1046), and blades from (1048) and (1093) may suggest a Neolithic date.

A number of post-medieval ditch fills (1019, 1095, 1119, 1138) produced single finds of general prehistoric debitage, which should be considered residual.

Unstratified material

Unstratified material was also recovered, of which most is flake debitage and the occasional flake core, and can only be ascribed a general prehistoric date. The presence of blades again suggests a Late Mesolithic to Early Neolithic date, but the continued absence of even a background occurrence of early pottery, and sherds of later prehistoric pot from unstratified contexts, suggests that these may be further possible examples of late prehistoric blade production. However, this hypothesis is not directly testable for unstratified material, and the presence of a thumbnail scraper and an end-and-side scraper would imply at least some residual Neolithic activity at the site.

Potential

Despite the relative lack of datable lithic material, the assemblage has thrown up the interesting possibility of early Iron Age blade production, or at least intended curation and subsequent deliberate deposition of earlier blade technology. If a publication is to be produced, a short note on this aspect of the assemblage should be provided. Further work at the site is probably the most useful task that can be undertaken, as this may provide further clues as to the dating of the assemblage.

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Type	Number
Flakes	111
Blades	29
Blade-like flakes	13
Flake cores	21 (6 fragments, 11 multiplatform, 4 single platform)
Blade cores	2 (2 single platform)
Rejuvenation flake	4
Retouched forms	14 (6 retouched flakes, 3 retouched blades, 4 scrapers, 1 denticulate)
Indeterminate pieces	6
Total	200
Natural	2

Table 41. Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of flint assemblage by type

Context	Type	L	W	T	Comments
1011	Retouched flake	25	20	8	distal retouch, almost notched
1013	Natural	37	10	10	
1013	Flake	22	16	4	
1013	Flake	28	26	5	glossy, irregular
1013	Flake	18	15	6	
1017	Natural	45	38	29	
1019	Flake	43	22	12	edge damage
1028	Flake	28	29	8	heated
1039	Flake	23	49	6	hard hammer
1039	Blade	35	15	5	
1039	Flake	49	35	7	hinge fracture
1039	Core fragment	44	18	18	flake core fragment
1039	Blade-like flake	36	12	7	
1039	Flake	27	16	3	
1041	Flake	24	41	14	
1041	Flake	23	39	6	
1041	Blade	53	16	7	rough

Context	Type	L	W	T	Comments
1041	Flake core	43	32	25	multiplatform flake core
1041	Indeterminate piece	12	11	5	
1041	Flake	31	22	15	
1041	Flake	33	22	20	
1041	Flake	28	26	6	
1041	Flake	28	15	4	
1041	Flake	22	19	6	deep ripples
1041	Flake	17	25	5	
1041	Blade	40	17	11	
1041	Flake	25	22	11	bipolar flake
1041	Flake	22	16	4	step fracture
1041	Blade-like flake	21	13	4	truncated
1041	Flake	27	13	5	edge damage
1044	Flake	37	45	18	thick; HH?
1044	Blade	34	17	6	truncated; edge damage
1044	Blade-like flake	28	10	3	
1046	Indeterminate piece	29	9	3	hinge fracture
1046	Flake	25	27	4	thinning flake
1046	Flake	21	20	5	
1046	Flake	13	12	3	
1049	Blade	46	20	8	
1049	Flake	28	32	9	hinge fracture; hard hammer?
1049	Flake	34	32	5	
1049	Flake core	41	27	42	multiplatform flake core
1052	Flake	24	26	10	deep ripples
1059	Flake	23	23	7	
1071	Flake	28	22	5	thinning flake
1071	Blade	29	12	4	truncated
1071	Flake	33	26	9	
1071	Retouched flake	52	49	13	end scraper; normal steep retouch distal end
1079	Flake	36	26	7	
1079	Blade	22	9	2	truncated; microblade
1079	Blade	28	16	5	truncated
1079	Flake	18	12	4	
1079	Flake	44	25	10	
1079	Indeterminate piece	13	32	5	hard hammer?; hinge fracture
1079	Flake	26	19	4	
1079	Flake core	35	30	30	multiplatform flake core
1081	Blade	53	18	9	edge damage; hinge fracture
1081	Blade	39	16	7	edge damage; step fracture
1081	Blade	16	7	3	microblade

Context	Type	L	W	T	Comments
1081	Blade-like flake	31	13	5	truncated
1081	Blade	27	11	6	
1081	Blade	22	12	4	hinge fracture
1081	Flake	14	25	2	
1081	Blade	21	11	4	truncated
1081	Flake	26	16	6	
1081	Flake	13	20	5	
1081	Flake	17	10	3	
1081	Flake	15	18	4	
1081	Flake	10	11	3	heated
1081	Flake	17	14	5	step fracture
1081	Flake	15	10	2	
1081	Flake	15	12	5	step fracture
1081	Flake	16	18	3	
1081	Flake	15	10	3	
1081	Flake	13	12	3	
1081	Rejuvenation flake tablet	53	37	11	chert
1081	Flake	49	65	12	
1081	Flake	39	31	12	
1081	Flake	17	43	9	
1081	Flake	49	34	18	edge damage
1081	Flake	36	19	8	heated
1081	Blade-like flake	73	27	16	
1081	Flake	24	40	7	step fracture
1081	Blade	36	15	5	
1081	Blade	43	14	9	
1081	Flake	19	33	4	hinge fracture
1081	Flake	28	23	7	
1081	Flake	34	25	6	
1081	Flake	34	26	10	
1081	Flake	15	39	10	
1081	Flake	15	21	6	
1081	Blade-like flake	37	16	10	
1081	Flake	22	25	7	
1081	Flake	41	25	10	step fracture
1081	Rejuvenation flake tablet	58	30	20	
1081	Flake	25	28	8	
1081	Blade	49	23	11	truncated
1081	Flake	42	23	14	
1081	Blade	19	13	6	truncated

Context	Type	L	W	T	Comments
1081	Flake	22	36	12	
1081	Flake	29	22	13	
1081	Flake	26	28	12	
1081	Flake	25	12	5	
1081	Flake core	37	32	15	multiplatform flake core
1081	Flake core	43	41	30	single platform flake core
1081	Flake	35	44	14	
1081	Flake	36	21	6	chert
1081	Flake	32	18	10	
1081	Core fragment	38	32	20	flake core fragment
1081	Indeterminate piece	48	32	12	possibly natural
1081	Rejuvenation flake tablet	39	28	13	
1081	Flake	31	29	6	
1081	Flake	20	20	6	
1081	Indeterminate piece	29	15	15	possibly natural
1081	Indeterminate piece	48	26	11	
1081	Core fragment	45	36	33	flake core fragment
1081	Core fragment	62	61	34	flake core fragment
1081	Flake core	53	28	25	single platform flake core
1081	Flake core	53	47	35	multiplatform flake core
1087	Flake	13	10	4	
1087	Flake	20	18	6	hinge fracture
1087	Flake	26	15	5	
1087	Flake	34	25	10	
1093	Retouched blade	65	16	7	2 very small adjacent notches may be edge damage
1093	Flake core	42	29	22	multiplatform flake core
1095	Retouched flake	39	25	10	very fine continuous retouch along one edge; finely retouched notch along other
1099	Flake	54	37	18	
1099	Flake	18	18	5	
1102	Blade-like flake	70	26	11	
1102	Blade	28	9	4	microblade; tapering
1102	Flake	26	15	3	
1102	Flake	22	44	11	edge damage
1104	Blade	32	12	5	
1107	Blade	22	15	3	truncated
1109	Blade	45	17	5	edge damage
1109	Blade-like flake	27	15	5	
1115	Blade core	47	32	20	single platform blade core
1115	Blade	62	17	9	
1115	Flake	42	22	8	REFIT

Context	Type	L	W	T	Comments
1115	Flake	30	31	8	REFIT
1115	Flake	78	31	11	
1115	Core fragment	35	55	22	flake core fragment
1115	Flake	20	29	13	
1115	Flake core	58	47	24	single platform flake core
1115	Retouched flake	58	30	17	denticulated
1115	Blade	47	10	4	microblade
1115	Blade	41	13	6	
1115	Blade-like flake	40	16	6	
1115	Retouched blade	24	9	3	retouched shoulder
1115	Flake	27	20	7	
1115	Flake	19	25	3	
1115	Blade-like flake	36	14	5	
1115	Flake	21	21	6	
1115	Flake	27	21	4	
1115	Blade	13	11	3	hinge fracture; truncated
1115	Flake	18	10	3	
1117	Flake	29	56	7	glossy; hinge fracture
1117	Flake	29	10	5	
1117	Blade	29	12	3	truncated
1119	Flake	9	13	3	
1126	Flake core	60	46	34	multiplatform flake core
1130	Retouched blade	46	13	9	bilateral fine-coarse steep edge retouch; could be termed an awl
1138	Blade-like flake	16	9	3	
1138	Flake	34	25	14	many dorsal flake scars - from multiplatform core
1138	Retouched flake	52	44	17	bilateral coarse steep retouch; one notch
1148	Blade-like flake	25	10	5	
1152	Flake	33	23	8	
1152	Flake	33	30	12	
1152	Flake	11	15	3	
1154	Flake	18	9	5	
1158	Retouched flake	42	47	13	possible inverse retouch end and side scraper
1158	Blade core	48	42	39	single platform blade core
1158	Flake core	55	52	36	multiplatform flake core
1161	Core fragment	60	47	21	flake core fragment
1163	Flake	29	32	6	
u/s	Blade-like flake	60	16	10	plunging termination
u/s	Flake	25	36	11	
u/s	Retouched flake	22	26	8	?thumbnail scraper
u/s	Flake	54	34	21	bipolar flake?
u/s	Flake	47	21	18	blade scars on dorsal face

Context	Type	L	W	T	Comments
u/s	Flake core	36	38	37	multiplatform flake core
u/s	Flake core	41	38	21	multiplatform flake core
u/s	Flake	26	24	8	
u/s	Retouched flake	35	19	9	possible notch; edge damage
u/s	Flake	34	28	12	corrects step fracture in core
u/s	Flake core	37	37	35	multiplatform flake core; some bladelike removals
u/s	Retouched flake	32	26	8	fine steep retouch end and side scraper; used
u/s	Flake	28	27	9	
u/s	Flake	34	43	16	hinge fracture
u/s	Flake	29	23	13	edge damage
u/s	rejuvenation flake tablet	47	40	18	
u/s	Flake core	32	50	32	single platform flake core
u/s	Blade	17	11	3	truncated
u/s	Blade	24	12	4	truncated
u/s	Flake	39	28	4	
u/s	Flake	27	18	11	hinge fracture
u/s	Flake	27	16	5	
u/s	Flake	24	27	4	
u/s	Flake	34	34	9	
u/s	Retouched flake	27	18	6	2 notches
u/s	Flake	25	22	8	massive erailure; stepped fracture
u/s	Retouched flake	28	17	12	minor lateral normal retouch
u/s	Flake	20	27	7	

Table 42. Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of flint assemblage by context

Burnt Flint

The burnt flint was examined for any intrinsically interesting pieces for retention (such as burnt, struck fragments), weighed and then discarded.

Context	Bulk Weight (grams)
1005	9
1011	13
1013	3
1019	31
1037	5
1041	557
1044	150
1049	9
1050	10
1052	8
1053	22
1071	350
1079	75
1081	1680
1115	26
1117	37
1124	17
1126	5
1131	16
1135	28
1148	10
	3061

Table 43. Area 4 (north) and Area 5 Watching Brief AOC (2002): summary of burnt flint assemblage by context

B2.1.4 Area 6 Monitor and Record AS (2006)

No significant remains found.

B2.1.5 Area 7 Monitor and Record by AS (2007)

No significant remains found.

B2.1.6 Area 8 Monitor and Record by AS (2008)

B2.1.6.1 Struck Flint by Andrew Peachey

Excavations in 2008 produced a total of four fragments (10g) of struck flint, including one scraper and three fragments of debitage. The fragments do not exhibit any consistency in raw material and are probably derived from local surface gravels. The scraper and two fragments of debitage were present in Phase 1 features. The scraper, from posthole F1141 (L1142) was manufactured from mid grey flint and is moderately patinated. It comprises an uncorticated flake (1g) that has had its lateral and distal edges retouched to form a small thumbnail scraper. The debitage in comprises two tertiary flakes (8g) in dark grey-brown flint with an orange-brown cortex, recovered from pit F1007 (L1008).

A single residual debitage flake was present in Phase 2 pit F1210 (L1047) is a secondary flake (1g) that appears to be derived from similar flint source. The quantity of struck flint is too limited to allow any further discussion or conclusions.

Unworked burnt flint was sparsely scattered throughout a range of Phase 1, Phase 2 and unphased features and generally does not warrant any further comment, except for a substantial concentration (82 fragments, 655g) in unphased pit F1159 (L1160) that may represent an important anomaly within this distribution.

A note on terminology

The term 'cortex' refers to the natural weathered exterior surface of a piece of flint, and the term 'patination' to the colouration of a flaked surface exposed by human or natural agency. Dorsal cortex is categorised after Andrefsky (2005, 104 & 115) with 'primary flake' referring to those with cortex covering 100% of the dorsal face; 'secondary flake' with 50-99%; 'tertiary' with 1-49% and 'uncorticated' to those with no dorsal cortex.

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B2.1.7 Area 9 Monitor and Record by AS (2008)

No significant remains found.

B2.1.8 Area 10 Monitor and Record by OA East (2010)

A small quantity of struck flint (90g) was recovered from 5 contexts during this intervention. This material has not yet been assessed.

Context	Material	Weight (kg)
108	Flint	0.04
110	Flint	0.01
118	Flint	0.00
193	Flint	0.03
132	Flint	0.01
Total		0.09

Table 44. Area 10 Monitor and Record by OA East (2010): summary of quantified worked flint

Appendix B2.2 Querns

B2.2.1 Total Site Survey by Passmore Edwards Museum (1988)

B2.2.1.1 Quern Stone by Hilary Major

The site had a sandstone saddle quern fragment from context 95, and an unspecified number of lava quern fragments from context 1 (topsoil), of which one may be post-Roman.

Recommendations for further work:

- Update the catalogues. Complete integration of dating evidence/phasing, and add details of diagnostic quern fragments.
- Analyse the assemblages, with specific attention to all prehistoric querns and the crop-processing structure at Fairlop. Analysis will establish what quern types were present, at what date, and in which site contexts. On the basis of the assessment, much of the quern evidence is late Roman and this may be significant. It is possible that petrological analysis may be required.
- Write a concise report, both of the querns and their intrinsic character, and where they contribute to addressing the research aim on understanding the development of agricultural landscapes.

B2.2.2 Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002)

B2.2.2.1 The Quern by CgMs Consulting

Almost 2 kg of quern stone was recovered from a number of pits and ditches during the course of the watching brief. All of the stratified material was recovered from Area 3 south. The majority was derived from medieval contexts and was probably residual material. The quern-stone fragments, which are all of an igneous type, are possibly Mayen and/or Niedermendig lava. The stone, imported from Mayen in the Eifel region of Germany was a favoured imported material for Roman querns, alongside sandstones and conglomerates.

Similar material imported either in blocks as ballast or as objects of trade, including quernstones, is also known from Mid-Saxon Southampton (*Hamwic*). The material was probably transported via the Rhine to Dorestadt and then shipped to England, where it was distributed (Every, R. *et al*, 2005). Such fragments were frequently re-used later as building material. This may explain the predominance of the Sheppey quern fragments within medieval contexts.

Context	Context description	Area	Object description	Context date	No. count	Weight (g)	Comments
174	Fill of cut 173	3 S	Mayen(?) lava quern	10th-13th C?	8	60	Also frag of possible olivinite / granite
267	Fill of gully section 266	3 S	Mayen(?) lava quern	10th-13th C?	1	80	
287	upper fill of pit 286	3 S	Mayen(?) lava quern	12-13thC	2	600	
327	lower fill of ditch 326	3 S	Mayen(?) lava quern	13th-14th C	4	400	
328	upper fill of ditch 326	3 S	Mayen(?) lava quern	13th-14th C	2	500	
349	Cut containing 347, 348.	3 S	Mayen(?) lava quern	?	1	0	
unstrat	Upper fill, unknown context		Mayen(?) lava quern		4	100	
Total					22	1740	

Table 45. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): the quern quantified by context

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Coulston, J., C., N. 1993. Quernstones. In, M., C. Bishop (Ed.), *Excavations in the Roman Fort at Chester-le-Street (Concangis)*, Church Chare 1990-91 *Archaeologia Aeliana* 5th series, 21 (1993), 29-85. www.mcbishop.co.uk/concangis.

Penn, W.S. 1966. A Quern Survey in Kent. *Kent Archaeological Review*. Spring 1966 (3).

B2.2.3 Area 4 (north) and Area 5 Watching Brief AOC (2002)

No significant remains found.

B2.2.4 Area 6 Monitor and Record AS (2006)

No significant remains found.

B2.2.5 Area 7 Monitor and Record by AS (2007)

No significant remains found.

B2.2.6 Area 8 Monitor and Record by AS (2008)

No significant remains found.

B2.2.7 Area 9 Monitor and Record by AS (2008)

No significant remains found.

B2.2.8 Area 10 Monitor and Record by OA East (2010)

No significant remains found.

Appendix B3. Building Material

B3.1 Total Site Survey by Passmore Edwards Museum (1988)

B3.1.1 Building Material by Ian Betts

Introduction/methodology

A sample of three boxes out of five have been recorded using the standard recording forms used by the Museum of London. This has involved fabric analysis undertaken with a x10 binocular microscope. The information on the recording forms has been added to an Oracle database.

Material	Count	Count (%)	Weight (kg)	Weight (%)
Stone	2	3	1.550	21.3
Daub	8	12	0.090	1.2
Roman ceramic*	51	75	5.290	72.7
Post-med ceramic	7	10	0.345	4.7
Total	68		7.27	

Table 46. Total Site Survey by Passmore Edwards Museum (1988): the building material

Roman stone building material

Paving?': A cream coloured fine grained micaceous sandstone was found with Roman roofing tile and brick (fabric 2459B) in context 1 (Area AA). As the stone is of laminated type it is possible it was used as paving although there is no sign of wear.

Rubble: A fragment of flint, or possibly chert, rubble was also found in context 1 (Area AA)

Pre-Roman/Roman daub

Comprises mainly small undiagnostic fragments, although there is a small shaped object from context 15.

Roman ceramic building material

Fabrics

Early Roman fabric: 2815 group. Late Roman fabric: 2459B.

Forms

Tesserae: There are two possible fragments of tesserae from context 1 (Area V)

Roofing tile: The majority of the Roman tile assemblage is tegula and imbrex roofing tile. One possible tegula was a worn base indicating reuse as paving (fabric group 2815 or fabric 2459B)

Flue tile: From context 1 are three fragments of combed box flue (fabric group 2815, fabric 2459B) from a hypocaust heating system. These may derive from the Roman stone building found on the site.

Brick

A few undiagnostic brick fragments were recovered.

Markings on tiles and bricks: Animal prints. A brick in context 23 has part of a paw print.

Post-medieval ceramic building material

FABRICS: Later fabrics: 3203. Undated fabrics: 2276

FORMS:

Roofing tile

Peg tile: Peg roofing tile in fabric 2276 were found in contexts 1 and 207. The latter has the remains of a square nail hole.

Pantile: A pantile with part of the nib surviving (? x 20 x c5mm) was found in context 81. It is in fabric type 3203 which could be either English or Dutch.

Drains and pipes: Part of a Victorian, or later, pipe was found unstratified. text

B3.2 Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002)

B3.2.1 Fired Clay and Daub by Jane Cowgill

Discussion

The majority of the daub and fired clay are probably structural remains, perhaps from small domed ovens or, when wattle imprints are present, from the walls of buildings although a wattle framework can form the basis of a wide variety of structures. The daub from context 12 is low fired and quite soft in contrast to the extremely hard-fired clay from context 32c, the fill of an Iron Age enclosure ditch. This latter material may have been in some form of conflagration to have become fired to such a high degree, it is similar in hardness to well-fired pottery. It is made from a coarse fabric with some sand and large flint inclusions that probably occur naturally within the local clay, there is no evidence for any added temper. It could be from the walls of a building as it is ap that the clay has been forced onto and between closely aligned wattles. The fired clay from context 403, pit 405, is a similar fabric but it has not been fired at such a high temperature.

Two probable loomweights are represented in the assemblage, each made of a different fabric and with differing degrees of care. Both, however, may once have been domed in shape although it is possible that the example from context 32c was originally cylindrical; neither are examples of the more common triangular type. The example from context 32c is made from a fabric with some sand content but it has not been well wedged to make it compact and heavier although the surfaces are smooth and well finished. In total contrast the loomweight from context 413 is made from an almost inclusion free clay that has been fired at a low temperature and as a result is now fracturing into small pieces. The surfaces are uneven from rough shaping and only the evidence of a perforation, assumed to be centrally sited, leads to its identification as a loomweight.

Conclusions

This is a small assemblage of fired clay finds recovered during several watching briefs undertaken at Marks Warren Quarry. The majority is probably structural fired clays or daub fired at a variety of temperatures to different degrees. Two loomweights are probably represented, both may have been domed-shaped, neither being the common triangular type usually encountered on Iron Age and Early Roman sites.

Site	Context	Type	Count	Wt (g)	Comments
JSAC390	12	Daub	18	232	Coarse fabric; organic temper; orange uneven oxidised surfaces; reduced fired back.
JSAC390	12	Daub	1	22	As above but with right-angled corner with slight curve.
JSAC390	32c	Fired Clay	4	273	Hard mostly oxidised fired; large frequent wattle imprints 2 x 15mm in diameter; large flint inclusions; 2 smooth faces; no added organic temper.
JSAC390	32c	Loomweight	1	628	Cylindrical or a high dome in shape; basal diameter c. 110mm; fawn fabric with smooth surfaces; 5 pieces but no joins found.
MWQ 98	403	Fired Clay	13	123	Coarse fabric with large flint inclusions; oxidised lumps -some large.
MWQ 98	403	Fired Clay	3	70	Fabric as above; uneven fingered flattish surfaces.
MWQ 98	403	Fired Clay	1	28	Fabric as above; large ?wattle imprint.
MWQ 98	403	Fired Clay	1	32	Fabric as above; 2 wattle imprints c. 15-20mm in diameter; frequent large flint inclusions.
MWQ 02	413	Loomweight	1	304	Poorly wedged and low fired; fragment now in 23 pieces; no added temper with occasional natural flint inclusions; uneven fingered surface - originally dome shaped? Central perforation 10mm in diameter.
MWQ 02	415	Fired clay	1	27	Object with curved face? Oxidised and reduced fired.
Total			44	1739	

Table 47. Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Catalogue of the fired clay

B3.2.2 Ceramic Building Material

A total of 35 fragments, weighing 6.400kg, of prehistoric, Romano-British, medieval, post-medieval and modern ceramic building material were recovered during the Watching Briefs of these areas (see catalogue below). This material has been identified but no formal assessment report has yet been written.



Context No.	Context description	Area	Object description	Context date	No. count	Weight (g)	Comments
103	Fill of 104 in Test pit 1	3 S	Tile fragment	2 nd -4 th C Roman	1	10	
106	Fill of rectangular cut 105	3 S	Tile fragment	Prehistoric Neolithic?	1	30	
147	Clay layer	3 S	Imbex tile fragment	Prehistoric	1	300	
174	Fill of cut 173	3 S	Fragment brick/tile	10 th -13 th C?	1	40	
190	Cut for pit series	3 S	Tile fragment	10 th -13 th C?	1	60	
217	Fill of cut 216	3 S	Tile fragments	10 th -14 th C	3	40	
234	Pit	3 S	Tile flange fragment	Prehistoric	1	140	
267	Fill of gully section 266	3 S	Tile fragment	10 th -13 th C?	1	130	
315 (T3)	Gully intervention-cut	3 S	Decorated tile fragment	13 th -14 th C?	1	220	Upper face decorated with woven pattern
326	ditch on E boundary	3 S	Tile fragment	13 th -14 th C	1	140	
326	ditch on E boundary	3 S	Tile fragment	13 th -14 th C	1	100	
328	upper fill of ditch 326	3 S	Tile fragment	13 th -14 th C	1	110	
328	upper fill of ditch 326	3 S	Tile flange fragment	13 th -14 th C	1	200	
328	upper fill of ditch 326	3 S	Vitrified tile fragments adhered	13 th -14 th C	10	900	Vitrified exterior, unoxidised tile interior. Poss from post-medieval/industrial furnace.
363	Fill of ditch 364	3 S	Brick fragments	modern	4	250	
406	Fill of ditch 407	3 N	Wide rectangular handmade brick	16th/17th – 19th c	1	1400	
406	Fill of ditch 407	3 N	Flat rectangular handmade brick	16th/17th – 19th c	1	820	
406	Fill of ditch 407	3 N	Small rectangular handmade brick	16th/17th – 19th c	1	750	
406	Fill of ditch 407	3 N	Half handmade brick	16th/17th – 19th c	1	700	
Unstrat.	Upper fill of unknown	?	Tile fragments		2	60	

Table 48: Areas 2, 3 and 4 (south) Watching Briefs by JSAC (2000-2002): Catalogue of the Fired Clay Finds: Catalogue of the Brick & Tile

B3.3 Area 4 (north) and Area 5 Watching Brief AOC (2002)

No significant remains found.

B3.4 Area 6 Monitor and Record AS (2006)

No significant remains found.

B3.5 Area 7 Monitor and Record by AS (2007)

B3.5.1 Ceramic Building Materials by Andrew Peachey

Introduction

The excavations produced a total of 16 fragments (659g) of post-medieval CBM, and a further 11 fragments (16g) of daub of indeterminate but possibly Iron Age date. The CBM and daub was quantified by fragment count and weight with any extant dimensions recorded. All data was entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive. A single CBM fabric was identified at x20 magnification and is described below.

Fabric Description

Fabric 1: A hard orange red fabric (2.5YR-5YR 5/8), generally oxidised throughout but occasionally exhibiting a well defined mid grey core, with a smooth to slightly abrasive surface. Inclusions comprise common very fine quartz (<0.1mm) with sparse off-white and dark red clay pellets/grog (0.25-1mm).

Discussion

The bulk of the CBM: 14 fragments (612g), was recovered from segments of ditch F2007 L2008 and L2009. This total included 12 fragments (485g) of 12mm thick flat tile, probably derived from an unidentifiable form of roof tile and two fragments (127g) from a miscellaneous type of brick. All fragments are relatively small, substantially abraded and present in low concentrations. A further small fragment of tile is present in Ridge & Furrow F2016 and a further small fragment of brick in pit F2002 L2004. The CBM appear to be of post-medieval date (16th to 18th centuries) but the state of preservation limits any conclusions that can be drawn.

Small concentrations of 'crumbs' of daub or baked clay were recovered from pit F2002, L2003 and pit F2020 L2021. The daub occurs in a variety of oxidised tones and contains common, poorly sorted quartz grains (0.1-1mm) and sparse incidental inclusions such as flint, grog and organic voids. These 'crumbs' are of indeterminate date but contexts containing them also produced small fragments of possibly Iron Age pottery, a correlation that may indicate that these are ephemeral remains of a prehistoric occupation however the very small size and poor preservation of these fragments makes this a very tentative suggestion.

B3.6. Area 8 Monitor and Record by AS (2008)

B3.6.1 Ceramic Building Materials and Daub by Andrew Peachey

Introduction

Excavations produced a total of 62 fragments (6172g) of CBM including material from the Romano-British and post-medieval periods, as well as a further 2 fragments (20g) of prehistoric daub (Table 49). The CBM from all periods is sparsely scattered and unlikely to be directly related to any structural remains in the vicinity, although the occurrence of much of the Romano-British CBM does coincide with concentrations of pottery.

Phase	Prehistoric Daub		Romano-British CBM		Post-medieval CBM	
	count	Weight (g)w	count	Weight (g)w	count	Weight (g)w
1: late Bronze Age/early Iron Age	2	20				
2: late Iron Age/Romano-British			15	1155		
4: mid to late medieval			2	184		
5: post-medieval			8	154	36	4669
Unphased					1	10
Total	2	20	25	1493	37	4679

Table 49: Area 8 Monitor and Record by AS (2008): occurrence of CBM and daub in phased groups by fragment count (f) and weight (w) in grams

Methodology

The CBM was quantified by fragment count and weight (in grams) with all extant dimensions measured and any typological characteristics noted. Fabrics were examined at x20 magnification and are described below. Romano-British forms were assigned according to Brodribb (1987) and post-medieval forms according to Ryan (1996). All data was entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive.

Fabric Descriptions

Fabric 1: Red (2.5YR-5YR 4/6) throughout. Inclusions comprise abundant quartz (generally <0.2mm, occasionally larger), with occasional incidental inclusions (flint/mica/iron ore) also visible. The fabric is hard with a finely abrasive feel. Post-medieval.

Fabric 2: Red-brown (5YR 4/3) throughout. Inclusions comprise common quartz (0.1-0.2mm) sparse quartzite, iron rich clay pellets, voids (probably burnt out organics, all 0.5-4mm), and occasional flint (3-12mm). The fabric is hard with a slightly abrasive feel. Post-medieval.

Fabric 3: Red (5YR 5/6) surfaces with slightly lighter core (2.5YR-5YR 5/8). Inclusions comprise common quartz (<0.2mm) with sparse calcareous and red/black iron rich grains (both 0.1-0.5mm) The fabric is hard with a smooth to slightly abrasive feel. Post-medieval.

Fabric 4: Orange (5YR 5/8-6/8) throughout, occasionally with a thin, slightly darker core. Inclusions comprise common fine quartz (<0.1mm), sparse quartz and red iron-rich grains (all 0.2-0.5mm), sparse flint can calcareous grains (0.5-4mm) and fine mica. The fabric is hard with a smooth to powdery feel. Romano-British

Fabric 5: Light brown surfaces and margins (7.5YR-10YR 6/4) with a very dark grey/black core. Inclusions comprise sparse quartz (generally <0.2mm, occasionally larger), sparsened/black iron rich grains (0.2-4mm), sparse organic ?chaff voids (<4mm) and occasional quartzite and flint (both 0.5-15mm). The fabric is moderately hard with a slightly abrasive to smooth feel. Romano-British.

Daub: Mottled buff-coloured, sun-baked clay with sparse inclusions of poorly sorted quartz (0.1-0.5mm) and calcined flint (0.5-5mm). Quite friable. Prehistoric.

Discussion

The earliest CBM in the assemblage comprises 2 fragments (20g) of daub contained in pit F1069 (L1070). These small fragments are highly abraded and exhibit no intact edges or surfaces, but have been deliberately tempered while not being fired or oven-baked. They probably formed part of a daub constructed prehistoric structure, although objects such as thatch weights cannot be discounted as a potential source.

The Romano-British CBM comprises two form types, each present in a highly abraded and fragmented condition. The first form type is tegulae roof tile in Fabric 4. Stratified fragments in Phase 2 features occur in ditch F1255 (L1256 Segs.A and B) alongside quantities of Romano-British pottery, while residual fragments are present in Phase 4 Construction Cut F1187 (L1192) and Phase 5 ditches F1083 (L1084), F1173 (L1174 Seg.H) and Posthole 1075 (L1076). The second form type is *bessalis* brick in Fabric 5, although as the only extant dimension on any of the recorded fragments is a thickness of 50mm, it remains possible that more than one brick type is present. Stratified fragments of *bessalis* are present in Phase 2 ditches F1233 (L1234 Seg.B), F1235 (L1236 Seg.J) and F1255 (L1256), in each case alongside fragments of Romano-British pottery. Residual fragments of *bessalis* were also present in Construction Cut F1187 (L1192) alongside residual tegulae roof tile.

The post-medieval CBM is also represented by two form types: pantile (roof tile) and late 17th- to 18th-century red brick. Pantile occurs solely in Fabric 3 and is present as very sparse stratified fragments in Phase 5 ditch F1011 (L1012) and pit F1073 (L1074) while a small concentration of fragments representing no more than two tiles is present in Phase 5 ditch F1009 (L1010) in association with fragments of post-medieval brick. A small, isolated fragment of pantile is also present in unphased curvilinear feature F1042 (L1043). The post-medieval brick occurs almost entirely in Phase 5 ditch F1009 (L1010) although a single, small fragment is also present in Phase 5 pit F1073 (L1074). The post-medieval brick occurs in Fabrics 1 and 2, but is united in form. The brick type has dimensions of c. 217mm x 90mm x 50mm with a smooth base, slightly irregular arrises and slightly creased faces. This brick form is typical of a type common in Essex in the late post-medieval to early modern periods, but with a maximum of four bricks represented in this assemblage, is not present in a quantity that suggests association with a structure. The occurrence of post-medieval CBM on this site is probably the result of secondary deposition through agricultural processes.

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B3.7 Area 9 Monitor and Record by AS (2008)

B3.7.1 Ceramic Building material, daub and fired clay by Andrew Peachey

Introduction

Excavations produced a total of 11 fragments (586g) of CBM and 77 fragments (1678g) of daub and fired clay. These materials were quantified by fragment count and weight (g), while observations on fabric and form were also recorded. All data was entered into a Microsoft Excel spreadsheet that forms part of the site archive.

Ceramic Building Materials

Pit F2070 (L2071) contained four cross-joining fragments (112g) of 20mm thick flat tile in a fine sand-tempered fabric with reduced surfaces that faded to an oxidised core. Although no diagnostic features were ap these

fragments probably formed part of a Roman tegula roof tile, a suggestion that is supported by the presence of Roman pottery also present in the same feature.

The remaining CBM is entirely of post-medieval date although diagnostic details are lacking. Plough Damage Layer F2006 (L2007) contained two fragments of peg tile (50g) and a single fragment of post-medieval brick (410g), all in an exceptionally highly abraded condition. Further very small fragment of CBM were present in pit F2004 (L2005) and Field Drain F2008 (L2009) and on the basis of their fabric appear to be post-medieval but are too insubstantial for any further appraisal.

Fired Clay and Daub

The only concentration of fired clay in the assemblage was present in Hearth F2076 (L2077) and comprises 44 fragments (1427g) that originally belonged to a single object. The fabric of the object is of silty clay with incidental flint and vegetable inclusions, baked or fired at a relatively low temperature. The fabric is soft and friable and the original shape of the object remains unclear, however it was at least 80mm thick and had rounded edges. The object was probably a rudimentary brick or support used in the hearth.

The remaining fragments, in total 33 fragments (251g), were tempered with sand and vegetable matter and were probably used as daub. Posthole F2044 (L2045) contained three fragments (94g) including a single relatively substantial fragment with wattle impressions, while the remaining fragments in pit F2060 (28 fragments, 150g) and Posthole F2074 (2 fragments, 7g) are limited to small, highly abraded, rounded fragments.

B3.8. Area 10 Monitor and Record by OA East (2010)

No significant remains found.

Appendix C. Environmental Remains

Appendix C1. The Human Skeletal Remains

C1.1. Total Site Survey by Passmore Edwards Museum (1988)

No significant remains found

C1.2. Area 1 Watching Brief by JSAC (1998)

No significant remains found.

C1.3. Area 2 Watching Brief by JSAC (2000)

No significant remains found.

C1.4. Area 3 (South) Watching Brief by JSAC 2001

No significant remains found.

C1.5. Area 3 (North) Watching Brief by JSAC (2002)

No significant remains found.

C1.6. Area 4 (south) Watching Brief by JSAC (2002)

No significant remains found.

C1.7. Test-pit Survey by JSAC (2002)

No significant remains found.

C1.8. Area 4 (north) and Area 5 Watching Brief AOC (2002)

No significant remains found.

C1.9. Area 6 Monitor and record AS (2006)

No significant remains found.

C1.10. Area 7 Monitor and Record by AS (2007)

No significant remains found.

C1.11. Area 8 Monitor and Record by AS (2008)

C1.11.1 Human Bone by Carina Phillips

Introduction

Ditch F1235 produced a single unidentifiable fragment of burnt bone dating to the late Iron Age/Romano-British and four urned cremation burials were recovered from Anglo-Saxon (C1085, C1104, C1109 and C1118) features. Human bone was positively identified in all these. All the cremation burials have been identified as consisting of adult individuals. The four urned cremation burials all suffered from some degree of

truncation, F1110 and F1079 in particular are described as heavily truncated. Truncation of the burials will have affected survival and recovery of the bone.

Method

The cremations burials and the cremation grave fill were sampled and processed. All urned cremation burials were block lifted and excavated in 5cm spits away from site before processing. The bone from each spit has been considered separately in analysis. The spits were separated into three sieve fractions during analysis, fraction 1 (<10mm), fraction 2 (10-5mm), fraction 3 (5-2mm). Fraction 4 (>2mm) has been excluded from total weights as this consist mainly of extraneous material; it was visually scanned for identifiable bone fragments.

Each fraction was then broadly separated into four categories, skull, axial skeleton, upper limbs and lower limbs when possible. Weights for each category have been recorded. The fragments from each category have been further recorded by identification to skeletal element when possible. The identification of multiple individuals in one cremation burial is based on the presence of bones from different aged individuals and/or the presence of duplicate bones. If there is no evidence of multiple individuals it is assumed that the bones represent one individual. Any non-human bone was excluded during weighing and recorded as present. Any evidence of pathological change has also been recorded

The bone fragments were analysed in order to determine age and sex when possible. Only adults were identified in this assemblage. The identification of adult remains has been based on the presence of epiphyseal fusion (see Brickley and McKinley (2004), Buikstra & Ubelaker (1994) and Ferembach *et al* (1980) for details). Observable cranial suture closure has been used to tentatively estimate a rough adult age group, however it was not possible to assess all aspects of the suture closure following Buikstra & Ubelaker (1994) and it is therefore emphasised that this is not a reliable indicator of age. It was not possible estimate sex for any of the burials in this assemblage.

Results: Late Iron Age/Romano-British, ditch F1235

One small unidentifiable fragment of bone burnt to a white colour was recovered from a vessel, which had been interred in this feature (Spit 5: 20-25 cm).

Results: Anglo-Saxon

Four urned cremation burials were recovered. All were truncated to some degree. Due to the small size of the assemblage a summary of each burial is given below

Cremation 1085, Vessel 1081

Analysis indicates the remains consist of an adult individual. Part of the lambdoid suture is open. On occipital fragments is noted to have a non-metric trait of a mastoid foramen on the occipital. An estimation of sex is not possible. There is no evidence of more than one individual.

All areas of the body are represented to some degree; these are spread throughout the spits. Skull fragments account for 64% of the 51.7g of identifiable bone, and include fragments of the occipital, frontal and right zygomatic. Similar amounts of bone, (ranging 10-12% of the identifiable fragments) from the axial (including fragments of the vertebrae arches and ribs), upper limb (including parts of the humerus, ulna and part of the left hamate) and the lower limb (fragments of the tibia and fibula) were also identified. All the bone is white in colour, except the left hamate which is pale brown. There was no evidence of more than one individual. Spit 3 contained the greatest amount of bone (Table 50).

Cremation 1085	Spit 1	Spit 2	Spit 3	Overall total	Fraction 1	Fraction 2	Fraction 3
Skull	2.9	5.2	25.4	33.5	16.2	15.5	1.8
Axial skeleton	0	1.5	5.1	6.6	1.4	4.6	0.6
Upper Limb	0	0.3	5	5.3	1.3	4	0
Lower Limb	0	0.8	5.5	6.3	1.5	4.8	0

Unidentifiable Long Bone	1	10.9	33.9	45.8	4	29.5	12.3
Unidentifiable	5.4	16.8	81.4	103.6	8	36.3	59.3
Total	9.3	35.5	156.3	201.1	32.4	94.7	74
% of total	5	18	78	-	16	47	37

Table 50: Area 9 Monitor and Record by AS (2008): cremation 1085 weight (g) of bone in spits and fractions

Cremation 1104, Vessel 1107

This burial consists of the remains of an adult individual. The lambdoid and coronal suture both exhibit significant closure, which tentatively suggests the remains consist of a 'middle-older adult'. An estimation of sex is not possible. There is no evidence of more than one individual.

Spit 3 contained the greatest amount of bone, spits 1 and 2 contained similar amounts (Table 51). A range of body areas are represented, these are spread throughout the spits. The skull accounts for the largest amount of identifiable bone (64% of the 85.1g identifiable to skeletal element). Parts of the mandible, frontal, parietals and occipital are represented. The axial skeleton represented 10% of identifiable bone and includes fragments of the vertebrae and pelvis. The upper limb (15%) and the lower limb *10%) include fragments identified as humerus, ulna, tibia and fibula. All elements are white/cream in colour, except a fused proximal humerus head which is light grey.

Cremation 1104	Spit 1	Spit 2	Spit 3	Overall total	Total fraction 1	Total fraction 2	Total fraction 3
Skull	0.8	15.7	21.8	38.3	28.7	9.5	0.1
Axial skeleton	1.7	1.9	1.8	5.4	2.9	2.5	0
Upper Limb	4.7	0	3	7.7	7.7	0	0
Lower Limb	4	0	0.9	4.9	4.9	0	0
Unidentifiable Long Bone	10.9	7.5	26.1	44.5	14.5	25.3	4.7
Unidentifiable	25.3	21.4	77.2	123.9	9.9	50.9	63.1
Total	47.4	46.5	130.8	224.7	68.6	88.2	67.9
% of total	21	21	58	-	31	39	30

Table 51: Area 9 Monitor and Record by AS (2008): cremation 1104 weight (g) of bone in spits and fractions

Cremation 1109, Vessel 1112

Analysis indicates the remains consist of an adult individual. Minimal closure of the saggital suture at the obelion and the mid-coronal suture is exhibited tentatively suggesting the individual is likely to have been a 'young-middle aged adult'. An estimation of sex is not possible. There is no evidence of more than one individual.

Spit 3 (10-15cm) contained the greatest amount of bone accounting for 44% of the bone recovered from this cremation burial (Table 3). All areas of the body are represented to some degree, skull fragments account for 48% of the identifiable assemblage, including fragments of the frontal, parietals, temporal, mandible and tooth roots. The lower limb was the second most commonly identified, forming 24% of the identified assemblage, fragments of the femurs, tibiae, fibulae, astragali and metatarsals were identified. The upper limb (18%) included identifiable fragments of the humeri, radii, lunar, metacarpal (1st), lunate (right) and phalanges. 95% of the identifiable assemblage came from the axial skeleton; this includes fragments of the vertebrae, sacrum and ribs. A majority of the bone is white/cream in colour. A few exceptions were observed, a fragment of the frontal bone (ectocranial surface) is grey/blue colour and the right mandibular hinge, vertebrae body fragments, left patella and parts of the distal epiphyses of the right humerus and femur are brown/grey in colour.

Cremation 1109	Spit 1	Spit 2	Spit 3	Overall total	Fraction 1	Fraction 2	Fraction 3
Skull	13.8	33.8	26.8	74.4	41.9	31	1.5
Axial skeleton	0.7	5.4	8.1	14.2	12	2.2	0

Upper Limb	3.6	13.7	10.8	28.1	24.1	4	0
Lower Limb	19.4	1.1	16.9	37.4	33.6	3.8	0
Unidentifiable Long Bone	23.1	18.2	36.1	77.4	32.2	41.3	3.9
Unidentifiable	16.8	40.6	49.6	107	10.6	55.6	40.8
Total	77.4	112.8	148.3	338.5	154.4	137.9	46.2
% of total	23	33	44	-	46	41	14

Table 52: Area 9 Monitor and Record by AS (2008): cremation 1109 weight (g) of bone in spits and fractions

Cremation 1114, Vessel 1115

Analysis indicates the remains consist of an adult individual, aged over 20-23 years (based on complete fusion of the iliac crest following Scheuer and Black 2004, 340). Ectocranial suture fusion is observable at the area of the midlambdoid and the bregma, the coronal, saggital and lambdoid sutures were open at these points, tentatively suggesting the individual is likely to have been a 'young adult'. An estimation of sex is not possible. There is no evidence of more than one individual.

Spits 3 (10-15cm) and 4 (15-20 cm) contained the most amount of bone (Table 4). Spit 1 (0-5 cm) consisted entirely of small (less than 5mm) unidentifiable fragments; this is likely to be related to truncation of the vessel. Bone fragments from the skull, axial skeleton, upper and lower limbs were represented in the cremation burial. Most of these areas are represented in spits 2, 3 and 4.

Skull fragments account for 12% of the identifiable bone fragments (based on weight (g)) Fragments from parts of the parietal and occipital of the skull are represented. The axial skeleton is particularly well represented (72% of the identifiable 189g of bone). A minimum of two cervical, seven thoracic, three lumbar and two sacral vertebrae are represented by substantially complete vertebral bodies. These are brown/grey in colour. Fragments of ribs, clavicle (white/cream in colour) and pelvis (cream-light grey in colour) were also identified. The upper and lower limbs are represented by fragments from the humerus, radius, ulna, femur and tibia. Most of these fragments are white/cream in colour, the exceptions being part of the distal epiphysis of a left humerus and a fragment of femur head which are both light grey in colour.

Cremation 1114	Spit 1	Spit 2	Spit 3	Spit 4	Overall total	Fraction 1	Fraction 2	Fraction 3
Skull	0	5.6	9.1	8.8	23.5	12	7.8	3.7
Axial skeleton	0	10.2	69	57	136.2	69.1	65.5	1.6
Upper Limb	0	0.9	0	0	0.9	0.8	0.1	0
Lower Limb	0	14.6	0	13.7	28.3	28	0.3	0
Unidentifiable Long Bone	0	5.5	30.3	42.3	78.1	34.1	37.7	6.3
Unidentifiable	0.4	17.6	65.1	54.3	137.4	16.8	72.9	47.7
Total	0.4	54.4	173.5	176.1	404.4	160.8	184.3	59.3
% of total	0	13	43	44	-	40	46	15

Table 53: Area 9 Monitor and Record by AS (2008): cremation 1114 weight (g) of bone in spits and fractions

Discussion

All four cremation burials are indicated to consist of the remains of adult individuals. There was no evidence to indicate that any of the cremation burials consist of multiple individuals. At both the Anglo-Saxon cemeteries at Spong Hill (McKinley 1994) and at Illington (Wells 1993) adults dominated the assemblages.

The weights of the four cremation burials range from 201.1g to 404.4g. A sample of c. 4000 undisturbed adult burials from multi-period sites have been found to range 57-2200g (McKinley 1997, 139; 199(north)). At Spong Hill undisturbed urned burials ranged 117.2-3105.1g (McKinley 1994a, 11). All the cremation burials from Marks Warren Quarry were disturbed and therefore cannot be directly comparable to these weights. However, McKinley's (199(north)) study does illustrate the variation in the amounts of bone collected from the pyre for burial. Studies suggest that only 40-60% of the expected bone weight is recovered from cremation burials. Using the average weight of 1625.9g for adults from modern cremations (see McKinley 1993) 40-60% is

650.4g - 975.6g. All the Marks Warren Quarry cremation burials weigh less than 405g at Earsham, suggesting they represent less than 25% of the bone weight that could have been deposited. It is likely that the disturbance of the cremation burials through ploughing at Marks Warren resulted in the loss of some bone.

The colour of cremated bone ranges between brown or black (charred bone), through to blue and grey and white; white is associated with oxidised bone (McKinley 2001, 282). In all four cremation burials a majority of the bone fragments are white in colour. Experiments with the colour of bone and temperature have produced varying results, but generally it is ap that human bone becomes white in colour when subjected to temperatures over 645° (Mays 2000, 217; Shipman et al, 1984, 307). In each of the burials, brown/grey fragments are also present; these consist of bones from the hands, epiphyses, vertebral bodies and the ectocranium. This pattern is the result of differences in the exposure of the bone to heat; bones with thick layers of soft tissue or adjacent bones are often less severely affected than those bones that are less shielded (Walker & Miller 2005; Holck 1996; Buikstra & Swegle 1989). The body areas covered by abundant fat may be expected to reach higher temperatures than those that are not (Mays 2000, 220).

For consideration of the skeletal representation, the skeleton has been broadly grouped into categories, skull, axial skeleton, upper limb and lower limb in order to assess representation. As would be expected the lowest spit in all four cremations contained the most bone, although the presence of these body areas in all spits, suggesting that the bone was not collected from the pyre and deposited in the vessel in a deliberate order. Although generally it appears that all areas of the body were collected for deposition, some bones were identified less frequently than others. Skull fragments accounted for the highest proportion (48-64%) of the identifiable assemblage in three of the cremation burials. The frequency of different skeletal areas identified during analysis of cremation burials is likely to be influenced by the different survival rates of different bones (i.e. some bones may be more robust than other bones) and how recognisable fragments of a particular bone are. The frequent occurrence of the skull probably relates to how easily recognisable skull fragments.

Cremation 1114 is the exception to this, with 72% comprising of the axial skeleton. The axial skeleton in Cremation 1114 includes large fragments from the cervical, thoracic, lumbar and sacral vertebrae which are notably brownish-grey in colour, due to the protection of this area from high temperatures (see above). The occurrence of the axial skeleton in the largest quantity in cremations burials is not common. At Spong Hill, the axial skeleton occurred in low frequencies, which has been related to the spongy nature of the bone in this area of the skeleton (McKinley 1994a, 85). The colour of these bones suggests that this area of the body was not subjected to as high temperatures as other areas, the anatomical position of the vertebral bodies adjacent to each other will have protected them from the heat (see above). The large size of much of the vertebral fragments in Cremation 1114 is likely to have made them more recognisable during collection of the bone from the pyre. The size of these bones also indicates that the bone was not deliberately fragmented after collection. The survival of these fragments within the lower spits of the urn suggests that truncation of this feature did not severely affect survival of the bone within this urn.

Conclusions

The small number of cremations recovered here has limited consideration of the cremation practice. However, some understanding of the cremation practices in practice could be indicated. All four burials were urned and consisted of single adult burials. The bodies were all subjected to temperatures exceeding 645°. The survival of large fragments of vertebrae in Cremation 1114 (and a greater proportion of larger fragments overall than seen in any of the other three cremations) suggests that truncation of this vessel did not severely affect survival of the bone. It also indicates that further deliberate fragmentation of the bone after collection from the pyre did not occur.

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C1.12 Area 9 Monitor and Record by AS (2008)

C1.12.1 Cremated Bone by Dr James Morris

An initial evaluation of the hand collected burnt bone was carried out to assess the composition of the assemblage. Burnt bone was recovered from six pit fills (tabulated in archive). Cremated human bone was identified in all six contexts. The majority of the assemblages are highly fragmented and small. The largest fragment, measuring 26mm, came from fill L2079, feature F2078. The colouration of the burnt material is an indication of the cremation temperature. The material from contexts L2047, L2049, L2053 and L2079 had a white oxidised colouration, this is indicative of temperature of 800°C or higher (Shipman *et al.* 1984). The coloration of the material from contexts L2037 and L2071 indicate lower temperatures for these cremations.

The remains from contexts L2049, L2053, L2071 and L2079 appear to be from adult individuals. However, this will be confirmed by later analysis. This initial scan only utilised the remains collected by hand during excavation, any further analysis should include the remains recovered by environmental sampling.

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C1.13. Area 10 Monitor and Record by OA East 2010

No significant remains found.

Appendix C2. Animal Bone

C2.1. Total Site Survey by Passmore Edwards Museum (1988)

C2.1.1 Animal Bone by Alan Pipe

Introduction/Methodology

This report quantifies, summarises and interprets the animal bones recovered by hand-collection at Warren Farm. It then assesses the potential for further post-assessment work. Each context group was described directly onto the MoLAS/MoLSS animal bone assessment database in terms of weight (kg), estimated fragment count, preservation, fragment size, species-composition, carcass-part representation and modification; and the recovery of epiphyses, mandibular tooth rows, measurable bones, complete longbones, and sub-adult age-groups. All identifications of species and skeletal element were made using the MoLSS Environmental Archaeology Section animal bone reference collection. When accurate identification to species or genus level was impossible, fragments were assigned to the approximate categories 'ox-sized' mammal or 'sheep-sized' mammal as appropriate. It should be noted that unidentifiable 'longbone fragments', whether of 'ox-sized' or 'sheep-sized' mammal, were recorded only in terms of their contribution to the overall bone weight and fragment count for each site and context group; they are not recorded in the detailed summary tables which deal with carcass-part representation, modification and recovery of sub-adult age-groups. In view of the generally very poorly preserved and highly fragmented nature of the hand-collected assemblage, the prevalence of unidentifiable, 'ox-sized' and 'sheep-sized' mammal longbone fragments, and the lack of recovery of fish, amphibians or small mammals, no attempt was made to assess the wet-sieved bone.

Throughout the assessed assemblage, the bone material showed considerable uniformity in terms of preservation, fragmentation, species-composition, carcass-part recovery and age at death. The assemblage as a whole was largely in a 'poor' state of preservation with sufficient surface damage to prevent identification of taxon or skeletal element; for this reason no attempt was made to assess the highly eroded and fragmentary animal bone recovered by wet-sieving. For the identifiable fragments, the fragment size was most commonly in the range 25-75mm in greatest length. The assessed bone assemblage was dominated by ox *Bos taurus* and sheep/goat, including small numbers of definitely identified sheep *Ovis aries* with smaller components of pig *Sus scrofa* and horse *Equus caballus* and occasional recovery of chicken *Gallus gallus*, mallard/domestic duck *Anas platyrhynchos*, and red deer *Cervus elaphus*. Non-consumed mammals were represented by occasional recovery of horse *Equus caballus*, dog *Canis familiaris* and cat *Felis catus*.

There was no recovery of fish, amphibians, reptiles, small mammals or wild 'game' species. In terms of carcass-part representation of ox, sheep/goat and pig, the assessed material included bones from all skeletal areas although the bulk of the material derived from areas of moderate and good meat-bearing quality; the lower limb, vertebrae, ribs and upper limb. The major domesticates derived virtually entirely from adults with negligible recovery of juvenile animals and no recovery of infants or foetal/neonate individuals. Although the poor surface condition of much of the material effectively reduced the recovery of evidence for modification; there was limited recovery of evidence for butchery, burning and pathological change. There was no recovery of evidence for bone, antler or horn-working. The complete assessed assemblage produced a limited group suitable for study of age-at-death. Metrical evidence was sparser still.

The site produced only 0.125kg, approximately 51 fragments, of poorly preserved animal bone varying between 25 and > 75m in size. This material all derived from adult ox head and lower limb. There was no evidence suitable for study of age-at-death or stature. There was no evidence for modification or the presence of sub-adult age-groups.

SITECODE	WT (kg)	FRAGS	PRES	NOS	MANDIBLES	MEASURABLE	EPIPHYSES	Longbone
RO-WF88	0.125	25->75mm	poor	51	0	0	0	0

Table 54. Total Site Survey by Passmore Edwards Museum (1988): the animal bones from Warren Farm general summary

CONTEXT	SPECIES	PART	AGE	STATE
3	ox	head	mature	
3	ox	lower limb	mature	
149	ox	head	mature	

Table 55. Total Site Survey by Passmore Edwards Museum (1988): a detailed summary of the animal bones

No further work is required on this material.

C2.2. Area 1 Watching Brief by JSAC (1998)

No significant remains found.

C2.3. Area 2 Watching Brief by JSAC (2000)

No significant remains found.

C2.4. Area 3 (South) Watching Brief by JSAC (2001)

No significant remains found.

C2.5. Area 3 (North) Watching Brief by JSAC (2002)

No significant remains found.

C2.6. Area 4 (south) Watching Brief by JSAC (2002)

No significant remains found.

C2.7. Test-pit Survey by JSAC (2002)

No significant remains found.

C2.8. Area 4 (north) and Area 5 Watching Brief AOC (2002)

No significant remains found.

C2.9. Area 6 Monitor and Record AS (2006)

No significant remains found.

C2.10. Area 7 Monitor and Record by AS (2007)

No significant remains found.

C2.11. Area 8 Monitor and Record by AS (2008)

No significant remains found.

C.12. Area 9 Monitor and Record by AS (2008)

No significant remains found.

C.13. Area 10 Monitor and Record by OA East (2010)

No significant remains found.

Appendix C3. Environmental Samples

C3.1 Total Site Survey by Passmore Edwards Museum (1988)

No significant remains found.

C3.2 Area 1 Watching Brief by JSAC (1998)

No significant remains found.

C3.3 Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002)

C3.3.1 Environmental Archaeology Report by Gemma Martin and James Rackham

Introduction

A total of eighteen bulk soil samples were taken for environmental analysis and submitted to the Environmental Archaeology Consultancy for processing and assessment (Table 56). These include several samples from pit features of early Iron Age date, a single sample from a Romano-British ditch and several early medieval contexts. At the time of writing no provisional phasing was available for three samples.

Sample no.	Context	Area	Sample vol. l.	Sample wt. Kg	Description	Pot date
1	108	3 south	30	24	Fill of small (?cremation) pit 107	Early Iron Age
2	142	3 south	17	24	Fill of small circular pit 141	
3	229	3 south	30	33	Burning fill of small oval pit 227	12th-13th C?
4	231	3 south	6	10	Fill of small posthole 230	12th-13th
5	296	3 south	2	2.5	Fill of pottery vessel 295 from pit 298	10th-13th C
6	328	3 south	27	36	Upper fill of RB ditch 326	2nd-4th C/10th-14th
7	327	3 south	2	4.5?	Lower fill of RB ditch 326	10th-13th C?
8	287	3 south	27	36	Upper fill of pit 286	med-12-14th?
9	288	3 south	18	22	Lower fill of pit 286	med-12-14th?
10	263	3 south	20	28	Fill of gully 262	mid 13th-14th C
11	310	3 south	20	29	Fill of narrow linear 309	10th-13th C
12	411	3 northeast	1.5	2.5	Fill of pit 410	
13	413	3 northeast	18	20	Fill of pit 412	EIA?
14	420	3 northeast	10	13	Upper fill of pit 418	
15	526	4	20	28	Upper fill of pit 525, above pot	EIA?
16	527	4	19	22	Fill of pit 525, layer containing most pot	Early Iron Age?
17	528	4	10	13	Fill of pit 525, interface with natural below pot	EIA?
18	530	4	30	36	Fill of cut 529, large possible reused TTH	EIA?/prehistoric

Table 56. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): list of samples taken for environmental analysis

Methodology

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. No waterlogged remains were encountered so both the residues and flots were dried, and the residues subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the flots was measured, and the volume and weight of the residues recorded. A total of 326.5 litres of soil was processed in this way.

The flots of each sample were studied under a low power binocular microscope. For ease of sorting the flots were poured through a stack of sieves (>6.7mm, 2mm and 1mm). 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. The flots were then bagged. The flots and finds from the sorted residue constitute the material archive of the samples.

The residues and flots have been scanned and sorted in detail and a summary of their contents made (Tables 56, 57 and 58). The archaeobotanical remains were examined using a binocular microscope with up to 40x magnification. Aid in identifications comprised of modern reference material together with reference literature Berggren (1969,1981) and Beijerinck (1947), whilst cereal grain and chaff identification criteria follow Van der Veer (1992). Nomenclature and taxonomy follows Clapham et. al. (1962). Absolute counts were made of the individual components of the flots with only the embryo ends of the cereals and grasses being scored. Chaff fragments have all been individually counted. Any fragments of grain or seed, for all species, were recorded on an abundance rating and are not included in any quantitative analysis. The second flot of sample 3 was sub-sampled using a riffle box, with 50% analysed and the absolute counts doubled in order to achieve the estimated total count. The results of the analysis are presented in Tables 56, 57 and 58.

Results

The samples were collected from three areas, Area 3 south, Area 3 north-east and Area 4. The samples from Area 3 south are primarily medieval, apart from a RB ditch with medieval material in its upper fills and a single pit. The early Iron Age material is concentrated in Areas 3 north east and Area 4, except for the single sample from Area 3 south.

sample	context	area	vol. in l.	resi- due vol. in ml	pot *	flint no. #	Fe no.	mag- netic wt.g.	ham'r- scale no.	fired earth wt. g.	bone wt g.	comment
1	108	3 south	30	6500	36/71	3		1		14		
2	142	3 south	17	6500		1		9				
3	229	3 south	30	8500	46/36 0	2	3	9	2 (+1s)	492	2	nails?; calcined bone-ssz -indet; burnt stone
4	231	3 south	6	4000	11/11 7	9		<1			<1	calcined bone-indet
5	296	3 south	2	500	15/6	<1		<1	1		<1	rodent incisor
6	328	3 south	27	9000		2		<1				
7	327	3 south	2	9000	4/37			<1				
8	287	3 south	27	8000	44/75	5		2	5		<1	tile nib? 30g; fire-cracked pebble- 18g; calcined bone-indet
9	288	3 south	18	6500	19/16 9	2		<1		15		
10	263	3 south	20	6500	35/84 5	3	2	4	7			corroded iron obj.
11	310	3 south	20	9500	11/27	1		<1				burnt flint- 7g; proto hearth bottom - 25g
12	411	3 northeast	1.5	600				<1		<1		fire-cracked pebble - 272g
13	413	3 northeast	18	3500	8/33	6		<1		95		fire-cracked flint
14	420	3 northeast	10	4000				<1				abundant fire-cracked flint

15	526	4	20	8200	6/28	1		1			occ. fire-cracked flint
16	527	4	19	4400				<1	1		2 fire-cracked pebbles
17	528	4	10	4000	3/5			<1	1		
18	530	4	30	2000	6/22	1		<1			

Table 57: Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): archaeological finds from the processed samples

* - count/weight of pot; # - chips collected from residue-not necessarily worked or waste

The samples washed down to a residue composed of mixed angular and sharp flint, rounded and sub-rounded pebbles, occasional ironstone and sediment crumb with occasional fired earth, charcoal and pot crumb. Burnt flint and fire-cracked pebbles were present in several of the samples. The few flint chips and flakes picked out are probably not worked or waste. A small magnetic component was present in all samples, and included mainly ironstone and heated small stones and sediment concretions, but a few flakes of hammerscale were recovered from six samples. Only four of the samples produced any animal bone, and all apart from a single rodent incisor were calcined an unidentifiable. It is probable that unburnt bone does not survive well on this site and most of the animal bone will have been lost after burial. Pottery is relatively abundant in most of the samples, including those of prehistoric date. Two medieval samples produced corroded iron objects and five samples yielded fired earth, although only in contexts 229 and 413 was there a significant quantity.

Samp no.	Cont	Area	Samp vol. l.	Flot vol. ml.	Char-coal \$	Char'd grain *	Char'd chaff *	Char'd seed *	Snails */#	Summary identifications
1	108	3 south	30	15	5/5	1			1/1	Wheat; <i>Cecilioides acicula</i>
2	142	3 south	17	130	5/5	1			1/1	Indet. cereal; <i>C. acicula</i> , <i>Helicella itala</i>
3	229	3 south	30	335	5/5	5		3	1/1	Wheat, barley, oat, rye, vetch/vetchling, sloe, apple, indet. legumes, goosefoot family, dock, ribwort plantain?, nettle, blinks, mallow?, knapweed, thistle, stinking mayweed, brome?, sedge?, hawthorn/blackthorn thorns, bramble type thorns, leaf buds, <i>C. acicula</i>
4	231	3 south	6	16	5/5	1		1	1/1	Barley, rye?, oat/brome?, indet. legume, stinking mayweed; <i>C. acicula</i>
5	296	3 south	2	1	2/3				1/1	<i>C. acicula</i>
6	328	3 south	27	11	3/5	1		1		Barley, wheat/barley, oat, indet. nut.
7	327	3 south	2	32.5	5/5	2		2		Barley, oat, vetch/vetchling, indet. legumes.
8	287	3 south	27	27.5	5/5	2		2	2/1	Barley?, oat, indet. legumes, hazel, goosefoot family, dock, stinking mayweed, <i>C. acicula</i>
9	288	3 south	18	11	3/5	1		1		Oat, vetch/vetchling, stinking mayweed
10	263	3 south	20	10.5	3/5	2		1	1/1	Barley, oat, hazel; <i>C. acicula</i>
11	310	3 south	20	20.5	5/5	1		1		Indet. cereal, hazel, stinking mayweed
12	411	3 NE	1.5	10.5	3/4	1				Indet. cereal
13	413	3 NE	18	<1	2/2					
14	420	3 NE	10	1	4/3	1			1/1	Indet. cereal; <i>C. acicula</i>
15	526	4	20	125	5/5	2	1	1	2/1	Barley, indet. cereal chaff, sedge family; <i>C. acicula</i>
16	527	4	19	35	5/5	2			2/1	Barley; <i>C. acicula</i>
17	528	4	10	12.5	5/5	1		1	1/1	Indet. cereal, indet. legume; <i>C. acicula</i>
18	530	4	30	2.5	2/2					

Table 58: Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): environmental finds from the samples

* = abundance: 1=1-10, 2=11-50, 3=51-150, 4=151-250, 5=250+; \$ = abundance >2mm/abundance < 2mm; # = diversity: 1=1-3, 2=4-10, 3=11-25, 4=26-50, 5=>50 species.

The flots range in volume between <1ml to 335ml and are largely sparse in terms of charred botanical remains as the majority of the flots (thirteen of the eighteen flots) contain less than one charred item per litre, of which three (samples 5, 13 and 18) contain no charred botanical remains other than small quantities of comminuted charcoal. The preservation of the botanical remains is generally fair, although many cereal grains are very abraded, preventing identification to species. In addition to the charred botanical remains, uncharred plant vegetative material including roots and seeds of chickweed (*Stellaria media* (L.) Vill.), goosefoot (*Chenopodium* spp.), goosefoot family (Chenopodiaceae), bramble (*Rubus* spp.), knotgrass (*Polygonum aviculare* agg.), black bindweed (*P. convolvulus* L.), nettle (*Urtica* spp.), bedstraw (*Galium* sp.), sow-thistle (*Sonchus* spp.), thistles (*Carduus/Cirsium* spp.) and sedges (*Carex* spp.) have also been recovered. As no anaerobic conditions were encountered during excavation, these uncharred plant remains, together with occasional insect remains and the shells of the blind burrowing snail *Cecilioides acicula* are viewed as intrusive and of recent origin.

The range and frequency of charred species encountered in the flots from Areas 3 south, 3 north east and 4 are summarised in Table 58 and the five samples containing at least one charred item per litre are presented in Table 59.

Area 3 south

Pottery was recovered from most of the samples, with a little fired earth and burnt bones from a few. A possible proto hearth bottom is recorded from context 310 and a very low density scatter of hammerscale in four other medieval samples suggests there may have been iron smithing on site somewhere. Despite seven of the eleven samples containing less than one charred plant item per litre, the remaining four samples (3, 4, 7 and 10, presented in Table 58) proved to be the most productive in terms of botanical remains of the entire sample group and are all medieval. The flots from Area 3 south contain the greatest species diversity; although the remains are predominantly confined to sample 3, fill of pit 227.

The seven samples (samples 1, 2, 5, 6, 8, 9 and 11) containing the very low densities of charred botanical remains produced very limited grain assemblages (predominantly unidentifiable cereal grains and fragments) and weed floras. The identifiable grain is generally barley, the poor state of preservation of the grains prevented further identification. Two grains of wheat are present in the possible cremation pit 107 dating to the early Iron Age, one of which displays similar morphological characteristics to that of spelt wheat.

In terms of other notable species, oat, legumes and stinking mayweed occur relatively frequently. The oat grains appear to be concentrated to deposits associated with the medieval phases of activity, unfortunately the remains of legumes are very abraded with no surviving diagnostic features, but also are largely from later deposits, notably the lower fill of ditch 326. Stinking mayweed is common on arable land and waysides and is also suggestive of heavy soils, but it should be noted that in each instance one or two seeds represent the species only (with the exception of sample 3). In addition, a total of four fragments of hazelnut shell have been recovered from the upper fill of pit 286, gully 262 and narrow linear feature 309.

Two samples contain just over one charred item per litre; the fill of posthole 230, which contains a very small botanical assemblage but is of note as two grains of possible rye are present, and the fill of gully 262, which again yielded a small assemblage including barley, oat and hazelnut.

The burnt fill (229) of small oval pit 227 has the greatest diversity of charred botanical remains ranging from cereal grains, weed seeds, fruits, thorns and small buds. The identifiable grain includes hulled barley, bread-type wheat, rye and oat, of which oat appears to be dominant, followed by barley and then rye. Wheat is a relatively minor component. The weed seed assemblage includes species that occur in a range of habitats from waste areas/disturbed ground such as goosefoot family, dock, nettle, thistles and knapweed; arable land as indicated by the presence of vetches/indeterminate legumes, stinking mayweed and grasses such as brome, as well as areas of wet or damp ground as suggested by blinks and possible sedge. These species can be found in more than one habitat, and the small number of seeds across a range of taxa makes it difficult to characterise the habitats. However, the dominance of stinking mayweed and oat-like grains overall does imply that the species were associated with arable land in this instance. Also of particular interest is the recovery of intact fruits, tentatively identified as sloe on the basis of an intact sloe fruit stone. In addition, seeds of apple and possible apple flesh are present as well as thorns of rose-type and hawthorn/ blackthorn and unidentifiable leaf buds.

	Area	3 south	3 south	3 northeast	4	Total
	No. samples	10	1	3	4	18
		med.	EIA	EIA	EIA	
Cereals						
<i>Triticum cf. spelta</i> L.	?spelt wheat		1			1
<i>Triticum cf. aestivum</i> sl	?bread-type wheat	1				1
<i>Triticum</i> sp(p).	wheat spp.	1	1			2
cf. <i>Triticum</i> sp(p).	?wheat spp.	1				1
<i>Triticum/Hordeum</i> spp.	wheat/barley sp.	1				1
<i>Hordeum</i> sp. var <i>vulgare</i>	hulled barley	2			2	4
<i>Hordeum</i> sp(p).	barley	4			2	6
cf <i>Hordeum</i> sp(p).	?barley	4				4
<i>Secale cereale</i> L.	rye	1				1
cf. <i>Secale cereale</i> L.	?rye	2				2
<i>Cerealia</i> indet.		7				7
indet. frags >2mm		7	1	2	3	13
indet. frags <2mm		1				1
Chaff						
Indet.					1	1
Weeds						
cf. <i>Malva</i> sp.	?mallow	1				1
Chenopodiaceae	goosefoot family	2				2
<i>Montia fontana</i> ssp. <i>chondosperma</i> (Fenzl) Walters	blinks	1				1
<i>Rumex</i> sp(p.)	docks	2				2
<i>Urtica</i> sp.	nettle	1				1
<i>Vicia/Lathyrus/Pisum</i> (<4mm diameter)	vetches/pea	3				3
Fabaceae indet.	pea family	2			1	3
Fabaceae indet. frags	pea family	2				2
<i>Plantago</i> cf. <i>lanceolata</i> L.	?ribwort plantain	1				1
<i>Anthemis cotula</i> L.	stinking mayweed	5				5
<i>Carduus/Cirsium</i> sp.	thistles	1				1
<i>Centaurea</i> sp(p).	knawweed	1				1
<i>Avena</i> sp.	oat	5				5
cf. <i>Avena</i> spp.	?oat	4				4
<i>Avena</i> /Gramineae	oat/grass	2				2
cf. <i>Bromus</i> spp.	?brome	1				1
cf. <i>Carex</i> sp(p).	?sedge	1				1
Cyperaceae	sedge family				1	1
indet.		3			1	4
Other						
<i>Prunus spinosa</i> L.	sloe (stone)	1				1
<i>P. cf. spinosa</i> L.	?sloe, preserved whole with flesh intact	1				1
Indet. drupe? frags (incl. cf. <i>P. spinosa</i> L.)	fruit stone frags with flesh attached (incl. ?sloe)	1				1
<i>Corylus avellana</i> L.	hazelnut shell frags.	3				3
indet. nut frags.		1				1
<i>Malus</i> sp(p).	apple	1				1
Other charred plant remains						
indet. buds		1				1
Rosaceae thorns	rose type thorns	1				1
<i>Prunus spinosa</i> L./ <i>Crataegus</i> spp.	blackthorn/hawthorn thorns	1				1

Table 59. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): frequency of samples with identified charred botanical remains present in flots.

med- medieval; EIA - early Iron Age

The lower fill of Romano-British ditch 326 contains the greatest density of botanical remains, although the cereal assemblage is chiefly fragmented cereal grain, but with several identifiable grains of barley and oat. The weed seed assemblage consists entirely of legumes, the majority of which are very abraded, although some have been identified as vetch/vetchling. The upper fill of ditch 326 contains a very small botanical assemblage including several grains and an unidentifiable nutshell fragment and may represent residual material.

	Provisional date	12th-14th C	12th-13th C	10th-13th C?	mid13th-14thC	EIA?	EIA?
Area		3 south	3 south	3 south	3 south	4	4
Context		229	231	327	263	527	526
Sample		3	4	7	10	16	15
Vol. soil (l)		30	6	2	20	19	20
Flot vol. (ml)		335	16	32.5	10.5	35	125
Cereal							
<i>Triticum cf. aestivum sl</i>	?bread-type wheat	12					
<i>Triticum sp(p).</i>	wheat spp.	1					
<i>cf. Triticum sp(p).</i>	?wheat spp.	8					
<i>Hordeum sp. var vulgare</i>	hulled barley	38		1		2	1
<i>Hordeum sp(p).</i>	barley	6	1		1	2	3
<i>cf Hordeum sp(p).</i>	?barley	15		2	2		
<i>Secale cereale</i>	rye	27					
<i>cf. Secale cereale</i>	?rye	24	2				
<i>Cerealia indet.</i>		152		4	1		
indet. frags >2mm		197	1	25	14	11	13
indet. frags <2mm*		*****					
Chaff							
Indet.							1
Weeds							
<i>cf. Malva sp.</i>	?mallow	1					
Chenopodiaceae	goosefoot family	2					
<i>Montia fontana ssp. chondosperma</i> (Fenzl) Walters	blinks	4					
<i>Rumex sp(p.)</i>	docks	4					
<i>Urtica sp.</i>	nettle	1					
<i>Vicia/Lathyrus/Pisum (<4mm diameter)</i>	vetches/pea	2		12			
Fabaceae indet.	pea family			20.5			
Fabaceae indet. frags	pea family	3	1				
<i>Plantago cf. lanceolata L.</i>	?ribwort plantain	1					
<i>Anthemis cotula L.</i>	stinking chamomile	14	1				
<i>Carduus/Cirsium sp.</i>	thistles	1					
<i>Centaurea sp(p).</i>	knapweed	3					
<i>Avenasp.</i>	oat	64			2		
<i>cf. Avena spp.</i>	?oat	36		7			
<i>Avena/Gramineae</i>	oat/grass	10	2				
<i>cf. Bromus spp.</i>	?brome	1					
<i>cf. Carex sp(p).</i>	?sedge	1					
Cyperaceae	sedge family						1
indet.		8	1				1
Other							
<i>Prunus spinosa L.</i>	sloe (stone)	1					
<i>P. cf. spinosa L.</i>	preserved whole with flesh intact	3					
Indet. drupe? frags (incl. <i>cf. P. spinosa</i>)	fruit stone frags with flesh	25					
<i>Corylus avellana L.</i>	hazelnut shell frags.				2		
<i>Malus sp(p).</i>	?apple/pear	8					
Other plant remains**							
indet. buds		+					
Rosaceae thorns	rose type thorns	+					
<i>Prunus spinosa L./Crataegus spp.</i>	blackthorn/hawthorn thorns	+					
Total		673	9	71.5	22	15	20
grain (excluding frags)		283	3	7	4	4	4
weeds/other seeds		193	5	39.5	4	0	2
chaff		0	0	0	0	0	1
weed:grain (incl. oat, excl. cereal frags)		0.68	1.67	5.64	1.00		0.50
quantified items per litre		22.43	1.50	35.75	1.10	0.8	1.00

Table 60. Areas 2, 3 and 4 (south) Watching Brief by JSAC (2000-2002): botanical remains from the richer flots.

* = Abundance 1-10, ** = 11-50, *** = 51-150, **** = 151-250, ***** = 250+; P = present; *Italic*= estimated absolute count; **abundance score: + = present, ++ = common, +++ = frequent, ++++

Area 3 north-east

The three samples taken from Area 3 north-east, from the fills of pits 410, 412 and 418, proved to be the sparsest in terms of charred botanical remains. One is assigned to the early Iron Age (412) while the others are undated but possibly contemporary. The only finds are pottery and fired earth from 413, and fire-cracked pebbles from 411. The botanical remains include small quantities of comminuted charcoal and a total of two fragments of unidentifiable cereal grain from samples 12 and 14 (the fills of pits 410 and 418). No remains of cereal chaff or weed seeds have been recovered. The botanical remains may be derived from redeposited or residual material and as such, provide no reliable economic or environmental information or evidence to suggest the function of the pits.

Area 4

A total of four samples were taken from two features within Area 4 dated to the early Iron Age. A series of three samples were taken from pit 525, containing a concentration of early Iron Age pottery (samples 15, 16 and 17), and one sample (sample 18) from a possible re-used tree-throw hole 529. Both features produced pottery and pit 525 produced two flakes of hammerscale but these could be intrusive.

The three samples from pit 525 contain very little in terms of charred botanical remains. The lowest fill (528), yielded a single grain fragment and an indeterminate legume, the secondary fill contains several grains of barley (including hulled barley) and cereal fragments and similarly, the upper fill with the most pottery also contains a very small quantity of barley (including hulled barley), a small fragment of unidentifiable cereal chaff, a single sedge-type nutlet and an indeterminate seed. The quantity of material in this feature is too small to draw any significant conclusions allowing only the conclusion that hulled barley was grown and eaten in the early Iron Age and the pit was probably receiving domestic rubbish.

The fill interpreted as a possible re-use of tree-throw hole 529 contains a very small quantity of comminuted charcoal only, with no other botanical evidence for anthropogenic activity. The absence of botanical remains but the presence of a few sherds of pottery and charcoal suggests that the feature was used, but for what purposes is not determinable.

Discussion

The samples have yielded limited interpretive data. The prehistoric contexts have produced few finds, although the fire-cracked pebbles, fired earth, pottery and charcoal and charred cereal remains suggest small amounts of domestic debris entering the deposits. Prehistoric deposits are typically poor in charred plant remains and their relative absence in these deposits is not unexpected.

Despite this paucity of charred botanical remains the samples tell us a little. In terms of the cereal remains, barley appears with the most consistency, occurring in the prehistoric and medieval samples. A single grain of spelt-type wheat from the fill of early Iron Age pit 107 is consistent with our knowledge of the chronology of cereals in Britain, and likewise, the finding of bread-type wheat in the fill of medieval pit 227 corresponds with our expectations (Greig 1991). Oat and rye have also been recovered in the medieval deposits in Area 3 south, and these together with hulled barley and bread-type wheat, are typical crops in the Saxon and Medieval periods.

The apparent concentration of grain and weed seeds from the lower fill of Romano-British ditch 326, together with the recovery of the top of a grog-tempered curfew is interesting. These vessels date to AD 12th-13th century and were placed over the hearth at night to damp down the fire (Walker, 2006). These findings imply that the deposit is associated with a domestic hearth, and are perhaps the residues of a hearth rake-out. Weed seeds, which are predominantly indeterminate legumes, dominate the botanical assemblage and it is a possibility that the assemblage reflects the piece-meal preparation of semi-cleaned grain, with the removal of large grain-sized contaminants such as legumes that are then discarded into the hearth. Alternatively, the legumes may have been for consumption also, for example in a pottage or as an additional ingredient in bread, but were accidentally charred during food preparation. Unfortunately, the small volume of the sample and the small quantities of botanical remains prevents such interpretations to be presented with certainty. We

must presume that despite the attribution of the ditch to the Romano-British period the occurrence of pot of medieval date in its fills suggests that the environmental assemblages are likely to be medieval in date.

The fill of pit 227 appears to contain food residues, which demonstrate the consumption of a range of cereals that are typical of the early medieval period including bread-type wheat, hulled barley, rye and oat. Other dietary indicators of the inhabitants are fruits including sloes and apples, which are likely to have been collected locally as the presence of bramble type thorns and hawthorn/ blackthorn thorns suggests that these species grew nearby and in all likelihood were exploited for their fruits although there is no direct botanical evidence for this from these samples. A lack of any chaff, and the presence of the larger weed seeds in the medieval assemblages suggests that the bulk of this debris derives from domestic rubbish. There is no evidence present for agricultural crop processing or industrial activity, although the very low density scatter of hammerscale does imply that some iron smithing was undertaken somewhere on the medieval settlement in Area 3 south.

Charcoal assemblages with sufficient material for analysis were recovered from undated pit fill 142, medieval pit 227 and early Iron Age pit 525 but with such disparate samples across two thousand years no further work has been undertaken. However the sample from the tertiary fill of the early Iron Age pit 525 in Area 4 includes material suitable for radiocarbon dating if this should be required.

Conclusion

There seems to be very limited botanical evidence from the prehistoric phases of activity, but the input of pottery and occasional fire-cracked pebbles and charcoal testifies to domestic occupation and the relative absence of charred cereal grain and seeds is typical of sites of this date.

The majority of botanical remains are associated with the medieval phases of activity (AD 10th-14th century), and seem to be concentrated in the southern part of Area 3 south, despite the bias in the numbers of samples taken, and specifically to pit 227 and Romano-British ditch 326 (samples 3 and 7 respectively). There appears to be no direct botanical evidence for activities associated with crop processing, which may simply be due to the area of the settlement sampled or excavated. The botanical evidence does suggest that domestic waste has been discarded into pit 227 and ditch 326, from a nearby early Medieval settlement. The assemblages indicate that barley is a staple throughout the periods of activity across the site and that hulled barley, bread-type wheat, rye and oat were being consumed during AD 12th-14th century, but it is not possible to determine if the cereals were produced by the inhabitants and processed onsite or were imported. In addition to the range of cereals, fruits including sloes and apples, were consumed in the medieval period, and were possibly collected locally.

Acknowledgements

We would like to thank Trude Maynard for the sample washing and sorting. We should like to thank Alan Hall, University of York, for his assistance with the identification of the charred fruit stones and pips.

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C3.4. Area 4 (north) and Area 5 Watching Brief AOC (2002)

C3.4.1 Archaeobotanical Evidence by Alys Vaughan-Williams

Introduction

Five samples were provisionally dated to the prehistoric period. Samples 1-4 are from pit fills, and sample 5 is from the fill of a tree throw. They were essentially poor in archaeological plant material, presenting mainly modern plant seeds. Charcoal was noted in three of the samples, but burnt soil was the main component of the flots.

Methodology

The samples were processed by flotation, using 1mm and 300µm sieves. The residues were scanned by eye to retrieve any artefactual material or unfloted environmental evidence. The flots were scanned using a low power binocular microscope. They were assessed on the basis of the state of preservation, density and diversity of the charred matter. The results are summarised on Table 61.

Results

Samples 3 (1081) and 4 (1115) were two fills from an Early Iron Age pit. Both assemblages were dominated by modern seeds, but they did contain occasional to frequent small molluscs and charcoal, and occasional charred seeds of *Galium* sp. (bedstraw) and *Chenopodium* sp. (goosefoot). Small congealed particles of burnt earth were abundant in these samples. The residue of sample 4 also contained a few fragments of charcoal, along with one piece of pottery and frequent burnt flint.

Samples 1 (1157) and 2 (1071) were taken from the fills of another Early Iron Age pit, and sample 5 (1159) was taken from the fill of a tree throw. None of these contained any archaeobotanical material.

Sample no.	Context	Sample vol (l)	Flot vol (ml)	Content	Density	Diversity	Pres.
1	1157	30	4	burnt earth	N/A	N/A	N/A
2	1071	24	4	burnt earth	N/A	N/A	N/A
3	1081	30	11.5	occ.modern seeds; burnt earth; occ.charred seeds	*	*	**
4	1115	30	12	freq.modern seeds; freq.charcoal; freq.mollusc; occ.charred seeds	*	*	**
5	1159	5	12	occ.charcoal; burnt earth	N/A	N/A	N/A

Table 61. Area 4 (north) and Area 5 Watching Brief AOC (2002); environmental finds from the samples
Key: * = poor, ** = average, *** = good

Recommendations

The seeds of *Galium* sp. and *Chenopodium* sp. in samples 3 and 4 both represent cultivated and waste ground. However, there are too few seeds to warrant further analysis. Samples 1, 2 and 5 do not contain any archaeobotanical material. Consequently, none of the samples are recommended for further analysis.

C3.5. Area 6 Monitor and Record AS (2006)

No significant remains found.

C3.6. Area 7 Monitor and Record by AS (2007)

No significant remains found.

C3.7. Area 8 Monitor and Record by AS (2008)

C3.7.1 Charred Plant Remains by Dr. Ruth Pelling

Introduction

During excavation at the site of Marks Warren Quarry, a series of bulk samples were taken from a range of features of late Bronze Age to medieval date. Following an initial assessment of the samples by the current author one exceptional deposit from an undated feature (sample 2, pit 1017) was identified as containing many thousands of cereal grains. While the feature was undated, the presence of a medieval mill on the site raises the possibility that the deposit is associated with that mill. Given the exceptional nature of the deposit it was examined in more detail. It is discussed below in association with the assessment results for other deposits. Samples assessed and included in the discussion but not examined in detail were taken from pits, ditches, a Saxon cremation, undated cremations and a medieval windmill.

Methodology

Bulk samples were processed by standard flotation methods and the flots were retained on a 0.5 mm mesh. Flots were assessed by scanning under a x10 – x40 stereo-binocular microscope and the presence of charred remains quantified to record the preservation and nature of the charred plant and wood charcoal remains. Nomenclature follows Stace (1997).

The large grain rich deposit (pit 1017) was examined in more detail. As the total number of grains was estimated to be several thousand, only a sub-sample was examined. The total volume of the flot was 2700ml, derived from 60litres of sediment. Two sub-samples of 50ml were taken and sorted in detail, the results being combined to provide average counts. Any grain, weed seeds or chaff present were extracted, identified and quantified. Quantification of grain is based on whole grain or embryo ends. Distal ends or other fragments are not included in the counts and were left with the unsorted fraction of the flot. The range of preservation of the grain was recorded following the criteria suggested by Hubbard and al Azm (1990). The volume of charcoal greater than 2mm and the volume of the resulting remaining flot were measured. The character or the remaining flot was described. Some samples yielded no results, or no results worthy of further analysis. These are not included below.

Results

Pit 1017 (sample 2 - L1018)

The detailed contents of the 100ml sub-sample of the grain rich flot from pit 1017 are given in Table * (table is missing from grey literature report; Stone 2010). It is clear that the flot consists largely of short, round wheat grains. The majority of the discarded flot consisted of broken, unquantifiable fragments of grain, with some charcoal, dust and sand. The identification of wheat grain to species is notoriously difficult given the large number of types and the morphological variation. While short grained hulled wheats do occur the consistent roundness of the grain suggests them to be derived from a free-threshing variety in which the grain separates easily from the chaff. Two groups of free-threshing wheats exist: the hexaploid, bread type wheats (*Triticum aestivum* types), which have six pairs of chromosomes and are widely grown for the production of bread flour, and the tetraploid rivet or pasta wheats (*Triticum turgidum/durum*), of which only rivet or cone wheat (*T. turgidum*) is cultivated in the British Isles. The presence of a rachis segment identifiable as a hexaploid variety suggests the grain to be of a bread wheat type (*Triticum aestivum*). Free-threshing wheat has been cultivated

widely since the Saxon period until the present time, replacing the hulled wheats of the prehistoric and Roman periods (Grieg 1991; 1992).

The remaining cereals noted were barley (*Hordeum vulgare*) and oats (*Avena* sp.). The former has been a staple crop throughout prehistory and the historical period. Oats are particularly characteristic of the Saxon and medieval period, although it was not possible to establish if a wild or domesticated type was represented. The ratio of wheat to non-wheat grain is such that the occasional grain of barley and oats can be regarded as contaminants of the wheat, likely to have been incorporated into the grain deposit during storage/deposition or as arable weeds. The indeterminate grain is likely to consist largely of poorly preserved wheat grain although was too extremely damaged to enable identification.

The number of weed seeds was extremely low in proportion to the grain (16 weeds to 2236 grain). It is reasonable to suggest therefore that the grain had been fully processed, the very minor contaminants representing no more than tolerated impurities. Five weed species or types were identified. Black bindweed (*Fallopia convolvulus*) is a spring germinating species of disturbed ground but often closely associated with spring sown barley and/or oats and possible a weed of those crops rather than the wheat crop. Stinking Mayweed (*Anthemis cotula*) is characteristic of heavy clay soils and is closely associated with winter sown wheat. The remaining weeds (*Malva* sp., and the poorly preserved chenopodiaceae and poaceae) include species of disturbed ground including within or on the edges of arable fields.

In addition to the grain and its impurities a small proportion of the flots consisted of oak (*Quercus* sp.) charcoal. The remaining unquantified fraction of the flots consisted of charcoal dust, sand or unquantifiable fragments of grain. The oak charcoal may derive from structural timbers of a storage facility or possibly were associated with some sort of grain oven structure.

The preservation of the grain was fairly consistent. Most grain lacked epidermis, rachillae, hairs and so on, being identified by grass morphology or occasionally retaining some fragments of epidermis (Hubbard and al Azm 1990, Preservation class 5 or 4). Distortion was witnessed on most grain, many having carbonized tarry material exuded from the distal end (Hubbard and al Azm 1990, distortion class 6). This level of distortion is particularly characteristic and often noted in assemblages of free-threshing wheat. In addition the grain was often pitted and slightly clinkered (glassy) in appearance. The presence of tarry material at the distal end of the grain is likely to be due to high moisture content within the grain at the time of burning (Hubbard and al Azm 1990). This has been linked to the production of "friké", an Arabic process in which milk ripe grain is roasted (Hubbard and al Azm 1990, 105; Hillman 1984, 141; 1985: 13, 14 and 16). However, the occurrence of this type of preservation in British assemblages is fairly common and may simply reflect the moisture level within the grain at harvest.

The deposit of grain is clearly composed of fully threshed and winnowed grain which was ready for storage or milling. It may have been deliberately burnt if damaged in some way. There is no obvious indication of insect infestation to warrant this, although if the grain was damp it may have suffered fungal damage in storage. Equally it may have been burnt accidentally, for example by spontaneous combustion in the silo, although if damp this is unlikely. It is also possible that the grain was accidentally burnt while being dried or roasted prior to storage or milling, particularly if the grain had not been fully dried in the field, for example if the summer had been wet. Drying the grain would increase its storage life by reducing the risk of damage by storage fungi, the major cause of grain spoilage (Moffett 1990, 61), although if the grain is kept at low temperatures this is not always necessary. Grain may also have been dried or lightly roasted prior to milling in order to aid the milling processes, for which there is both ethnographic and experimental evidence from the North Atlantic region (Moffett 1990, 61). Against this interpretation is the absence of chaff and straw which appears to be closely associated with grain drying, providing a useful fuel which does not adversely affect the flavour of the grain as well as matting to support it (Moffett 1990).

Assessed Samples

The remaining flots which were not submitted to detailed analysis, were of variable size, many of those from the cremation deposits being particularly small. Preservation tended to be poor with badly abraded grain. The larger flots generally contained low numbers of roots and modern seeds suggesting stratigraphic movement or the degree of contamination by later intrusive elements was fairly limited. They are discussed by period. Those

samples which produced charred remains are detailed in Table * (table is missing from grey literature report; Stone 2010).

Late Bronze Age

Four samples were taken from features dated to the late Bronze Age of which three were from pits F1007, F1013 and F1069 and one was from Posthole F1038. All four deposits produced flots containing large amounts of roots (>80% of the flot) and small quantities of charcoal. Recent weed seeds were present in the sample from pit 1007. Charred grain was limited, with a single indeterminate grain from F1013 and two grains of *Hordeum vulgare* (barley) from pit F1069. pit F1030 (L1029) produced a particularly poor sample containing *Triticum* grains with flecks of charcoal. It is not possible to establish if the charred remains in these deposits are contemporary with the feature and they are likely to have derived from 'background noise' present across the site, rather than from any deliberate disposal in the features.

Late Iron Age/Romano-British (1st century BC – 1st century AD)

One sample was examined from a late Iron Age/Romano-British ditch (F1233). A small flot was produced containing flecks of charcoal and occasional grain of *Triticum spelta/dicoccum* (spelt/emmer wheat) and *Hordeum vulgare*. These cereal species are commonly encountered on sites of this period. The low density of remains is again typical of background scatters of material rather than any specific activity or disposal patterns. No chaff or weed seeds indicative of crop processing waste were present. The sample from cremation pit F1245 was also examined and produced a particularly poor sample of *Triticum* grains with flecks of charcoal.

A number of spits were taken from Vessel V1257, which was recovered from ditch F1235. Small quantities of cereal grain were recovered including both free-threshing *Triticum aestivum/turgidum* and a hulled wheat, *Triticum cf. dicoccum* (emmer) as well as *Hordeum vulgare*. *Triticum dicoccum* is usually associated with the prehistoric period, although has occasionally been identified from Saxon sites (Pelling 2003). It is not possible to draw conclusions concerning the cereals in this feature given the small number present.

Early Saxon

Two cremation pits (F1115, C1114 and F1110, C1109) contained charred plant remains. The deposit in F1115 was sampled in five spits. The samples all produced small flots dominated by recent rootlets and with flecks of unidentifiable charcoal only. No charred seeds or chaff were present. F1110 produced occasional indeterminate or poorly preserved *Triticum* grains with flecks of charcoal and produce a tuber of *Arrhenatherum elatius* (false oat grass).

Medieval

One deposit was taken from a 'windmill fill' of mid 13th to 14th century date (F1191, L1192). The sample produced a fairly large flot consisting of *Quercus* sp. (oak) charcoal and two large unidentified seeds, possibly of a tree species. It is likely that the charcoal is derived from structural timbers. No cereal grain or weed seeds were present.

Undated Samples

The majority of samples examined from the site were from undated features. Of those, charred cereal remains were present in 16 samples, four of which produced over 20 grains including that from pit F1017 (discussed above). The three remaining richer samples each produced more than 20 cereal grains (see Table 12; table is missing from grey literature report; Stone 2010).). All three were from pits (F1021, F1019 and F1026). The number of cereal grains ranged from 20 to 35. No chaff or weed seeds were noted. A significant quantity of charcoal was present in the sample from pit 1021 (sample 10, L1022). The cereals represented in the pit samples were *Triticum aestivum/turgidum* type and *Hordeum vulgare*, as in the large cereal deposit in pit F1017. The spatial distribution of these pits is not known. If they were closely situated it is possible that the grain in all four pits is all derived from the same burning episode from which the deposit in pit F1017 derived.

Smaller quantities of charred grain were present in three further undated pits (F1021, F1036 and F1171). The first of these was from a context which had produced a larger flot (sample 10, L1022). These smaller flots produced *Hordeum vulgare* and indeterminate grain, while a grain of possible *Secale cereale* (rye) was present in the sample from pit 1171. *Secale cereale* appears in archaeological deposits from a range of dates but is particularly associated with the Saxon and medieval period (Grieg 1991), suggesting (although not confirming) a date range for the feature.

Undated pit F1119 (no cremation number) produced a sample with several *Arrhenatherum elatius* tubers as well as indeterminate grass type rhizomes and a large grass seed. *Arrhenatherum elatius* tubers are particularly associated with Bronze Age cremations. Given that the pit was associated with a cluster of Phase 3 cremations, the tubers and rhizomes may derive from turf burnt on the funeral pyre or may have been burnt as part of a firebreak around the pyre.

Conclusions

The range of cereals present at the site is generally in keeping with the pattern seen elsewhere in eastern England. Clearly cereals played a part in the economy of the site from the late Bronze Age onwards, although relatively few remains were preserved, possibly suggesting cereal cultivation was only practiced on a small scale. The exception to this was the large grain rich deposit from pit F1017, which is estimated to contain in the region of 60,000 grains from 60 litres of deposit (i.e. 1000 grain per litre). This feature was undated although the assemblage would be in keeping with the Saxon or medieval periods and given the presence of a windmill on the site may be associated with the medieval mill. The cause of the burning of the material is unclear, although given the quantities of grain, which would have been brought to the mill, there is likely to have been a high risk of accidental burning or deliberate destruction of spoilt crops. The grain appears to have had a relatively high moisture content and may have been burnt accidentally during drying or roasting to extend storage life or aid milling, or it may have been deliberately destroyed if it had suffered fungal damage.

Bibliography

Missing from grey literature report (Stone 2010).

C3.8. Area 9 Monitor and Record by AS (2008)

No significant remains found.

C3.9. Area 10 Monitor and Record by OA East (2010)

No significant remains found.

Appendix C4. Wood

Wood was only recovered from Area 8.

C4.1 Area 8 Monitor and Record by AS (2008)

C4.1.1 The Windmill Timber

The vestiges of the wooden trestle framework of a sunk post mill were recorded *in situ*. Both cross trees which formed the trestle base, the tongue from the central post and fragments from one of the trestle bracing beams and a second timber survived. Mortise and tenon joints were used in the construction of the trestle framework. Much of the timber used was in its round state. Both cross trees (1186), (1198) had been squared off (pit sawn) where the girth of the tree exceeded 400 mm. Mortise and tenon joints where visible had been chiselled out.

The wood has yet to be examined by a specialist. A large section of the E-W cross tree (1198) was taken as a sample. Further analysis of the sample will contribute to the date of the construction of the sunk post mill and the age of timber 1186 when felled.

Context	Description	Dimensions	Identification
1186	E/W cross tree	6,200 + mm x 400 mm x 310 mm	Oak
1186 a	Mortise	430 mm x 140 mm	Oak
1189	Timber	2,130 mm x 420 mm x 350 mm	Oak
1198	N/S cross tree	5,750 mm x 370 mm x 300 mm	Oak
1207	Timber brace	560 mm x 190 mm 120 mm	Oak
1230	Tenon	180 mm x 50 mm	Oak

Table 62. Area 8 Monitor and Record by AS (2008); dimensions and species of the timbers recorded

Appendix D. Product Description

Product number:

Product title: Full Report (Analysis and Publication)

Purpose of the Product: To analyse the site and address the research aims and objectives stated in this report and to disseminate to the local community.

Composition: Standard analysis report, in accordance with the journal and the relevant EH guidelines.

Derived from: Analysis of site records, specialist reports and data and background research.

Format and Presentation: PDF documents derived from Open office/Word document and Adobe Illustrator.

Allocated to: JH

Quality criteria and method: Checked and Edited by Elizabeth Popescu (EP)

Person responsible for quality assurance: EP

Person responsible for approval: EP

Planned completion date: Spring/summer 2012 (submission of analysis report to the Essex Archaeology and History Journal)

Appendix E. Risk Log



Risk Number: 1

Description: contributors unable to deliver analysis report due to over running work programmes, ill health or other problems

Probability: Medium

Impact: Variable

Countermeasures: OA has access to a large pool of specialist knowledge (internal and external) which can be used if necessary.

Estimated time/cost: Variable

Owner: SPM/PO

Date entry last updated: July 2011

Risk Number: 2

Description: non-delivery of full report due to fieldwork pressures/management pressure on co-authours

Probability: Medium

Impact: Medium-High

Countermeasures: Liaise with OA Management team

Appendix F. OASIS Report Form

APPENDIX F: OASIS REPORT FORM

All fields are required unless they are not applicable.

Project Details

OASIS Number	<input type="text" value="oxfordar3-105942"/>		
Project Name	<input type="text" value="Marks Warren Quarry, Whalebone Lane North, Romford, Essex"/>		
Project Dates (fieldwork) Start	<input type="text" value="10-06-1905"/>	Finish	<input type="text" value="02-07-1905"/>
Previous Work (by OA East)	<input type="text" value="Yes"/>	Future Work	<input type="text" value="Unknown"/>

Project Reference Codes

Site Code	<input type="text" value="XEX MWQ PX"/>	Planning App. No.	<input type="text"/>
HER No.	<input type="text"/>	Related HER/OASIS No.	<input type="text"/>

Type of Project/Techniques Used

Prompt

Please select all techniques used:

<input checked="" type="checkbox"/> Field Observation (periodic visits)	<input type="checkbox"/> Part Excavation	<input type="checkbox"/> Salvage Record
<input type="checkbox"/> Full Excavation (100%)	<input type="checkbox"/> Part Survey	<input type="checkbox"/> Systematic Field Walking
<input type="checkbox"/> Full Survey	<input type="checkbox"/> Recorded Observation	<input type="checkbox"/> Systematic Metal Detector Survey
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Remote Operated Vehicle Survey	<input checked="" type="checkbox"/> Test Pit Survey
<input checked="" type="checkbox"/> Open-Area Excavation	<input type="checkbox"/> Salvage Excavation	<input checked="" type="checkbox"/> Watching Brief

Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
<input type="text"/>	<input type="text" value="Select period..."/>	<input type="text"/>	<input type="text" value="Select period..."/>
<input type="text"/>	<input type="text" value="Select period..."/>	<input type="text"/>	<input type="text" value="Select period..."/>
<input type="text"/>	<input type="text" value="Select period..."/>	<input type="text"/>	<input type="text" value="Select period..."/>

Project Location

County	<input type="text" value="Essex"/>	Site Address (including postcode if possible) <input type="text"/>
District	<input type="text" value="Romford"/>	
Parish	<input type="text"/>	
HER	<input type="text"/>	
Study Area	<input type="text"/>	National Grid Reference <input type="text" value="TQ 486 893"/>

Project Originators

Organisation	OA EAST
Project Brief Originator	
Project Design Originator	
Project Manager	Elizabeth Popescu
Supervisor	

Project Archives

Physical Archive	Digital Archive	Paper Archive
Location ...	Location ...	Location ...
Accession ID ...	Accession ID ...	Accession ID ...

Archive Contents/Media

	Physical Contents	Digital Contents	Paper Contents
Animal Bones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ceramics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Glass	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human Bones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Metal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stratigraphic		<input type="checkbox"/>	<input type="checkbox"/>
Survey		<input type="checkbox"/>	<input type="checkbox"/>
Textiles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worked Bone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Worked Stone/Lithic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media	Paper Media
<input type="checkbox"/> Database	<input type="checkbox"/> Aerial Photos
<input type="checkbox"/> GIS	<input type="checkbox"/> Context Sheet
<input type="checkbox"/> Geophysics	<input type="checkbox"/> Correspondence
<input type="checkbox"/> Images	<input type="checkbox"/> Diary
<input type="checkbox"/> Illustrations	<input type="checkbox"/> Drawing
<input type="checkbox"/> Moving Image	<input type="checkbox"/> Manuscript
<input type="checkbox"/> Spreadsheets	<input type="checkbox"/> Map
<input type="checkbox"/> Survey	<input type="checkbox"/> Matrices
<input type="checkbox"/> Text	<input type="checkbox"/> Microfilm
<input type="checkbox"/> Virtual Reality	<input type="checkbox"/> Misc.
	<input type="checkbox"/> Research/Notes
	<input type="checkbox"/> Photos
	<input type="checkbox"/> Plans
	<input type="checkbox"/> Report
	<input type="checkbox"/> Sections
	<input type="checkbox"/> Survey

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