

APPENDIX 4: ASSESSMENT OF WORKED AND BURNT FLINT

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1. Introduction

- 1.1 Small to medium-sized groups of worked flint and burnt unworked flint were recovered from the excavations. The worked flint from all sites is dominated by debitage, but there are slightly wider range of cores and core fragments from ARC 330 98. The debitage from all the sites was generally fairly undiagnostic, few blades and blade-like flakes, and no blade cores were recovered indicating that blade production was not being practised. It would also appear that blades and blade-like flakes were not preferentially selected for use as blanks for retouched flakes and other tools. The lack of soft hammer-struck flakes and the general appearance of the majority of the debitage would suggest a later Neolithic to Bronze Age date. An element from ARC WNB 98 and ARC 330 98 was cruder and less well worked, it is possible that this material is of a slightly later date and relates to the later prehistoric activity. ARC HRD 99 and ARC 330 98 produced quite a varied range of retouched pieces, only a single end scraper was recovered from ARC WNB 98. The burnt unworked flint consists of small to medium sized fragments of heavily calcined flint.

2. Methodology

- 2.1 The worked and burnt unworked flint was recorded onto the Oracle database using standard MoLSS methods. This information was transferred to RLE Datasets. The material was recorded by typological group, and where appropriate, notes were made on pertinent technological attributes. Brief notes were also made on the general condition of the material. The burnt unworked flint was briefly scanned and quantified, a general note of the condition of the material was also made. Natural unworked flint was discarded.

3. Quantification

- 3.1 A total of 40 pieces of worked flint and 112 pieces of burnt unworked flint (weighing 2,794g) was recovered from ARC HRD 99. A total of 166 pieces of worked flint and 340 pieces of burnt unworked flint (weighing 9,689g) came from ARC WNB 98 and 202 pieces of worked flint and 522 pieces of burnt unworked flint (weighing 13,272g) were recovered from ARC 330 98. The flint is summarised in the tables below.

4. Provenance

- 4.1 Small to medium-sized assemblages of worked flint were recovered from ARC WNB 98, ARC 330 98 and ARC HRD 99. Varying quantities of burnt unworked flint was also recovered from the sites. The flint from ARC HRD 99 consists of debitage, mostly flakes, and a range of retouched forms including retouched flakes, scrapers, a piercer, a knife fragment and a fabricator. A flake from a

polished implement was also recovered. A Neolithic to Bronze Age date is suggested by these retouched forms. The flint came from a series of later ditch fills eg [26], [45], [78], pit fills eg [71], burnt deposits and layers [8] and [153]. The flint was generally thinly deposited across the site with no context producing more than eight pieces.

4.2 The flint from ARC WNB 98 consisted largely of flakes, with an irregularly worked core and a core fragment were also recovered. However, only a single retouched form, an end scraper, was recovered. Thus the dating of this group is somewhat limited but a broad Neolithic-Bronze Age date range is likely given the technology of the assemblage. However, some of the less diagnostic debitage may be of later prehistoric date. This material tended to be more crudely worked with little evidence for maintenance of platform edges during knapping. The flint was sparsely distributed across the site with only three contexts producing more than 15 pieces of worked flint. The material came from various context types including LBA/EIA pit fills [1262], and layers associated with the furnace [1281] and various undated features eg [302]. A single flint, a heavily encrusted flake, came from the double Beaker inhumation [1069]; although it is unclear if it was a deliberate inclusion within the grave.

4.3 The assemblage from ARC 330 98 is again dominated by debitage, a slightly wider range of cores and fragments was recovered than the other two sites, and more retouched forms were recovered too. These retouched forms include scrapers, retouched flakes, a barbed and tanged arrowhead and a piercer. A Neolithic to early Bronze Age date is indicated by the retouched forms and the debitage recovered. The flint was mostly recovered from later contexts dating from the later Bronze Age through to the later Iron Age and Roman period. The flint came from pit fills [108], [112], [119], [141], [145-50], [202], [206], [224], [250], [255], [1394], [1399]. Burnt deposits and layers associated with the post-medieval clamp also produced worked flint eg [176], [183]. The flint was generally fairly thinly spread over the excavated contexts, however, five contexts produced 15 or more pieces of flint.

5. **Conservation**

5.1 The flint is appropriately bagged and boxed for long-term storage. Some of the burnt unworked flint is beginning to disintegrate, however, there is little that can be done to prevent this. No conservation is required. All of the natural flint has been discarded. Selected burnt unworked flint could be discarded, keeping only a selection of representative material for archive purposes. The full quantification (by weight and number), together with a description of the material discarded would provide sufficient records for any future work.

6. **Comparative material**

6.1 The flint compares well with other material recovered from the CTRL route. Considerable quantities of Neolithic and Bronze Age flintwork have been recovered from Kent, principally through the fieldwork undertaken for the CTRL route, but also from other, mostly as yet unpublished excavations. In the immediate vicinity of ARC HRD 99 and ARC WNB 98 Neolithic and early Bronze Age flint has been recovered from Pepper Hill ARC NBR 98.

7. Potential for further work

7.1 The flint can contribute to the research objectives of the project following the fieldwork event aims and the Landscape Zone aims:

- *To establish a record of changing settlement and landscape morphology for the area.*

7.2 The lithics can aid the production of a chronological framework for examining the changing settlement and landscape morphology. A more detailed analysis of the technology of the material would be able to define more clearly the likely later prehistoric flintwork. There is some potential for further clarification of the technologies present. Distinctive artefacts of Neolithic-early Bronze Age were recovered together with possible later prehistoric lithics.

- *To determine the function of these areas and changes through time*

7.3 The lithics provide evidence for the activities occurring through the Neolithic and Bronze Age.

Early Agriculturists (4500-200 BC)

- *Determine the ritual and economic landscapes and their relationships*

7.4 A single flint flake was recovered from the double inhumation burial. A barbed and tanged arrowhead was recovered from an Iron Age pit fill, and other potentially contemporary pieces were identified indicating domestic and funerary uses. This is a pattern of activity that can be matched by many of the other sites on the CTRL route.

Farming Communities (2000-100 BC)

7.5 The lithics will have some potential to contribute to some of the research questions although the size of the assemblages may be problematic. The possible later prehistoric flintwork will shed light on the domestic activities occurring, and the changing use of resources through time. The well-documented changes in later prehistoric knapping practices can be explored in relation to the other activities occurring on the sites. As discussed in 7.2 there is some potential to examine the lithics further and more clearly to define the possible later prehistoric lithics. Given that the ceramics present on site span the early Bronze Age through the later prehistoric period a clearer understanding of the lithic technology, and hence dating, from the site would be a useful exercise. It is acknowledged that some of the material is redeposited, but the differences in periods represented have been identified by the assessment.

7.6 In order to answer the research aims the following tasks are recommended

- Examine the assemblages in order to define the possible later prehistoric lithics more fully
- Prepare publication text
- Catalogue of illustrated pieces
- Illustration of selected lithics (it is envisaged that 3 cores and up to 6 retouched pieces will require illustration)

8. Bibliography

URS 2000 'Assessment of worked and burnt unworked flint from Pepper Hill and Waterloo Connection (ARC PHL 97 and ARC NBR 98)', unpublished report prepared by Bradley, P for Oxford Archaeological Unit

Table 25: Worked Flint ARC HRD 99

SH = soft hammer-struck HH = hard hammer-struck

Context	Count	Period	Comments [presence of diagnostic material/ dominance tool/flakes etc.]
2	1	UN	Flake
7	7	UN	Flake, ? Some used edges, mostly hard hammer struck
7	1	UN	Retouched flake, HH with semi-circular notch at distal end
8	1	UN	Flake ?SH, worn
8	1	UN	Flake, fresh condition, lateral break
18	2	UN	Wholly cortical flake, 1 possible flake, also 1 natural – discarded
20	3	UN	Flakes inc wholly cortical, 1 almost all cortex, 1 50% cortex - all HH
26	1	UN	?flake, very worn and rolled poss natural
45	1	N	Flake from a polished implement, grey flint with small polished area
51	1	UN	Small flake with ?used edges
67	1	UN	HH flake, some post-dep damage
67	1	UN	Possible side scraper, very minimal retouch, possibly just use rather than formal retouch
71	1	UN	Large end and side scraper, shallow retouch, cortical dorsal face, worn and poss re-sharpened
78	2	UN	Flakes one very battered, other is a flake from a platform edge
153	1	UN	Large flake HF, HH partly cortical
153	3	UN	3 minimally retouched flakes, all have some post-dep damage
153	1	UN	?piercer with large (broken) point and ancillary retouched down one edge
167	1	UN	SH flake
178	1	UN	Flake, worn
178	-	UN	1 natural – discarded
181	1	UN	Retouched flake, HH with minimal steep retouch
187	1	UN	Irregular flake
	3	UN	3 slightly worn and irregular flakes, all broken
CH205 380- 205.609	2	UN	Two misc retouch, ctx is CH205.380-205.609

Context	Count	Period	Comments [presence of diagnostic material/ dominance tool/flakes etc.]
CH205 380- 205.609	1	?EBA	?knife frag on very worn blade-like blank with polished bulbar face, also some natural polish
CH205 380- 205.609	1	?EBA	Fabricator/rod steep retouch RHS, worn point much edge damage
	40	UN	

Table 26: Burnt Flint ARC HRD 99

Context	Count	Weight	Comments *
2	2	1	
3	5	157	
5	1	12	
7	15	491	
8	1	15	
12	1	47	
12	5	37	
14	2	100	
18	1	33	
24	2	6	
29	1	132	
45	4	49	
47	9	308	
48	4	255	
53	7	4	
60	3	116	
67	10	143	
69	10	254	
77	1	0	
78	2	111	
131	1	43	
135	2	128	
150	7	180	
163	12	131	
217	1	21	
219	3	20	
	112	2794	

* all heavily calcined white to grey

Table 27: Worked Flint ARC WNB98

Context	Count	Period	Comments [presence of diagnostic material/ dominance tool/flakes etc.]
13	4	UN	4 irregular and thick flakes
238	1	UN	Flake
269	2	UN	2 possible flakes, also 2 natural pieces
273	1	UN	Small flake
284	1	UN	Possible flake, some post-dep damage
302	1	UN	Flake SS 1
302	1	UN	Flake worn
364	3	UN	Flakes inc 1 Bullhead flake, also 1 natural
398	-	UN	Natural discarded
413	1	UN	Irregularly worked core - flake removals, flawed internally
558	1	UN	Large worn flake
569	-	UN	Natural discarded
600	1	N?	End scraper on large slightly blade-like flake, worn edge
655	1	UN	Flake
829	1	UN	Small flake
996	-	UN	Natural discarded
1008	5	UN	Chips, 1 poss natural, SS6
1009	24	UN	Flakes inc some worn ones, S7
1027	-	UN	Not flint – stone unworked
1030	2	UN	Worn flakes
1032	7	UN	Flakes one is burnt, ss12
1036	2	UN	Flakes inc one Bullhead flake
1036	1	UN	Large flake, partly cortical retouched at proximal end, steep retouch
1036	7	UN	Chips, inc 2 burnt ss14
1046	-	UN	Natural discarded
1048	2	UN	Flakes
1051	1	UN	Flake
1069	1	UN	Flake, heavily encrusted with calcium carbonate
1097	-	UN	Natural discarded
1101	1	UN	1 battered flake, also 1 natural
1104	1	UN	Flake
1113	3	UN	Small flakes
1116	-	UN	Natural discarded
1153	1	UN	Wholly cortical flake
1160	1	UN	?side trimming flake
1161	1	UN	Cortical flake
1182	14	UN	Flakes some irregular, all quite fresh
1202	1	UN	Flake, worn also 3 natural – discarded

Context	Count	Period	Comments [presence of diagnostic material/ dominance tool/flakes etc.]
1233	1	UN	Flake with broken edges, fresh condition
1242	2	UN	Flakes, one heavily corticated, 1 fresh
1245	19	UN	Irregular flakes, buff cortex - some refits? Some wear
1247	8	UN	Worn flakes some with cortex, mostly HH
1247	1	UN	Bullhead flake core fragment, also 3 natural - discarded
1249	6	UN	Flakes
1251	5	UN	Flakes 1 is very worn, also 1 blade-like flake
1253	13	UN	Flakes, inc 1 Bullhead flake, also 9 natural discarded
1262	2	UN	Flakes
1262	1	UN	Core fragment from flake core, also 11 natural discarded
1281	1	UN	HH, HF flake
1315	7	UN	Flakes inc 1 Bullhead flake, also 1 natural
1316	3	UN	Flakes, inc 2 Bullhead flakes, also 3 natural
1318	2	UN	Flakes inc 1 distal trimming flake
0	1	UN	Blade with worn edges, blade scars on dorsal face
0	-	UN	Not flint - stone unworked
2203	-	UN	Natural discarded
	166	UN	

Table 28: Burnt Flint ARC WNB 98

Context	Count	Weight	Comments*
156	7	39	
163	4	26	
250	1	36	
258	2	66	
263	6	436	
268	5	198	
269	15	568	
269	20	33	
270	4	201	
278	5	246	
278	10	177	
282	5	272	
292	2	19	
292	14	90	
292	35	136	
296	1	19	
297	6	130	
302	1	76	
308	1	24	
314	22	457	
362	9	130	
364	11	247	
380	26	1920	
381	6	306	
387	1	125	
393	1	32	
406	3	134	
426	1	137	
489	3	99	
498	22	1569	
526	1	1	
565	11	275	
601	1	139	
609	7	176	
641	2	168	
642	6	173	
644	2	56	
698	1	26	
818	5	51	
839	1	50	
916	10	14	
964	1	47	
1023	11	337	

Context	Count	Weight	Comments*
1051	1	1	
1060	1	0	
1093	1	1	
1240	3	59	
1262	6	110	
1262	6	12	
1270	6	1	
1279	6	6	
1318	1	22	
2042	1	16	
	340	9689	

* all heavily calcined white to grey

Table29: Worked Flint ARC 330 98

Context	Count	Period	Comments
1	23	UN	Flakes, some SH but mostly HH some trimming flakes, one or two Bullhead flakes, much post-dep damage,
1	1	? LN	End and side scraper, neatly retouched poss Neolithic later?, also 4 natural
63	3	UN	Flakes 1 is very fresh, sharp edges, other is worn Bullhead, heavily encrusted with cal carbonate, 1 core frag heavily encrusted with calcium carbonate
74	21	UN	Flakes, some SH, mixture of fresh and slightly worn pieces, some med cortication some uncorticated, a couple of Bullhead flakes, also 3 natural
97	1	UN	Flake
98	2	UN	Flakes, 1 is heavily corticated small flake, other has a hinge fracture
100	1	UN	Flake
108	4	UN	Retouched flake, minimal retouch to both lateral edges, distal break, SH?, 3 flakes inc 1 Bullhead
112	8	UN	Flakes mostly HH, side trimming flakes and almost wholly cortical flakes
114	2	UN	Flake, 1 slightly blade-like flake
119	1	UN	Flake, worn
121	1	UN	Natural – discarded
127	1	UN	Thick flake
141	1	UN	Large thick trimming flake
145	17	UN	Flakes, some SH but mostly HH, some trimming flakes, also 7 natural, 1 core fragment, 1 multi-platform flake core
146	7	UN	6 flakes, 1 core fragment on small pebble, also 3 natural
147	3	? LN	2 flakes, flint from pit 147 (fills 145, 146 and 202), two end and side scrapers (one is very large with a pronounced tang for hafting, other is smaller and also has a projecting end which may have been hafted, 1 retouched flake with minimal retouch along one edge, also 1 natural
148	4	UN	2 flakes, 2 core fragments both from flake cores
149	1	UN	Large flake, hinge fracture, possible used edges, 1 natural

Context	Count	Period	Comments
150	3	UN	Flakes, inc 1 large thick cortical flake, also 1 natural
176	1	UN	Retouched flake, large thick flake with large area of crystalline inclusion, small retouched area and poss used edges
183	12	UN	Flakes, including a plunging flake, much post depositional damage, 1 retouched flake/knife square flake with minimal retouch to 1 edge, also 13 natural
190	-	UN	Natural – discarded
202	4	EBA?	Barbed and tanged arrowhead, broken tang and slight damage to one barb, minimal retouch, small eg, vestigial barbs, sharp point, 3 flakes inc 1 burnt flake. Beaker
206	31	UN	26 flakes inc 2 burnt, many are heavily battered and abraded, also several very large flakes, mostly HH some hinges fractures, 2 cores (1 single platform, 1 two platform), 2 core frags – flake cores, 1 tested nodule, also 25 natural pieces
211	3	UN	Flakes, also 2 natural
224	6	UN	Flakes inc 1 possible CRF face/edge, also 2 natural
234	1	UN	Flake
234	2	UN	Flakes both broken and heavily encrusted with calc carbonate
234	-	UN	Natural - discarded
234	1	UN	Flake
234	1	UN	Piercer with worn point, minimal retouch
235	1	UN	Flake some later damage
250	1	UN	Large cortical flake
255	3	UN	Flakes inc 1 blade-like flake, poss used edges
282	1	UN	?? Large irregularly worked piece, some flake removals but several natural fractures
282	1	UN	Large HF flake with patch of ?natural gloss
321	1	UN	Small flake, also 1 natural
323	1	UN	Small flake, also 1 natural
334	3	UN	Flakes all quite worn
355	2	UN	Flakes
356	2	UN	Flakes
357	6	UN	Flakes some used edges
0	1	UN	Flake with used edges, context CH40.900
0	1	UN	Very large and battered flake ctx CH40.900
0	1	UN	Core fragment, battered, flake removals ctx CH40.900
1302	1	UN	Flake
1339	1	UN	Possible flake, HH struck
1390	-	UN	natural - discarded
1394	-	UN	natural - discarded
1395	2	UN	Flakes inc 1 side trimming flake
1399	5	UN	Flakes 3 possibly SH
1401	1	UN	Side trimming flake
	202		

Table 30: Burnt Flint ARC 330 98

Context	Count	Weight	Comments *
1	1	47	
63	2	189	
72	1	74	
74	1	29	
89	3	252	
95	23	1070	
96	1	3	
100	2	133	
106	1	1	
108	13	903	
110	39	1574	
112	17	690	
117	3	206	
119	9	997	
121	10	440	
131	1	15	
133	2	21	
138	100	70	small frags
145	22	101	
146	5	118	
148	5	96	
176	3	2	
190	1	28	
200	4	55	context is 200+620
202	3	2	
206	49	2980	
211	2	32	
224	17	441	
250	2	40	
264	5	149	
282	6	54	
309	5	10	
314	23	365	
323	6	519	
324	1	2	
334	5	146	
338	22	649	
345	15	241	
347	11	20	
355	1	13	
356	5	16	
357	6	183	
395	7	26	
559	6	36	
560	12	50	
567	6	89	
590	9	8	
592	5	9	

Context	Count	Period	Comments
594	5	6	
596	8	27	
598	3	12	
600	8	33	
	522	13272	

* all heavily calcined white to grey

