

APPENDIX 1 - ASSESSMENT OF LITHICS

1.1 Worked and Burnt Flint

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Introduction

- 1.1.1 Large assemblages of worked flint were recovered from White Horse Stone (ARCWHS98) and Pilgrims Way (ARCPIL98); smaller assemblages of worked flint came from Boarley Farm (ARCBFE98 and ARCBFW98). Small quantities of burnt unworked flint came from all four sites.
- 1.1.2 The flint came from a range of contexts: - pits postholes (including those belonging to an earlier Neolithic structure), layers, ditches and natural features. Although few diagnostic retouched forms were recovered the technological aspects of the material suggest a Neolithic date for the majority of the flint from the sites. Within this broad date range both earlier and later Neolithic material has been identified. Little demonstrably later flint was identified but analysis and comparison of stratigraphic and other artefactual information may identify later flintwork. Similarly no Mesolithic flintwork was identified. In general the assemblages seem to represent domestic activities. Usewear has been provisionally identified on a number of pieces; given the generally fresh condition of the material there is some potential to conduct further work on this aspect of the assemblages. Potential refitting groups were also identified from a number of contexts.
- 1.1.3 The recovery and study of the flint was undertaken in accordance with the Fieldwork Event Aims (see Section 2.2), in particular aims 1, 5, 10, 11 and 13.

Methodology

- 1.1.4 All of the worked flint from Pilgrims Way, Boarley Farm East and Boarley Farm West (ARC PIL98, ARC BFE98, ARC BFW98) was briefly scanned and recorded, with information regarding dating, technology and general condition being noted. Only a sample of worked flint from White Horse Stone was recorded; the remaining material was rapidly scanned (see below). The flint records were put onto an Access database. All of the burnt unworked flint was scanned and weighed; general notes on the condition of this material were also made. Any burnt worked flint found amongst the unworked material has been added to the worked flint database. A large quantity of natural flint was recovered from both White Horse Stone and Pilgrim's Way. This material has been noted in the database and discarded. A summary of the constituent elements of the assemblages by site is provided in Table 2.1.1. The flint from White Horse Stone, Pilgrims Way, Boarley Farm East and Boarley Farm West is listed by context in Tables 2.1.2-7.
- 1.1.5 Selected material was scanned and recorded; this included all flint from the identified key structure groups (both worked and burnt unworked):
- the rectangular structure and associated features (4806 & 5297)
 - Grooved Ware pits
 - tree-throw holes
 - and a sample from the preserved ground surface (4144)
- 1.1.6 The large quantity of flint from Iron Age and later contexts was scanned and a large enough sample recorded to characterise the material. The total quantity of material from White Horse Stone has been projected from the counts provided by OAU finds department; however, considerable quantities of natural flint have inflated the

counts, thus by comparing the ratio of natural to worked from other contexts an approximate figure of 5500 pieces of flint is suggested as the likely total from the site. It should also be noted that a large number of chips were recovered (c. 62% of the total assemblage), some of which may be natural. In many cases this small element of the assemblages was too numerous to sort; they were generally scanned and the OAU Finds Department counts were used.

Quantification

- 1.1.7 A total of 4358 pieces of worked flint and 391 pieces of burnt unworked flint, weighing 3257 g was recovered from the White Horse Stone group of sites. The material is summarised by site in Table 2.1.1, whilst Tables 2.1.2-7 provide a detailed breakdown by context for each site. As noted above it was not possible to provide an absolute number of pieces from White Horse Stone. The figure given is based on the total finds counts from the OAU Finds Department minus the expected proportion of natural flint.

Table 2.1.1: Summary by site of constituent elements of the assemblages from White Horse Stone (ARCWHS98, ARCPIL98, ARCBFE98 and ARCBFW98)

Artefact Type	Number	Group %	Total %	Period	Comments
ARCWHS98					
Scrapers	14	31.1	0.4		9 end, 4 end and side, 1 side
Serrated flake	7	15.6	0.2		Many worn, some gloss
Retouched flake	10	22.2	0.3		Flakes with minimal retouch along 1 or more edges
Misc retouch	6	13.3	0.3		
Hammerstones	4	8.9	0.1		Spherical nodules with battered areas, 1 burnt
Knives	3	6.7	0.1		
Core tool	1	2.2	0.02		Alternate flaking, roughout?
<i>(Tools – sub total)</i>	<i>45</i>	<i>100</i>	<i>1.32)</i>		
Flake cores & core frags	37	1.7	1.0		All relatively neatly worked, some evidence for platform edge preparation. Includes single platform, multi-platform, keeled, opposed platform, core on a flake, tested nodules and core fragments
Rejuvenation tablets	3	0.1	0.1		1 tablet, 2 face/edge
Chips	2187	97.9	62		Many burnt, core front chips noted, some chips may be natural
<i>(Production - sub total)</i>	<i>2227</i>	<i>100</i>	<i>63)</i>		
Flakes	1253	100			Hard and soft hammers used, a few blades or blade-like flakes noted, all stages of reduction present
<i>(Flakes – sub total)</i>	<i>1253</i>	<i>100</i>	<i>35.5)</i>		
Total	3525				
ARCPIL98					
Scrapers	13	28.3	1.6		8 end, 1 side, 3 end and side
Serrated flake	9	19.6	1.1		Some are very worn, some with gloss, mostly one edge only serrated
Retouched flake	14	30.4	1.7		Flakes with minimal areas of retouch
Misc retouch	2	4.3	0.2	?LNE	
Piercer	4	8.7	0.5		3 on blanks with long flakes
Knives	2	4.3	0.2		1 with invasively retouch, 1 scraper/knife
Arrowhead	2	4.3	0.2	LNE	1 <i>petit tranche</i> derivative arrowhead, very small neatly worked eg, 1 fragment
<i>(Tools – sub total)</i>	<i>46</i>	<i>100</i>	<i>5.5)</i>		
Flake cores & core frags	10	4.2	1.2		Includes single platform, multi-platform, opposed platform and core fragments
Rejuvenation tablets	4	1.7	0.5		1 tablet, 3 face/edge
Chips	223	94.1	27.5		Many broken, some burnt, no particular

Artefact Type	Number	Group %	Total %	Period	Comments
					types noted
(Production - sub total)	237	100	29.2)		
Flakes	527	100			Hard and soft hammers used, all stages of reduction
(Flakes – sub total)	527	100	65.1)		
Total	810				
ARCBFE98 and BFW98					
Arrowhead	1	100		ENE	Leaf-shaped possibly unfinished
(Tools – sub total)	1	100	4.3		
Chips	11	100			
(Production - sub total)	11	100	47.8)		
Flakes	11	100			
(Flakes – sub total)	11	100	47.8)		
Total	23				
Grand Total	4358				

Table 2.1.2: Summary of worked flint from Pilgrims Way (ARCPIL98), by context

Context	Count	Period	Comments
310	8	?NE	2 flakes, 1 multi-platform flake core, 4 chips, 1 very worn serrated flake
311	30		13 flakes, 17 chips – some of which are burnt and some are probably natural, also 30 natural
335	2		2 chips, one may be natural
437			2 natural
453	3		3 flakes, 15 natural
464			2 natural
471			2 natural
474	6		5 flakes, 1 core fragment, 2 natural
480			3 natural
500	1		1 flake
505			2 natural
506	1		1 core frag with 1 blade scar
528	14		6 flakes, 8 chips
534	17		7 flakes, 10 chips, 3 natural
565	1		Context 565/566 1 flake, 2 nat
570	1		1 flake
572	5		5 flakes
573	4		4 flakes
575	2		2 flakes
651	19		10 flakes, 9 chips, some of which may be natural, also 1 natural
693	8		4 flakes, 4 chips
695	47		24 flakes (2 burnt), 23 chips (2 burnt) 16 natural
696	2		2 flakes, 2 natural
698	9		7 flakes, 2 chips
699	10		6 flakes, 4 chips, also 1 natural
701	13		10 flakes, 3 chips
707	15		3 flakes, 12 chips some of which may be natural
709	10	MNE; LNE	1 very small neat PTD arrowhead, 9 flakes - 2 are burnt, also 1 natural
712	2		2 flakes, 1 natural
739	4		4 chips, some might be natural, 6 natural

Context	Count	Period	Comments
745	1		Very worn serrated flake
853/854	3		3 flakes, 12 natural
854	12		12 flakes - 5 are very heavily calcined, 13 natural
862	21		16 flakes - 1 burnt, some used, 2 retouched flakes, 1 end, 1 side scraper, 1 serrated flake with gloss, scraper is burnt, several Bullhead flakes ?refits, also 1 natural
862	37		23 flakes, 14 chips, some burnt and some may be natural, also 2 natural
869			9 natural
887			3 natural
888	3		2 flakes, 1 is poss a CRF, 1 single plat flake core some preparation, also 2 natural. All flint heavily encrusted with cal carbonate
896	1		1 misc retouch, flake with small area of neat retouch - poss use
897	6		5 flakes, three with usewear, 1 misc retouch – large flake with area of retouch, several trimming flakes – GW layer
899	12		1 opposed plat flake core Bullhead flint, 10 flakes - some usewear, many trimming flakes ?refits, 1 retouched flake – minimal poss just use
902	1	NE	1 end and side scraper, neat non-cortical blank, worn edge
905	14		14 flakes, some usewear?
906	7		7 flakes
907	5		5 flakes
908	11		11 flakes, also 1 natural
910	26		24 flakes, 1 very worn serrated flake, 1 knife/scraper reworked, 3 natural
910	85		82 flakes, 1 serrated flake, 1 core fragment, 1 single platform flake core, 10 natural
912	7		3 flakes, 3 retouched flakes - some with minimal retouch – poss just use, 1 piercer long point
912/914	4	?NE	3 flakes – some plat prep, 1 end scraper on long blank
912/914	25		24 flakes, 1 core tablet, 6 natural
914	19		12 flakes - 2 are burnt, 3 used 3 retouched/used flakes, 2 CRF face/edge, 2 end scrapers - one v worn and ?resharpened
922	1		1 flake
923	2		1 retouched/used flake, 1 large scraper on prep flake, denticulated-type retouch
924	15	NE?	11 flakes - 1 is burnt, 1 retouched/used flake, 1 worn serrated flake, 1 end and side scraper 1 piercer long point; Neolithic possibly later
928	2		1 flake, 1 retouched/used flake
949	1		1 flake, 3 natural
953	12		1 blade, 11 flakes
954	22		5 flakes, 17 chips 1 flake is burnt
959	16	?NE	1 core frag with 1 blade scar, 1 end scraper on long blank, 1 ?arrowhead fragment/?knife, 13 flakes some with usewear ; Neolithic possibly later
959	144		52 flakes – one of which is heavily burnt, 1 multi-platform core, 1 piercer, 90 chips, 6 natural
963	7		7 flakes, some trimming flakes
965	5		4 flakes, 1 serrated flake both edges serrated, also 3 natural GW
967	15		11 flakes - 1 is burnt, 1 retouched/used flake, 1 worn serrated flake, 1 end and side scraper 1 piercer long point
969	2		1 flake, 1 retouched flake, poss used as a scraper, 1 natural
971	32		26 flakes - 2 of which are burnt, 1 multi- platform flake core, 1 serrated flake, 3 end scrapers, 1 invasively worked knife, many of the flakes are trimming flakes
Total	810		

Table 2.1.3: Summary of burnt unworked flint from Pilgrims Way (ARCPIL98), by context

Context	Count	Weight (g)	Comments
310	2	104	Heavily calcined flint grey to white, also 1 shell
311	2	15	Heavily calcined grey
715	1	670	Very large heavily calcined lump, calcined grey

Context	Count	Weight (g)	Comments
854	5	83	Very heavily calcined white
871	6	109	Very heavily calcined red-white
887	1	1	Calcined grey
905	2	4	1 piece conjoins, very heavily calcined white, also 1 natural
910	1	1	Calcined grey
949	2	5	very heavily calcined grey
971	1	17	Very heavily encrusted with cal carbonate, reddish tinge so poss burnt
950	1	1	Calcined grey
Total	24	1010	

Table 2.1.4: Summary of worked flint from East of Boarley Farm and West of Boarley Farm (ARCBFE98, ARCBFW98), by context

Context	Count	Period	Comments
ARCBFE98			
1001	3	NE	SF 1000 Small broken leaf-shaped arrowhead possibly unfinished, 2 flakes
1013	1		1 flake
1027	3		2 flakes, 1 chip (possibly natural)
1028	1		1 flake
ARCBFW98			
1010	1		1 flake
1021	6		6 chips, some may be natural, also 3 natural
1030	4		1 flake, 3 chips
1037	2		2 flakes
1041	1		1 burnt flake
1138	-		1 natural
1144	1		1 chip, possibly natural
Total	23		

Table 2.1.5: Summary of burnt unworked flint from East of Boarley Farm and West of Boarley Farm (ARCBFE98, ARCBFW98), by context

Context	Count	Period	Weight (g)	Comments
ARCBFE98				
1017	5		54	5 heavily burnt flints calcined white
ARCBFW98				
1021	1		1	1 burnt unworked flint calcined white/grey
1063	1		26	1 burnt unworked flint calcined grey
Total	7		81	

Table 2.1.6: Summary of worked flint from White Horse Stone (ARCWHS98), by context

Context	Count	Period	Comments
2076	3		3 flakes, 1 is blade-like
2101	1		1 flake
2103	8		3 flakes, 1 roughly worked nodule with some flakes removed, 4 chips
2104	6		2 flakes, 4 chips
2108	21		20 flakes - 1 burnt, many trimming flakes, 1 chip
2210	5		5 flakes
2113	2		2 flakes
2114	1		1 flake

Context	Count	Period	Comments
2152	1		1 heavily burnt flake
2169	9		6 flakes - 1 burnt, 2 chips, 1 single platform flake core with some edge abrasion
2185	14		12 flakes inc several trimming, 1 flake core frag, 1 retouched flake, poss just use
2185	1		1? Possible hammerstone, one area of battering looks like use but rest of sphere is battered all over
2185	5		1 flake, 4 chips, also 2 natural
2186	1		1 small flake
2191	2		2 flakes, 1 very heavily burnt
2197	1		1 burnt flake
2224	1		1 flake, also 1 natural
2225	5		4 flakes, 1 end scraper on a blade-like flake with worn scraping edge
2233	1		1 burnt flake, also 1 natural
2240	1		1 flake
2242	1		1 heavily burnt flake
2248	1		1 flake
2253	2		2 flakes, 1 is burnt
2261	2		2 flakes, 1 is burnt
2263	1		1 flake
2264	5		3 flakes, 1 end scraper - minimal retouch possibly just use, 1 single platform flake core some edge prep, hinge fractures, also 1 natural
2267	6		6 flakes - 1 is burnt
2280	4		4 flakes, 1 with ?usewear
2341	1		1 flake
2342	4		3 flakes, 1 multi-platform flake core
2353	1		1 side scraper, minimally retouched
2431	1		1 flake - thermal dorsal surface
2561	2		2 flakes both heavily burnt
2573	1		1 flake
4000	3	?NE	1 flake, 1 minimally retouched flake, 1 end scraper on long blank bld scars all very worn
4000	3		3 chips
4002	11		11 chips
4005	25		25 chips
4016	7		5 flakes, 1 very worn serrated flake, 1 end scraper all encrusted with cal carbonate
4017	1		1 flake
4018	1		1 retouched flake
4041	1		1 flake, slightly blade-like
4058	2		2 flakes
4060	1		1 flake
4065	1		1 flake
4065	1		1 flake
4097	4		3 flakes, 1 multi-platform flake core
4100	1		1 flake ?used edges
4141	30	NE	26 flakes inc many trimming, 3 single platform flake cores inc 1 on an oval Bullhead nodule, 1 roughly worked keeled core
4141	3	NE	1 end and side scraper, 1 end scraper with retouch along one edge, 1 very worn serrated flake
4144	173		103 chips - some burnt, 69 flakes (8 burnt), 1 tested nodule, also 65 natural
4144	239		all chips/small flakes, scanned - counts are OAU finds count, some are burnt, also a few natural - not discarded
4144	190		55 flakes - 3 burnt, 134 chips - 42 burnt, 1 end scraper - very worn, also 171 natural

Context	Count	Period	Comments
4185	6		1 flake, 5 chips - 1 burnt, also 1 shell fragment
4186	1		1 flake
4203	1		1 multi-platform flake core
4289	1		1 blade-like flake previous blade scars
4278	1		1 large flake
4281	1		1 flake
4298	1		1 roughly worked nodule, many thermal flaws
4344	1		single platform flake core on irreg nodule, 1 blade scar some plat preparation
4532	1		?hammerstone, very battered also burnt, spherical
4498	15		12 flakes inc several trimming, much calc carb concretion, 1 core frag, 1 serrated flake, 1 retouched flake, poss just use
4498	3		3 flakes
4802	4		4 flakes, inc 1 plunging flake
4804	1		Flake, side trimming
4818	14		14 chips, also 4 natural
4825	5		2 flakes - 1 burnt, 3 chips - 2 burnt, also 2 natural
4835	2		2 small chips, also 6 natural
4847	5		5 small chips
4849	2		2 Flakes
4856			1 natural
4858	2		2 burnt flakes
4860	18		4 flakes, all burnt 14 chips - 3 burnt, also 13 natural
4869	2		1 trimming flake, 1 poss CRF - face/edge
4875	34		4 flakes - 1 burnt, 30 chips - 12 burnt, also 26 natural
4876	1		Flake, some blade-like scars but thick and chunky, some cortex on edge
4876	5		5 flakes - 2 burnt, 14 natural NB one bag also from this context not recorded as a note says it probably came from ARCTHM although it is labelled as WHS
4860	1		1retouched flake, poss use , made on a blade-like flake
4887	7		7 chips - 2 burnt, also 3 natural
4909	1		1 flake with ?used edges, much cal carbonate
4909	2		2 chips, also 3 natural
4918	1		1 knife, broken at distal end, retouched and use on both edges inc gloss, SH
4920	2		2 flakes, one is burnt, the other is just possibly natural
4931	2		1 flake, 1 serrated flake, broken in antiquity but also a recent break, well defined serrations, no sign of gloss
4942	1		1 retouched flake
4945	4		3 flakes, one is iron stained, 1 multi-platform flake core
4947	20		1 flake - burnt, 19 chips - some burnt and some may be natural, also 4 natural
4953	5		5 flakes (4 are burnt) inc 3 trimming flakes
4961	5		5 flakes
4966	3		3 flakes - 2 are burnt, also 8 natural
4967	21		18 flakes, one has usewear, several trimming flakes, many are encrusted with cal carbonate, 1 multi-plat flake core, 1 hammerstone with 3 areas of battering, 1 very worn serrated flake
4967	101		94 chips - scanned only, some are burnt, 6 flakes, 1 serrated flake very worn
4969	40		25 flakes- 7 burnt, 14 chips - 7 burnt, 1 misc retouch - flake with minimal retouch along 1 edge NB 2 bags from this context could not be found
4978	1		1 flake with used edges, possibly a very worn serrated flake
4993	1		1 small chip, also 1 natural
4995	2		2 flakes, one is burnt
4996	25		21 flakes (5 are burnt), some usewear, 1 opposed plat flake core, 1 poss CRF face/edge, 1 serrated blade, 1 retouched flake - poss just use

Context	Count	Period	Comments
4996	11		6 flakes - 2 burnt, 5 chips - 3 burnt, also 6 natural
4997	2		1 worn/retouched flake, minimal retouch, 1 burnt flake
4997	14		11 chips, 3 flakes, also 1 piece shell
4998	19		16 flakes inc many trimming flakes, 1 multi-platform flake core, 1 single plat flake core, 1 core frag
4998	13		12 flakes, several encrusted with cal carbonate, 1 chip, also 4 natural
5002	1		1 burnt chip, also 4 natural
5009			10 natural
5011	12		1 flake - burnt, 11 chips - 7 burnt, also 4 natural
5021	6		all small chips, also 1 natural
5025	9		all tiny chips -poss natural, also 6 natural
5073	64		55 flakes - 4 burnt, 4 core frags - 1 discoidal - all flake, 1 tested nodule roughly worked, 3 misc retouch - 2 minimally retouched flakes, 1 poss piercer, 1 side scraper - steeply retouched on irreg thickish blank
5120			4 natural
5122	21		1 flake, 20 chips - NB scanned only so some may be natural, also some burnt, also 3 natural
5130	11		8 flakes - 2 burnt, 2 burnt end scrapers minimally retouched, 1 knife on a blade-like flake, worn
5133	21		1 flake - burnt, 20 chips - NB scanned only so some may be natural, also some burnt, also 4 natural
5134	13		3 flakes, 10 chips
5135	17		17 chips, several burnt, also 3 natural
5145	17		6 flakes - 1 is heavily burnt, 11 chips – some are burnt
5145	27		27 very small chips, some are burnt and some may be natural
5151	1		1 chip
5153	1		1 flake
5159	3		3 flakes - 2 are heavily burnt, also 3 natural
5160	74		74 flakes, 2 natural
5164	3		1 flake, 2 chips, also 5 natural
5166/5167	13		2 small flakes, 11 chips all very small, some poss natural, also 3 lumps natural
5170	1		1 heavily burnt flake, 7 natural
5173	4		1 flake, 3 chips, 1 natural
5177	1		1 chip, 3 natural
5179	22		22 flakes, 2 natural
5181	6		2 chips, 4 flakes, 5 natural
5183	1		1 chip, 4 natural
5202	8		1 flake, 7 chips -some very heavily burnt, 1 natural
5204	11		2 flakes, 9 very small chips - some may be natural, also 4 natural
5210	1		1 small burnt chip
5218	8		1 flake, 7 chips
5221	35		35 flakes, 2 natural
5226	14		11 chips, some are burnt, some may be natural, 3 flakes
5228	2		2 chips, poss natural, also 3 natural
5343	6		1 flake, 5 chips, 3 natural
5245	7		7 chips, all very small, some burnt, also 2 natural
5255	35		1 heavily burnt flake, 34 chips, several burnt, also 1 natural
5237	84		22 flakes, 61 chips - many burnt, 1 ?core on flake, also 13 natural
5257	34		33 flakes - 3 with ?usewear, 6 burnt, 1 end and side scraper on a ?side trimming flake, also 1 natural
5258	9		9 flakes, also 5 natural
5259	15		14 flakes, 1 large retouched/used flake on a trimming flake, also 4 natural
5265	214		214 chips, 1 natural

Context	Count	Period	Comments
5270	61		56 chips, many burnt, 5 flakes, 5 natural
5272	10		5 flakes, 5 chips, 5 natural
5274	2		2 flakes, 2 natural
5279	5		5 chips, 2 natural
5284	40		1 knife? Very heavily calcined, 39 flakes, some burnt, 35 natural
5290	1		1 burnt chip
5292	24		24 flakes and small chips, may are burnt
5295	60		60 chips, may are burnt
5305	18		18 chips, many are burnt, also 5 natural
5307	2		2 chips, 2 natural
5310	20		1 flake, 19 chips, 2 natural
5312	244		244 flakes/chips, 2 natural
5314			4 natural
5320	59		46 chips, many burnt, 13 flakes, 1 natural
5328	6		6 chips, 4 natural
5340	5		5 chips, 2 burnt
5354	1		1 small blade-like flake, 5 natural
5356	1		1 burnt flake, 10 natural, 1 small frag calcined bone
5364	3		3 small burnt chips
5388	30		6 flakes - 2 are burnt, 24 chips, some are burnt, also 1 natural
5394	6		6 small chips
5395	4		2 chips, 2 flakes - 1 of which is burnt
5417	1		1 multi-platform flake core very heavily burnt, fragmenting
5421	1		1 flake
5422	4		3 flakes, 1 chip, also 9 natural
5422	3		1 flake, 1 misc retouch - broken flake with minimal retouch along 1 edge, 1 multi-plat flake core some edge abrasion
5423	5		4 flakes, 1 misc retouch - flake with minimal retouch to edges, also 1 natural
5426	6		6 chips, 24 natural
5434			4 natural
5437	11		5 flakes, 6 chips, 33 natural
5449	6		1 chip, 5 flakes - 2 burnt, 1 used, 1 natural
5453	5		5 flakes all heavily calcined
5479	5		5 flakes
5483	3		3 flakes
5618	18		1 flake, 17 chips, 1 natural
5484	1		1 flake
5485	3		3 flakes - 1 is burnt
5486	1		1 flake - burnt
5487	2		1 flake, 1 ?end scraper - broken and very worn, neat retouch on non-cortical blank
5488			1 natural
5490	2		2 flakes - 1 is burnt
5494	2		2 flakes, also 1 natural
5498	1		1 flake
5500	1		1 flake - used edges??
5501	1		1 flake
5502	6		6 small flakes
6013	4		4 chips - 1 burnt, 1 natural
6015	2		2 flakes
6031	6		2 flakes, 4 chips, also 2 natural

Context	Count	Period	Comments
6033			1 natural
6047	3		3 flakes
6061	2		2 flakes
6063	1		1 flake
6064	3		1 CRF - tablet, 2 flakes inc 1 trimming flake, 1 lump ironstone/concretion
6077	6		6 tiny chips - some poss natural
6081	1		1 flake
6085	4		1 flake, 3 chips
6086	18		2 flakes - 1 is burnt, 16 chips
6096	1		1 misc core tool? Alternate flaking , some thermal scars
6097	27		27 chips - some may be natural
6099	27		4 flakes - 1 burnt, 23 chips - 1 burnt, 2 natural
6122	13		3 flakes, 1 core frag - flake core, 9 chips - 1 burnt
6126	43		19 flakes - 8 burnt, 24 chips - 5 burnt, also 5 natural and 1 bone fragment
6131	5		2 flakes, 3 chips, also 1 natural
6133	25		25 chips - NB scanned only OAU finds count used
6165	4		3 flakes, 1 chip, also 1 natural
7002	28	NE?	19 flakes, 2 end and side scrapers - 1 has been minimally retouched, 7 chips, also 1 natural
7006	1		1 burnt flake
7008	2		2 chips - 1 is burnt
7012	9		4 flakes, 1 minimally retouched flake - poss just use, 4 chips
7013	7		6 flakes, 1 chip, also 4 natural, also 1 piece bone
7014	6		6 flakes - 2 are burnt, also 1 natural
7015	56		37 chips - scanned only OAU counts used - some are burnt, 19 flakes - 15 are burnt, also 1 natural
7016	257		201 flakes and small chips, 50 chips - all scanned, some burnt counts are OAU, 6 flakes - 5 burnt, also 1 natural
7023	9		9 chips, also 7 natural
7025	3		3 flakes - 1 is heavily encrusted in calc carbonate, also 18 natural
7025	16		16 chips - 1 burnt, also 8 natural
7026	20		1 flake, 19 chips - 7 burnt, also 3 natural
7030	1		1 flake
7031	20		17 chips - 2 burnt, 3 flakes, 1 natural, also several very tiny chips - ?mostly natural
7071	50		13 flakes - 1 burnt, 37 chips - scanned only OAU counts
7079	10		2 core fragments - flake cores, 1 is burnt, 8 flakes, 9 chips, 3 natural
7129	2		1 large flake, 1 ?tested nodule, 1 natural
7138	7		7 flakes
7141	1		1 flake
7143	6		4 flakes inc 1 very large one, 1 core frag - flake core, 1 core on a flake - flake removals, 1 natural
7151	4		4 flakes, also 1 natural
7154	6		6 flakes - 2 are burnt
7155	1		1 flake
7204	2		1 flake, 1 tested nodule - iron-stained nodule, also 1 natural
7247	1		1 serrated blade very worn, PPBS
7273	1		1 flake
8011	2		2 flakes - 1 is slightly irregular
8014	3		1 burnt ?hammerstone very heavily burnt, 2 flakes inc 1 trimming flake
9047	13		4 chips, 1 tested nodule, 8 flakes
9051	1		1 flake
9052	5		5 chips

Context	Count	Period	Comments
Total	3525		

Table 2.1.7: Summary of burnt unworked worked flint from White Horse Stone (ARCWHS98), by context

Context	Count	Weight	Comments
U/S	4	58	calcined grey-white
718	1	3	Heavily calcined white
1127	1	0.5	less than 0.5 g calcined white
1134	1	0.5	calcined red
2103	1	11	calcined red and grey
2187	6	68	all lightly burnt, probably 1 item originally and now shattered
2189	4	5	calcined grey
2200	2	11	calcined grey-red
2233	2	5	calcined grey
2243	1	2	calcined white/red
2255	1	2	calcined red
2264	1	1	calcined grey
2401	1	1	calcined red
2561	1	21	calcined grey
4000	1	21	calcined grey
4050	1	6	calcined red
4141	2	4	calcined red/grey
4144	17	50	calcined grey-white
4144	25	110	calcined grey to white, one or two are reddish tinged, also 3 natural
4909	4	3	calcined grey
4995	26	143	all heavily calcined grey, also one natural
4996	4	98	all heavily calcined grey
5130	13	195	all heavily calcined grey
5257	4	19	calcined white-grey
5352	3	12	calcined white/grey
5356	1	5	calcined white
5417	10	29	calcined grey-white
5422	1	9	calcined grey
5423	4	21	calcined grey/red
5434	2	0.5	calcined grey
5437	5	0.5	calcined grey
5447	1	9	calcined grey
5449	2	3	calcined reddish white
5453	20	135	calcined gre-white, also 3 natural
5482	1	4	calcined grey
5500	1	1	calcined grey-white
5502	1	5	calcined grey
6013	2		2 tiny burnt chips
6015	1	1	calcined grey
6086	4	7	calcined grey-white
7006	1	10	calcined grey
7013	32	208	calcined white-grey
7014	2	8	calcined white-grey
7016	33	6	calcined grey

Context	Count	Weight	Comments
7148	1	20	calcined grey
7152	2	66	calcined grey with red tinges
7154	1	76	calcined white-red
8014	1	8	calcined grey
9047	2	7	calcined grey
9048	2	162	calcined grey
9051	1	1	calcined grey
9051	1	1	calcined grey
Total	262	1653	

Provenance

- 1.1.8 Large assemblages were recovered from White Horse Stone (ARCWHS98) and Pilgrims Way (ARCPIL98). Smaller assemblages came from Boarley Farm (ARCBFE98 and ARCBFW98). The provenance of the material is discussed below by site:

White Horse Stone (ARCWHS98)

- 1.1.9 White Horse Stone produced the largest flint assemblage from this group of sites (Table 2.1.1). The flint came from a range of features (pits, postholes, a preserved ground surface, tree-throw holes, ditches and other contexts). Importantly flint was associated with an earlier Neolithic post-built long house (groups 4806, 5297). Such houses are rare, and thus nationally important; any artefactual assemblages that are associated with such structures are obviously of great importance.
- 1.1.10 The earlier Neolithic aspect of the assemblage lacked diagnostic retouched forms, and it is not a blade-based technology. However, reasonable care and preparation both before and during knapping seems to have occurred; platform edges have been kept free from overhangs and rejuvenation flakes (both edge and tablet) were recovered. Blade-like blanks seem to have been selected especially for serrated, and to a lesser extent, retouched flakes. Pits (contexts 4996-8, 5257-9), postholes (4967 and 4969) and natural features (5073 and 5130) produced good assemblages of flint associated with Grooved Ware. These assemblages comprised debitage and a range of retouched forms including scrapers, serrated and retouched flakes. A hammerstone came from context 4967. Burnt and worn or used pieces were common. The emphasis on used and worn items is a common theme of Grooved Ware associated flintwork (*cf.* Bradley 1999a; Bradley 1999b). Burnt unworked flint was also recovered from these contexts. A variety of cores including single platform, multi-platform, and a discoidal fragment (context 5073) were recovered from these features.
- 1.1.11 Although very few diagnostic artefacts were recovered technologically the flintwork can confidently be ascribed to the Neolithic period. However, the assemblage is not a blade-based one, and there would appear to be some differences in the composition and technology of the material associated with Grooved Ware. Much of the flintwork, however was redeposited within later Bronze and Iron Age features. Very little flint could demonstrably dated to the Bronze Age, although it is possible that some of the material from Bronze or Iron Age features could be contemporary.

Pilgrim's Way (ARCPIL98)

- 1.1.12 The medium-sized assemblage from this site came from a variety of features (pits, postholes, tree-throw holes, ditches, layers, and other contexts). A worn serrated

flake and a large piece of burnt unworked flint came from postholes (contexts 745 and 715) thought to form part of a possible second earlier Neolithic structure.

- 1.1.13 Several groups of flint were associated with later Neolithic Grooved Ware, mostly from pit fills (contexts 906-7, 928, 953, 959, 963, 967 and 969). This material consists of flakes, minimally retouched flakes, serrated flakes, scrapers, a possible knife and a possible arrowhead came from context 959. Possible usewear was noted on several of the pieces from the Grooved Ware pits (eg contexts 928 and 959), and interestingly worn serrated and retouched flakes are also relatively common, as noted for White Horse Stone this is a recurrent theme for Grooved Ware associated lithics from other areas of the country. Burnt unworked pieces and burnt worked flints were also recovered from these deposits. Five flakes and a piece of miscellaneous retouch came from a layer within a natural hollow also associated with Grooved Ware (context 897). A small assemblage of burnt unworked flint was also recovered from the site. Much of this burnt material is likely to have been accidentally burnt in domestic fires; none of it bore any traces of knapping prior to burning.

East of Boarley Farm (ARCBFE98)

- 1.1.14 The small quantity of flint from this site came from colluvium (1001), upper fill of an Iron Age-Romano-British ditch (1013), and layers (1027, 1028). Little focus for any prehistoric activity can be discerned from this small group, although it is of note that a broken leaf-shaped arrowhead of earlier Neolithic date was recovered from the colluvium. A small quantity of burnt unworked flint was also recovered from the site.

West of Boarley Farm (ARCBFW98)

- 1.1.15 The flint from this site came from pit fills (1041, 1063, 1021, 1030, 1037, 1138, and 1144). The material would appear to be residual, the pits dated from the Iron Age-Roman period through the Saxon to modern. There would appear to be little focus for any prehistoric activity. Two contexts produced a small quantity of burnt unworked flint.

Conservation

Condition

- 1.1.16 Some post-depositional damage was noted on some of the material, although overall most of the material is fairly fresh. Cortication is mostly medium to heavy; a few pieces are more lightly corticated. The burnt unworked flint recovered was mostly very heavily calcined, and some of this material is beginning to disintegrate. However, there is little that can be done to stop this process.
- 1.1.17 It is recommended that samples only of the burnt flint are retained, but certain groups of burnt unworked flint (eg materials from features such as the Grooved Ware pits) should be retained in their entirety. In general the flint is appropriately bagged and boxed for long-term storage, although some reorganisation is required (see below).

Long term storage requirements

- 1.1.18 A considerable quantity of natural flint was recovered from Pilgrims Way and White Horse Stone (ARCPIL98 and ARCWHS98). Much of this material has been discarded during the assessment, however as several boxes of flint were only scanned from White Horse Stone there is still an element of unworked flint mixed in with the worked material. It is recommended that an initial task should be the

Comparative material

- 1.1.19 Sites along the CTRL route will provide useful comparative material including any flintwork that came from surface collection prior to evaluation. Given the tendency for earlier prehistoric material to be incorporated into the ploughsoil (cf. Healy 1988), this material is also of some potential. Although large quantities of flintwork have been recovered from Kent, relatively little has been published. A substantial assemblage of flint was recovered from excavations at the Chestnuts megalithic tomb (Alexander 1961, 29). The majority of this material was interpreted as Mesolithic, (ibid. 29) but earlier Neolithic, later Neolithic and Bronze Age flint was also recovered (ibid. 49-51). The Mesolithic element from this site may, however repay further study as some of the illustrated pieces may in fact be Neolithic and Bronze Age.
- 1.1.20 Neolithic flint has been found at Hayes Common (Philp 1973, 30-52), Ebbsfleet (Burchell and Piggott 1939), Baston Manor (Philp 1973, 5-19) and Darenth (Philp 1984). Some of this material has Peterborough Ware or Grooved Ware associations. Two recently discovered causewayed enclosures (Ramsgate and Sheppey) will provide invaluable stratified earlier Neolithic flintwork; in addition the nearby enclosure at Orsett, Essex has a substantial lithic component (Hedges and Buckley 1978).

Potential for further work

- 1.1.21 The flint from the White Horse Stone Group of sites, particularly the material associated with the Neolithic long house, and the later Neolithic Grooved Ware assemblages, has considerable potential for further study. The material constitutes the largest assemblages of flint from the OAU's excavations along the CTRL route, with all elements of the reduction sequence represented. The assemblages provide evidence for extensive Neolithic activity spanning both ends of this period from a wide range of context types. There are some differences in composition between the assemblages from White Horse Stone and Pilgrims Way. Whilst some of the differences may be chronological it is noticeable that the retouched component from Pilgrims Way is greater than White Horse Stone, and may therefore reflect site function. It will be interesting to see if there are any differences between the Grooved Ware associated assemblages from these two sites; superficially from the assessment they appear to be quite similar.
- 1.1.22 The lithics from the Neolithic long house will, together with the ceramics and other artefacts, aid the dating of the sequence. The lithics will also enable a greater understanding of the activities occurring on site. Given the rarity of Neolithic structures and associated artefactual remains in Britain, the finds from White Horse Stone are particularly significant. The excellent state of preservation within the colluvial deposits of the structure and the environmental sequences from the site enhance the potential. The flint from the sites can contribute to the realisation of the original Fieldwork Event Aims:

Updated research aims

- 1.1.23 Themes concerning chronology, settlement, landscape and society (status, settlement organisation), material culture (source of flint, finished tools, methods of production and use), regionality (distribution and exchange).

Chronology

- 1.1.24 What is the date of the flintwork recovered? What phases of the Neolithic and early Bronze Age are represented? Is there any evidence for continuity?
- 1.1.25 Settlement, landscape and society
- 1.1.26 The examination of the flint assemblage can contribute to the following aspects of the Neolithic and early Bronze Age:
- What is the character and extent of Neolithic activity?
 - To what extent is it domestic or ritual in character, in particular with respect to possible functions of the longhouse and deposition of Peterborough and Grooved Ware?
 - What is the evidence for occupation and mobility?

Material culture

- 1.1.27 Evidence for trade in raw materials:
- Did the flint derive from local sources? Is there any evidence for long-distance trade?
 - Is there evidence that trade was in raw materials rather than finished objects? The sources of the flint can be suggested by its physical appearance (e.g. Bullhead flint) and the presence of corticated material.
- 1.1.28 Evidence for flint working:
- What is the evidence for in situ flint working? What is the evidence for core preparation, reduction sequences and techniques, and refitting?
 - What evidence is there for onsite activities? What activities are represented? Does this vary between groups of different date and context type, such as the Peterborough and Grooved ware associated pit assemblages?

Recommended further work

- The above updated research questions may be addressed by a programme of detailed recording, designed to assist analysis of chronology and technological traits. Selected groups, particularly well-stratified groups associated with the Neolithic activity, will also be subjected to usewear and refitting analyses to recover evidence for use and on-site artefact production.
- Non-local material will be separated at the recording stage and possible sources identified to address questions related to trade and exchange. The sources of the flint can be suggested by its physical appearance (e.g. Bullhead flint) and the presence of corticated material.
- Spatial distribution, associations with pottery and other artefact groups and patterns of deposition will be examined to address research aims related to settlement, landscape and society in the 'early agriculturalists' and 'farming communities' periods.

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