

## RESULTS

### GENERAL SURVEY RESULTS

The presentation of the results of the survey will be divided into two parts. First the results of the general surface and subsurface testing will be noted. Second, results of the specific survey of standing structures and other potential historical archaeological sites will be presented. Three large private collections (one each from Areas 6, 10, and 12) were also catalogued as part of the survey and are presented as Appendices II, III, and IV.

The results of the general survey will be presented for Kent County Study Areas 3 through 10 and 12 (Figure 4). See Custer and Bachman 1986 for a report on the New Castle County study areas 1, 2, and 11. Maps of site locations, tables of locational data, tables of cultural historical data, and summary discussions of some of the more interesting sites will be presented. Appendix V provides a detailed description of the site attributes recorded and listed in the summary tables. Study areas are discussed in order from north to south.

## Area 12 - Smyrna Study Area - Surface Survey

Figure 24 shows the archaeological sites recorded and the subareas noted in the Smyrna area. Locational attributes of the sites are listed in Table 2 and cultural historical data in Table 3. The Smyrna Study Area includes segments of the Duck Creek (also known as Smyrna River) and Mill Creek drainages and their minor tributaries. It is bounded on the west by existing U.S. 13 and extends eastward for about five kilometers. The study area measures approximately 4.5 km north to south. Modern land use is almost exclusively agricultural, with isolated single family houses situated along the road frontage. Exceptions to the above pattern are the cluster of dwellings known as Smyrna Landing, 1.2 km east of U.S. 13, and Smyrna Airport, off Del. 6, 1.6 km to the east. The topography of the area is gently rolling, with the fields frequently dissected by numerous ephemeral and perennial streams. Bay/basin features are common in the area, although they are not as frequent as they are in nearby areas to the north. Archaeological investigation of the area (all pedestrian survey) was conducted between January and April, 1985, and ground surface visibility was generally poor during this period. For management purposes, the study area was divided into five subareas and each will be discussed separately below.

**Subarea 12-1** This subarea lies north-northeast of Smyrna and includes the north bank of a portion of Duck Creek. It is composed of four farms owned by Rheim, Jurgens, Ross, and Daniels and is about 80% no-till corn and soybeans. Despite the visibility handicap, 26 sites (7NC-J-118 through 143) were recorded. However, only two of these produced diagnostic artifacts. Site 7NC-J-121 contained a Woodland I black chert stemmed point (Plate 1), one large non-diagnostic argillite biface, several early stage biface rejects, utilized flakes, and associated debitage on a terrace at a point formed by a bend in Duck Creek, while J-122 produced a black chert stemmed point (Plate 1) and flakes on a rise well back from the Duck Creek floodplain. All of the remaining sites yielded small amounts of flakes, fire-cracked rock (hereafter referred to as "FCR"), and a scraper or ground stone tool and were usually found on rises along ephemeral tributaries to Duck Creek.

**Subarea 12-2** This subarea contains another segment of the north side of Duck Creek, downstream from Subarea 1, and includes, in whole or part, the Shane, Tush, Fox, and David farms. Recorded were a total of 20 sites, designated 7NC-J-143 through 162, and eight of these produced diagnostic artifacts. Six produced Woodland I stemmed and notched points and debitage (7NC-J-145, 147, 151, 154, 158, and 162) (Plates 2, 3, and 4), J-157 one contained Woodland I stemmed points, fishtails, broadpoints and Woodland II Killens Ware sherds (Plate 1), and one yielded an Archaic Period jasper bifurcate point and debitage (J-149) (Plate 5). Sites J-151, 157, and 162 are viewed as macro-band base camps; J-143, 146-150, 155, and 158 as micro-band base camps; and the remaining sites in this subarea are thought to be procurement sites.

TABLE 2

LOCAL GOLD (OLD) - HISTORICAL (SILVER) - SWAMP STUDY AREA

STRIE NUMBER	LEG. NUMBER	USGS GOLD	UTM NORTH	UTM EAST	GEOGRAPHIC COORDINATES	ENERGY WELL SERIES	SECONDARY WELL NUMBER	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
280	1110	N10007	2807	53	E1-E	S482	N-100	000 E FEEL	STREAM	N	1	2 U		40
280	1119	N10009	2803	62	E1-E	S482		000 E FEEL	STREAM	N	4	2 S		20
280	1120	N10009	2802	64	E1-E	S482		000 E FEEL	STREAM	N	4	2 S		20
280	1121	N10009	2803	66	TEFFO-E	S482		000 E FEEL	STREAM	N	1	2 S		20
280	1122	N10011	2801	81	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2		20
280	1123	N10011	2802	84	TEFFO-E	N-100		000 E FEEL	STREAM	N	6	2 F		20
280	1124	N10013	2802	78	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2 S		10
280	1125	N10014	2802	86	TEFFO-E	S482		000 E FEEL	STREAM	N	4	2 S		20
280	1126	N10015	2805	113	E1-E	S482		000 E FEEL	STREAM	N	6	2 U		20
280	1127	N10016	2801	110	TEFFO-E	S482		000 E FEEL	STREAM	N	5	2 U		25
280	1128	N10017	2804	106	E1-E	S482		000 E FEEL	STREAM	Y	1	2 SE		20
280	1129	N10018	2802	109	TEFFO-E	S482	S482	000 E FEEL	STREAM	O	5	0		25
280	1130	N10019	2806	105	TEFFO-E	S482	S482	000 E FEEL	STREAM	N	2	2 E		20
280	1131	N10020	2801	96	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2 U		20
280	1132	N10021	2801	101	TEFFO-E	S482		000 E FEEL	STREAM	N	6	2 E		25
280	1133	N10022	2801	92	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2 E		20
280	1134	N10023	2802	95	E1-E	S482		000 E FEEL	STREAM	N	0	2 S		10
280	1135	N10024	2801	98	E1-E	S482		000 E FEEL	STREAM	N	2	2 U		20
280	1136	N10025	2805	82	TEFFO-E	S482		000 E FEEL	STREAM	N	5	0		25
280	1137	N10026	2808	82	E1-E	N-100		000 E FEEL	STREAM	N	1	0 E		25
280	1138	N10028	2816	88	TEFFO-E	S482		000 E FEEL	STREAM	N	5	2 N		25
280	1139	N10029	2813	90	E1-E	S482		000 E FEEL	STREAM	N	4	2		25
280	1141	N10030	2803	92	E1-E	S482		000 E FEEL	STREAM	N	1	2 U		25
280	1142	N10031	2816	93	E1-E	S482		000 E FEEL	STREAM	N	5	2 N		20
280	1143	N10032	2801	100	E1-E	N-100		000 E FEEL	STREAM	N	13	0 N		20
280	1144	N10033	2801	100	TEFFO-E	N-100		000 E FEEL	STREAM	N	1	5 F		25
280	1145	N10034	2802	126	E1-E	N-100		000 E FEEL	STREAM	Y	2	0 SW		25
280	1146	N10035	2801	121	E1-E	N-100	N-100	000 E FEEL	STREAM	Y	2	2 NW		25
280	1147	N10036	2811	119	TEFFO-E	N-100		000 E FEEL	STREAM	N	1	2 N		20
280	1148	N10037	2802	118	E1-E	N-100		000 E FEEL	STREAM	N	6	2		25
280	1149	N10038	2801	154	E1-E	N-100		000 E FEEL	STREAM	N	0	2 E		18
280	1150	N10039	2804	138	E1-E	N-100		000 E FEEL	STREAM	N	2	2 SW		23
280	1151	N10040	2800	145	E1-E	N-100	N-100	000 E FEEL	STREAM	Y	0	5 SW		10
280	1152	N10041	2802	152	TEFFO-E	S482	S482	000 E FEEL	STREAM	N	0	2 S		18
280	1153	N10042	2805	126	TEFFO-E	N-100		000 E FEEL	STREAM	N	7	0		20
280	1154	N10043	2802	115	E1-E	S482		000 E FEEL	STREAM	Y	1	2 E		20
280	1155	N10044	2808	113	E1-E	N-100		000 E FEEL	STREAM	Y	2	0 SE		20
280	1156	N10045	2810	112	TEFFO-E	N-100	S482	000 E FEEL	STREAM	O	0	0		20
280	1157	N10046	2802	166	TEFFO-E	S482	S482	000 E FEEL	STREAM	N	0	2 S		8
280	1158	N10047	2810	138	TEFFO-E	S482		000 E FEEL	STREAM	Y	2	2 NW		10
280	1159	N10048	2805	156	E1-E	S482		000 E FEEL	STREAM	N	5	2 E		13
280	1160	N10049	2803	132	TEFFO-E	S482		000 E FEEL	STREAM	N	4	2 S		10
280	1161	N10050	2805	134	E1-E	S482		000 E FEEL	STREAM	N	4	2		10
280	1162	N10051	2811	128	TEFFO-E	S482		000 E FEEL	STREAM	Y	0	2 S		10
280	1163	N10052	2811	158	TEFFO-E	S482		000 E FEEL	STREAM	Y	1	2 S		10
280	1164	N10053	2802	154	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2 S		10
280	1165	N10054	2806	154	TEFFO-E	S482		000 E FEEL	STREAM	N	0	2 NW		8

TABLE 2. (CONT.)

## LOCATIONAL DATA - FIELD DATA REVISIONS - WYAND STUDY AREA

SITE NUMBER	EXP. NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOGRAPHICAL COORDINATES	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	URDRAGE	SURFACE WATER DRAINAGE	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
25	0-24	E 6257	260	160	TERRACE	SAR		DIRT CREEK	STEAM	N	0	0 N	8	
26	0-25	E 6258	260	167	TERRACE	SAR		DIRT CREEK	STEAM	N	0	0 N	8	
27	0-26	E 6259	260	172	TERRACE	SAR		DIRT CREEK	STEAM	N	0	0 W	6	
28	0-27	E 6260	266	176	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	0 N	5	
29	0-28	E 6261	275	179	TERRACE	SAR		DIRT CREEK	STEAM	N	0	2 E	5	
30	0-29	E 6262	282	179	TERRACE	SAR		DIRT CREEK	STEAM	N	1	5 E	10	
31	0-30	E 6263	285	167	RISE	SAR		DIRT CREEK	STEAM	N	1	5 NW	10	
32	0-31	E 6264	279	167	TERRACE	SAR		DIRT CREEK	STEAM	N	0	0 E	5	
33	0-31	E 6264	279	171	TERRACE	SAR		DIRT CREEK	STEAM	Y	5	0 SE	10	
34	0-31	E 6264	279	167	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	2	10	
35	0-32	E 6265	289	184	RISE	SAR		DIRT CREEK	STEAM	Y	0	2 S	10	
36	0-33	E 6266	298	185	RISE	SAR		DIRT CREEK	STEAM	N	0	2 S	10	
37	0-34	E 6267	282	192	RISE	SAR		DIRT CREEK	STEAM	N	7	0 S	10	
38	0-35	E 6268	289	162	TERRACE	SAR		DIRT CREEK	STEAM	N	7	0	15	
39	0-36	E 6269	292	161	TERRACE	SAR		DIRT CREEK	STEAM	N	3	0 N	15	
40	0-37	E 6270	281	160	RISE	MR		DIRT CREEK	STEAM	N	0	0	10	
41	0-38	E 6271	279	181	RISE	SAR		DIRT CREEK	STEAM	N	0	2 S	10	
42	0-39	E 6272	282	182	TERRACE	SAR		DIRT CREEK	STEAM	N	0	2 S	10	
43	0-41	E 6274	294	210	RIVERBANK	MR		DIRT CREEK	STEAM	N	2	0 W	5	
44	0-42	E 6275	294	210	TERRACE	MR		DIRT CREEK	STEAM	Y	0	2 SE	4	
45	0-43	E 6276	311	202	RISE	SAR		DIRT CREEK	STEAM	N	1	2 W	3	
46	0-44	E 6277	308	200	TERRACE	SAR		DIRT CREEK	STEAM	N	1	2 W	3	
47	0-45	E 6278	308	200	TERRACE	SAR		DIRT CREEK	STEAM	N	12	0 S	12	
48	0-46	E 6279	302	205	TERRACE	SAR		DIRT CREEK	STEAM	N	5	2 S	12	
49	0-47	E 6280	296	216	RISE	SAR	MR	DIRT CREEK	STEAM	Y	0	2 S	9	
50	0-48	E 6281	296	215	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	5 S	9	
51	0-49	E 6282	299	202	TERRACE	SAR		DIRT CREEK	STEAM	Y	1	5 S	7	
52	0-50	E 6283	290	209	RISE	SAR		DIRT CREEK	STEAM	N	5	2 E	10	
53	0-51	E 6284	271	216	RISE	SAR		DIRT CREEK	STEAM	N	2	5 SW	10	
54	0-52	E 6285	288	219	RISE	SAR		DIRT CREEK	STEAM	N	3	2	13	
55	0-53	E 6286	286	213	TERRACE	SAR		DIRT CREEK	STEAM	N	2	5 S	10	
56	0-54	E 6287	290	198	TERRACE	SAR		DIRT CREEK	STEAM	N	0	2 SW	7	
57	0-55	E 6288	286	208	RISE	SAR		DIRT CREEK	STEAM	N	1	5 SW	15	
58	0-56	E 6289	291	211	RISE	SAR		DIRT CREEK	STEAM	N	2	0	15	
59	0-57	E 6290	290	206	RISE	SAR		DIRT CREEK	STEAM	N	1	5 SW	15	
60	0-58	E 6291	278	200	RISE	SAR		DIRT CREEK	STEAM	N	1	5 E	14	
61	0-59	E 6292	281	201	RISE	SAR	SAR	DIRT CREEK	STEAM	N	0	5 NE	13	
62	0-60	E 6293	284	202	TERRACE	SAR		DIRT CREEK	STEAM	N	2	2 S	12	
63	0-61	E 6294	282	195	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	2 N	7	
64	0-62	E 6295	281	191	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	2 W	6	
65	0-63	E 6296	288	194	RISE	SAR		DIRT CREEK	STEAM	N	2	0 W	7	
66	0-64	E 6297	286	192	TERRACE	SAR		DIRT CREEK	STEAM	Y	0	2 W	5	
67	0-65	E 6298	284	207	RISE	SAR		DIRT CREEK	STEAM	N	2	2 W	12	
68	0-66	E 6299	283	190	RISE	SAR		DIRT CREEK	STEAM	N	2	0 SE	11	
69	0-67	E 6300	289	195	TERRACE	SAR		DIRT CREEK	STEAM	N	0	2 NW	8	
70	0-68	E 6301	281	192	TERRACE	SAR		DIRT CREEK	STEAM	N	1	2 SW	8	
71	0-69	E 6302	260	188	TERRACE	SAR	SAR	DIRT CREEK	STEAM	Y	0	2 S	6	

TABLE 2 (Cont.)

## LOCALIONAL DATA - FRESHWATER RESOURCES - WYRNA STUDY AREA

WTF NUMBER	WTF NUMBER	WTF NAME	WTF NORTH	WTF EAST	GEOMORPHOLOGICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
27	0	20	E 6204	264	186	TERRACE	SAB		DUKE CREEK	STREAM	N	2	2 W	5
27	0	21	E 6204	264	108	TERRACE	SAB		DUKE CREEK	STREAM	N	3	0 W	5
27	0	22	E 6205	265	182	TERRACE	SAB		DUKE CREEK	STREAM	N	0	2 W	3
27	0	23	E 6205	222	190	TERRACE	SAB	SAB	DUKE CREEK	STREAM	Y	0	0 N	4
27	0	24	E 6207	227	196	TERRACE	SAB	SAB	DUKE CREEK	STREAM	Y	0	0 N	4
27	0	25	E 6208	232	224	TERRACE	SAB		DUKE CREEK	STREAM	Y	1	5 S	10
27	0	26	E 6209	235	223	TERRACE	SAB		DUKE CREEK	STREAM	N	1	0 S	5
27	0	27	E 6209	236	225	TERRACE	SAB		DUKE CREEK	STREAM	N	1	0 E	10
27	0	28	E 6209	260	250	TERRACE	SAB		DUKE CREEK	STREAM	Y	1	2 NE	10
27	0	29	E 6209	264	231	RIDGE	SAB		DUKE CREEK	STREAM	Y	0	2 E	10
27	0	30	E 6209	264	216	TERRACE	SAB		DUKE CREEK	STREAM	N	16	0	10
27	0	31	E 6209	265	213	TERRACE	SAB		DUKE CREEK	STREAM	N	11	0	10
27	0	32	E 6205	267	181	TERRACE	SAB	SAB	DUKE CREEK	STREAM	Y	0	0 E	10
27	0	33	E 6206	230	159	TERRACE	SAB		DUKE CREEK	STREAM	Y	0	5 N	10
27	0	34	E 6207	232	184	TERRACE	SAB		DUKE CREEK	STREAM	Y	0	2 N	10
27	0	35	E 6208	200	166	TERRACE	SAB		DUKE CREEK	STREAM	Y	2	0 NE	12
27	0	36	E 6208	204	204	TERRACE	SAB		DUKE CREEK	STREAM	Y	1	2 E	10
27	0	37	E 6209	211	201	TERRACE	SAB		DUKE CREEK	STREAM	N	1	2 E	8
27	0	38	E 6209	220	195	TERRACE	SAB		DUKE CREEK	STREAM	Y	1	2 NE	8
27	0	39	E 6209	216	188	TERRACE	SAB		DUKE CREEK	STREAM	N	0	2 NW	10
27	0	40	E 6209	222	209	TERRACE	SAB		DUKE CREEK	STREAM	N	0	2 N	12
27	0	41	E 6209	219	206	TERRACE	SAB		DUKE CREEK	STREAM	Y	0	2 NW	10
27	0	42	E 6206	213	202	TERRACE	SAB		DUKE CREEK	STREAM	Y	1	5 NW	10
27	0	43	E 6207	205	211	TERRACE	SAB		DUKE CREEK	STREAM	N	1	2 W	8
27	0	44	E 6208	207	214	TERRACE	SAB		DUKE CREEK	STREAM	N	1	2 W	12
27	0	45	E 6209	119	179	TERRACE	SAB		LITTLE CREEK	STREAM	Y	3	2 W	10

**TABLE 5**  
**CULTURAL - HISTORICAL DATA - CAYMAN STUDY AREA**

STIT NUMBER	DATE OF DATE	WOODLAND I	WOODLAND II	CE	BE	UN	FA	ME	DO	HO	SC	MC	HISTORIC	DEFACE	CLAEFER	FLAKE TOOL	CORE	FLAKES	GROUND STONE	FOR CERAMICS
000	1119														Y					
000	1120																	Y		
000	1121	Y												Y		Y		Y		Y
000	1122	Y												Y			Y			
000	1123																Y			
000	1124																	Y		Y
000	1125		Y						Y					Y			Y		Y	Y
000	1126																			
000	1127																			
000	1128															Y		Y		
000	1129																			
000	1130																	Y		
000	1131																	Y		Y
000	1132																Y	Y		
000	1133													Y		Y	Y			Y
000	1134													Y			Y			
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000	1199																			

TABLE 3 (cont.)

## CULTURAL - HISTORICAL DATA - SAVANNA STUDY AREA

SITE NUMBER	PALEO-ARCHAIC	WOODLAND I	WOODLAND II	CE	DE	MR	CA	BR	DE	SE	MR	HISTORIC	DIENE	GRIPER	FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	FOR CERAMICS
02 H 01		Y	Y		Y	Y	Y	Y		Y	Y		Y	Y	Y			Y	Y
02 H 02		Y	Y		Y	Y	Y	Y		Y	Y							Y	Y
02 H 03		Y	Y										Y				Y	Y	Y
02 H 04		Y	Y				Y						Y						Y
02 H 05	Y	Y	Y										Y	Y				Y	
02 H 06		Y	Y										Y						Y
02 H 07		Y	Y							Y	Y						Y	Y	Y
02 H 08		Y	Y										Y					Y	
02 H 09		Y	Y										Y					Y	
02 H 10		Y	Y										Y					Y	
02 H 11		Y	Y										Y					Y	
02 H 12		Y	Y										Y					Y	
02 H 13		Y	Y										Y					Y	
02 H 14		Y	Y										Y					Y	
02 H 15		Y	Y										Y					Y	
02 H 16		Y	Y										Y					Y	
02 H 17		Y	Y										Y					Y	
02 H 18		Y	Y										Y					Y	
02 H 19		Y	Y										Y					Y	
02 H 20		Y	Y										Y					Y	
02 H 21		Y	Y										Y					Y	
02 H 22		Y	Y										Y					Y	
02 H 23		Y	Y										Y					Y	
02 H 24		Y	Y										Y					Y	
02 H 25		Y	Y										Y					Y	
02 H 26		Y	Y										Y					Y	
02 H 27		Y	Y										Y					Y	
02 H 28		Y	Y										Y					Y	
02 H 29		Y	Y										Y					Y	
02 H 30		Y	Y										Y					Y	
02 H 31		Y	Y										Y					Y	
02 H 32		Y	Y										Y					Y	
02 H 33		Y	Y										Y					Y	
02 H 34		Y	Y										Y					Y	
02 H 35		Y	Y										Y					Y	
02 H 36		Y	Y										Y					Y	
02 H 37		Y	Y										Y					Y	
02 H 38		Y	Y										Y					Y	
02 H 39		Y	Y										Y					Y	
02 H 40		Y	Y										Y					Y	
02 H 41		Y	Y										Y					Y	
02 H 42		Y	Y										Y					Y	
02 H 43		Y	Y										Y					Y	
02 H 44		Y	Y										Y					Y	
02 H 45		Y	Y										Y					Y	
02 H 46		Y	Y										Y					Y	
02 H 47		Y	Y										Y					Y	
02 H 48		Y	Y										Y					Y	
02 H 49		Y	Y										Y					Y	
02 H 50		Y	Y										Y					Y	
02 H 51		Y	Y										Y					Y	
02 H 52		Y	Y										Y					Y	
02 H 53		Y	Y										Y					Y	
02 H 54		Y	Y										Y					Y	
02 H 55		Y	Y										Y					Y	
02 H 56		Y	Y										Y					Y	
02 H 57		Y	Y										Y					Y	
02 H 58		Y	Y										Y					Y	
02 H 59		Y	Y										Y					Y	
02 H 60		Y	Y										Y					Y	
02 H 61		Y	Y										Y					Y	
02 H 62		Y	Y										Y					Y	
02 H 63		Y	Y										Y					Y	
02 H 64		Y	Y										Y					Y	
02 H 65		Y	Y										Y					Y	
02 H 66		Y	Y										Y					Y	
02 H 67		Y	Y										Y					Y	
02 H 68		Y	Y										Y					Y	
02 H 69		Y	Y										Y					Y	
02 H 70		Y	Y										Y					Y	
02 H 71		Y	Y										Y					Y	
02 H 72		Y	Y										Y					Y	
02 H 73		Y	Y										Y					Y	
02 H 74		Y	Y										Y					Y	
02 H 75		Y	Y										Y					Y	
02 H 76		Y	Y										Y					Y	
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02 H 80		Y	Y										Y					Y	
02 H 81		Y	Y										Y					Y	
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02 H 83		Y	Y										Y					Y	
02 H 84		Y	Y										Y					Y	
02 H 85		Y	Y										Y					Y	
02 H 86		Y	Y										Y					Y	
02 H 87		Y	Y										Y					Y	
02 H 88		Y	Y										Y					Y	
02 H 89		Y	Y										Y					Y	
02 H 90		Y	Y										Y					Y	
02 H 91		Y	Y										Y					Y	
02 H 92		Y	Y										Y					Y	
02 H 93		Y	Y										Y					Y	
02 H 94		Y	Y										Y					Y	
02 H 95		Y	Y										Y					Y	
02 H 96		Y	Y										Y					Y	
02 H 97		Y	Y										Y					Y	
02 H 98		Y	Y										Y					Y	
02 H 99		Y	Y										Y					Y	
02 H 100		Y	Y										Y					Y	

TABLE 3 (cont'd.)

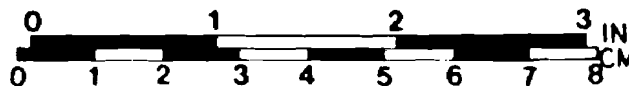
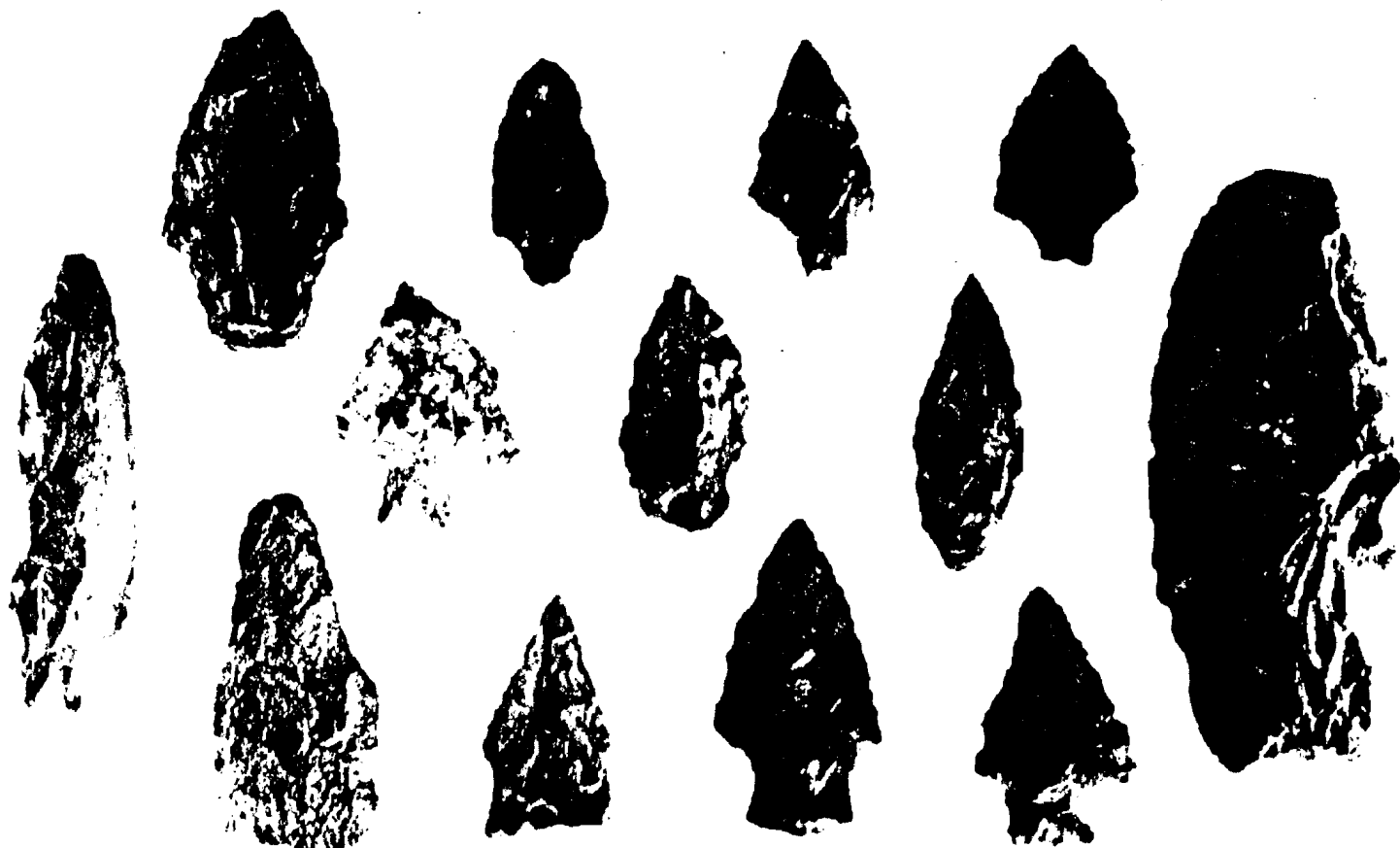
## LITHIC - HISTORICAL DATA - SEVENA STUDY AREA

SITE NUMBER	LITHIC										FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	CERAMICS				
	PALEO ARCHAIC	WOODLAND I	WOODLAND II	CE	BL	WH	FR	DE	DR	OC					MG	HISTORIC	ETHNO	SCRAPER	
27-B-27														Y	Y	Y		Y	
27-B-28														Y					
27-B-29															Y				
27-B-30	Y				Y														
27-B-31	Y				Y														
27-B-32		Y							Y	Y			Y	Y		Y		Y	Y
27-B-33																Y		Y	
27-B-34														Y		Y		Y	
27-B-35														Y		Y			
27-B-36														Y					
27-B-37	Y															Y		Y	
27-B-38																Y			
27-B-39																Y		Y	
27-B-40																Y		Y	
27-B-41																	Y		
27-B-42																Y		Y	
27-B-43																Y		Y	
27-B-44																Y		Y	
27-B-45			Y													Y		Y	Y
27-B-46			Y													Y		Y	Y
27-B-47			Y													Y		Y	Y



PLATE 1

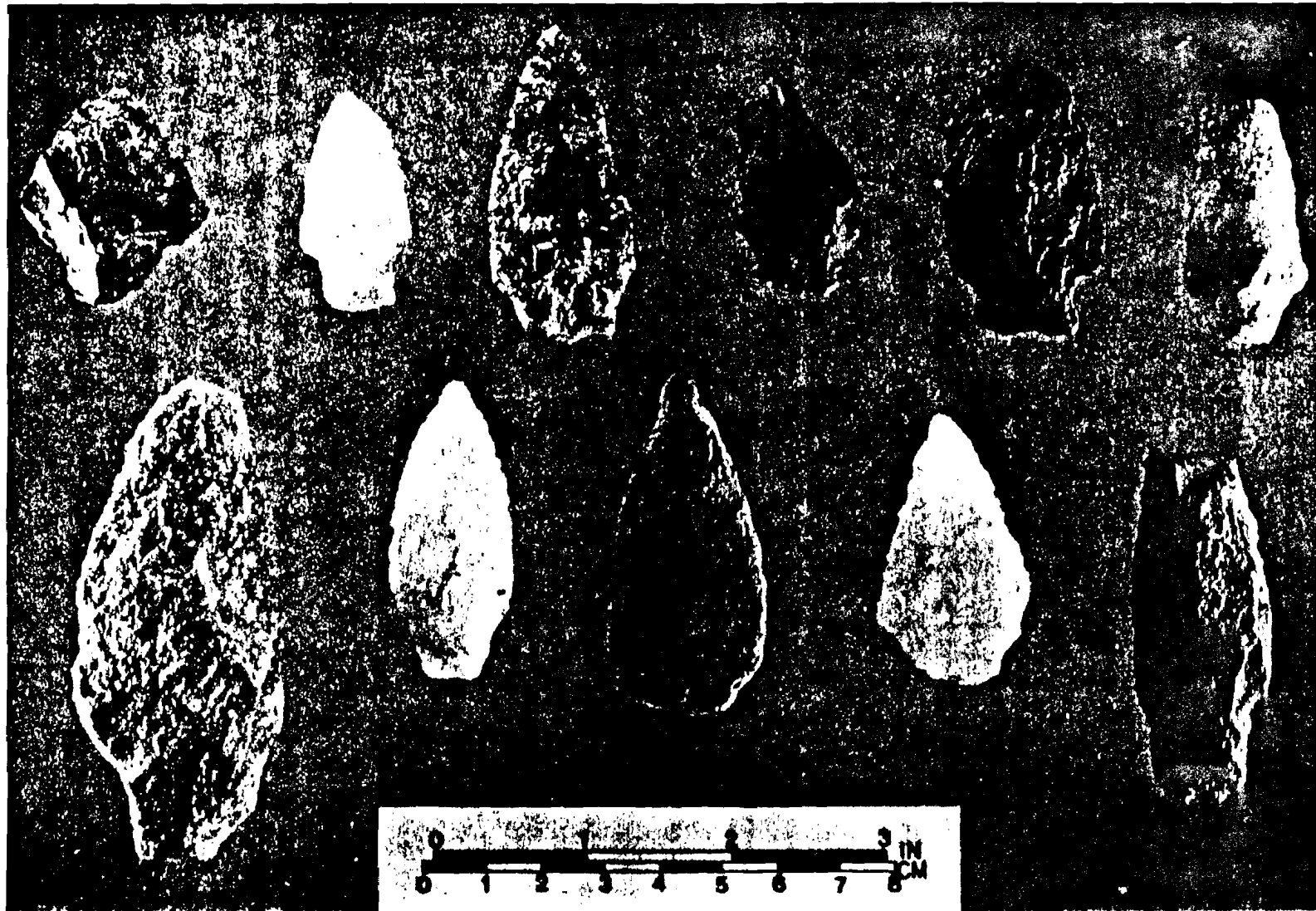
Selected Stemmed Points from Sites in the Route 13 South Survey



TOP ROW: left to right: 7K-C-124, 7NC-J-157, 7K-C-291, 7K-A-39; MIDDLE ROW, left to right: 7K-C-161, 7K-C-291, 7K-C-294, 7K-C-155; BOTTOM ROW, left to right: 7K-C-342, 7K-C-323, 7NC-J-122, 7NC-J-121, 7K-C-341

PLATE 2

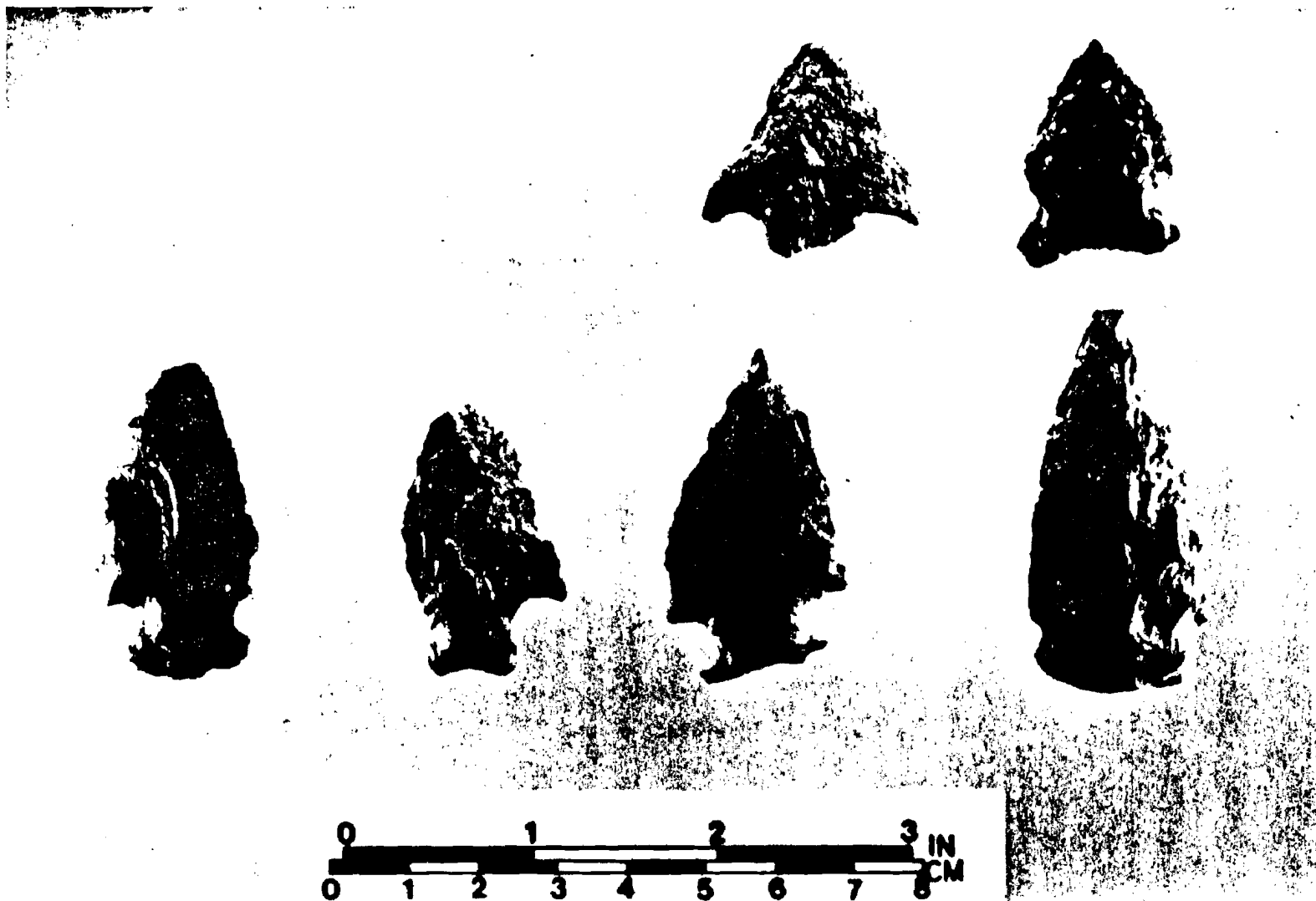
Selected Stemmed Points from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-C-339, 7K-C-264, 7K-D-107, 7K-D-107, 7NC-J-151; BOTTOM ROW, left to right: 7K-C-229, 7K-A-36, 7K-D-94, 7K-C-228, 7K-C-72

PLATE 3

Selected Notched Points from Sites in the Route 13 South Survey

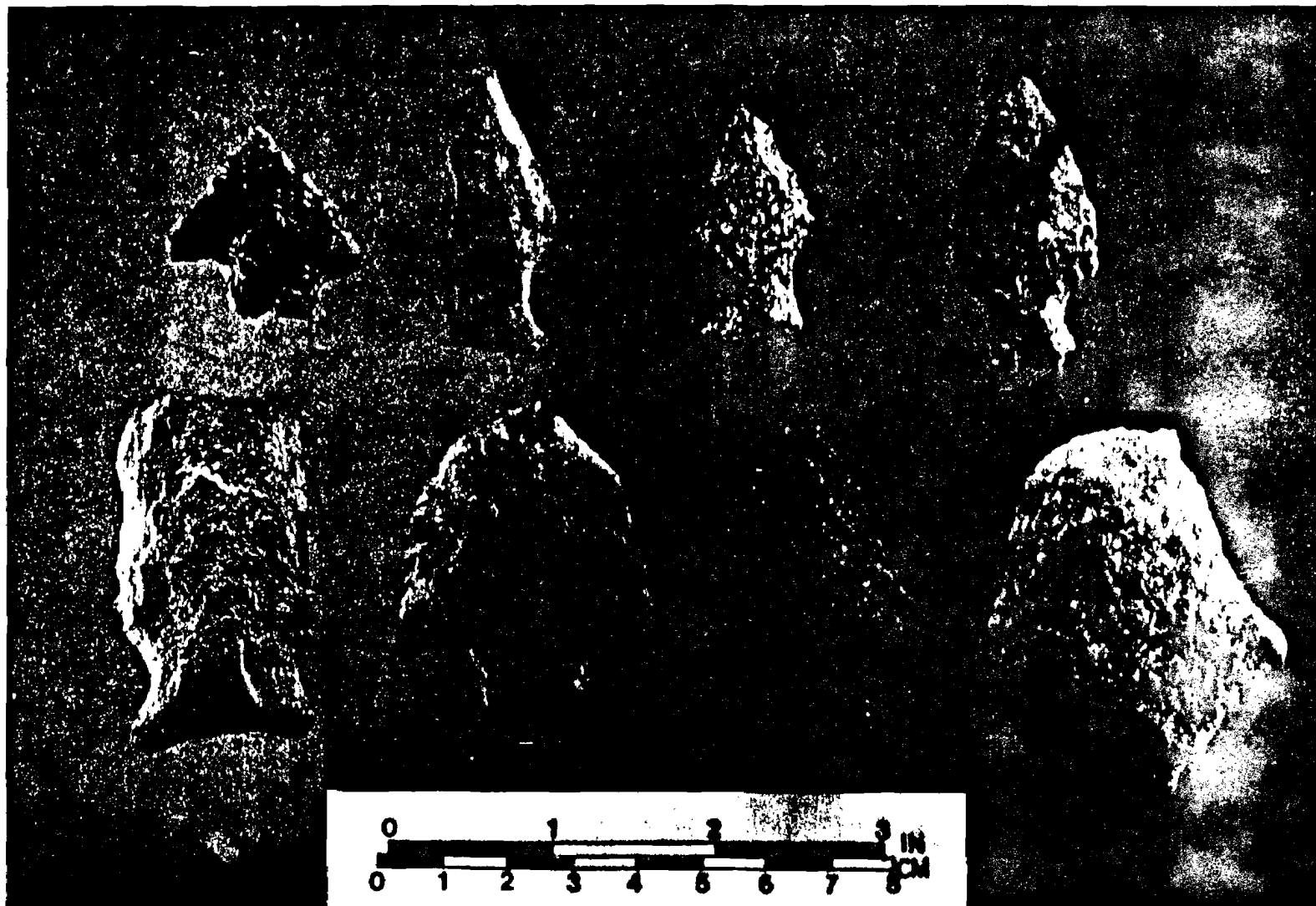


50

TOP ROW, left to right: 7K-C-330, 7K-D-34, 7K-C-249, 7NC-J-162; BOTTOM ROW, left to right: 7K-C-18, 7K-D-84, 7K-C-238, 7K-C-165

PLATE 4

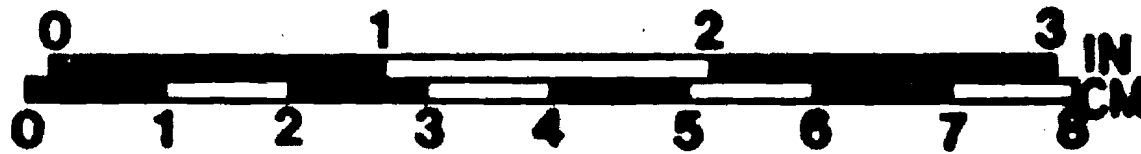
Selected Broadpoints and Fishtails from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-D-73, 7K-C-299, 7NC-J-147, 7K-A-38; BOTTOM ROW, left to right: 7K-C-257, 7K-C-72, 7NC-J-154, 7K-C-183

PLATE 5

Bifurcated Base Points from Sites in the Route 13 South Survey



LEFT TO RIGHT: 7K-C-305, 7NC-J-149, 7K-C-211

**Subarea 12-3** Composed of all of the land bounded by Duck Creek on the north, Mill Creek on the south and east, and the Smyrna town limits on the west, this subarea contained some of the potentially most attractive settings in the entire study area. However, much of it had been developed by residential and commercial interests (Smyrna Landing, Smyrna Airport, and a trailer park) and a minority of the ground surface was available for pedestrian survey. Only one farm, the Reynolds Jones property surrounding Smyrna Airport, could be surface collected at the time of the survey. Two other properties, the James Bailey farm northeast and east of the airport, and the Philip Hall farm west of the airport, were all no-till corn and soybeans and offered no visible ground surface. The Jones farm produced 8 sites (7K-A-32 through 39), five of which contained one diagnostic artifact each. Site A-38 produced a jasper fishtail (Woodland I) (Plate 4), A-33 contained sherds of Minguannan and Townsend ceramics (Woodland II), and A-32, A-36 and A-39 produced Woodland I stemmed points (Plates 1 and 2). Small amounts of flakes and FCR were found at all of these sites as well, but due to low average visibility (10%), recovered artifact densities are probably low.

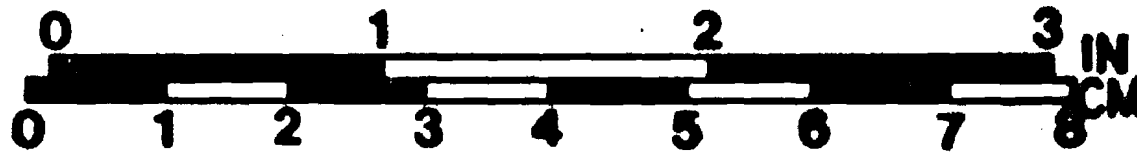
Mrs. James Bailey has gathered a large surface collection of prehistoric artifacts from her family's farm at the confluence of Duck and Mill Creeks and generously allowed UDCAR personnel to catalogue and photograph her collection. Artifacts from two previously recorded sites, 7K-A-10 and A-11, are included, in addition to 10 new sites, designated 7K-A-22 through 31. Materials from this collection are listed in detail in Appendix IV. Most of the sites on the Bailey Farm are either macro-band or micro-band base camps, while those on the Jones Farm appear to be base camps or procurement sites.

**Subarea 12-4** Parts of two farms comprise the entire subarea: the James Schiff farm on the east side of Duck Creek and the Presley Moore farm southeast of the confluence of Duck and Mill Creeks. Topographic relief varies no more than one or two meters over the entire subarea and soils are generally well-drained Sassafras loams and sandy loams. Seven sites were recorded from Schiff's property and 35 from Moore's. Those on Schiff's farm (7K-A-40 through 46) were located on the low terraces along the stream banks and none produced diagnostic artifacts. Most are small sites with low amounts of artifacts; the exception is A-40, which yielded biface rejects, one small non-diagnostic grit-tempered sherd, several dozen FCR, and debitage in an area of 5% visibility. This appears to be a micro-band base camp, while the remaining sites are probably procurement stations.

The Moore farm produced sites on nearly every rise, stream confluence, and bay/basin setting encountered on the property and 13 had diagnostic artifacts. The 7K-A-47 site is located on a 3 meter rise between a bay/basin feature and an unnamed tributary to Mill Creek and contained Woodland I stemmed points, biface fragments (including the exotic rhyolite material), cores, a

PLATE 5

Bifurcated Base Points from Sites in the Route 13 South Survey



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LEFT TO RIGHT: 7K-C-305, 7NC-J-149, 7K-C-211

pitted stone, a single Woodland II Townsend sherd, flakes and FCR. Just to the east of this site lies the A-49 site at the confluence of two minor tributaries to Mill Creek. One large argillite biface, similar to those found in reported Woodland I caches (e.g. Coverdale and Kiunk Ditch (Custer 1984:109-112)), and the nearby Bailey Farm (see Appendix IV, this report) and a cobble jasper early stage biface reject were the only artifacts recovered.

One Kirk corner-notched point of chert (Paleo-Indian Period) was recovered from the northeast side of a bay/basin feature with no other associated artifacts and was designated 7K-A-51. West of this site lies a pair of bay/basin features which had artifacts between them and around their rims. One Archaic Period full-grooved ax was recovered on the rim on the west side of the pair and the site was labeled 7K-A-58. Northwest of this site, at the confluence of Mill Creek and an unnamed tributary, is located a large Woodland I base camp designated 7K-A-61. Found here were 5 stemmed points of various materials, 13 non-diagnostic biface fragments, 15 flake tools and utilized flakes of mostly cobble material, 1 heavily reworked pebble jasper cleaver, 1 pecking stone, 1 hammerstone, 4 cores, 91 flakes, and 101 FCR in an area measuring about 1.7 hectares. More Woodland I points, plus other materials, were found on the north side of the same unnamed tributary, in a similar confluence setting (7K-A-64). Two hundred and fifty meters to the north of A-61, in a setting nearly identical to it, was another smaller but similar base camp (7K-A-62) which produced a Woodland II triangular point, non-diagnostic biface fragments (probably Woodland I), utilized flakes, a core, a pestle, and debitage. Upstream from A-62 was another small Woodland II site, A-67, which yielded a chert triangle and 14 other artifacts in an area measuring about 0.1 hectare. The base camp clustering continued on the north side of the unnamed tributary from A-62 and A-67, with another 2 hectare site which produced a Paleo-Indian Period Kirk stemmed point and Woodland I stemmed points, among other materials (7K-A-69).

Two large thin artifact scatters were located west of the Moore residences, southeast of the confluence of Mill and Duck Creeks, along the south side of Delaware 6. These sites, 7K-A-73 and 74, yielded Woodland I stemmed points and Woodland II triangles and ceramics (Townsend and Killens Ware), as well as a variety of other artifacts.

The final diagnostic artifacts to be found on the Moore Farm were two Woodland I Bare Island-like points found at separate locations on a low ridge dividing two drainages in the southeast corner of the property (7K-A-80 and 81). They probably represent points lost while hunting or butchering and are part of a string of scattered points, flake tools, and debitage extending along this ridge. Presently, it is an animal travel route, as deer and red fox were observed moving along it at various times during the survey. The artifact pattern suggests it may have been so for thousands of years.



The remaining 22 sites from the Moore Farm (7K-A-48, 50, 52-57, 59, 60, 63, 65, 66, 68, 70-72, and 75-79), occupy a variety of settings at varying distances from the major base camps. These are small sites, generally less than 0.2 hectare in size, and are thought to be related to the base camps. Artifacts recovered from these sites included small amounts of flakes, or a flake tool, a core, or a cluster of perhaps only 10 or 15 FCR, representing plowed-out single occupation hearths.

**Subarea 12-5** Comprising the south bank of Mill Creek and an unnamed tributary, this large subarea lies directly south of Subareas 12-3 and 12-4. Few sites were found, although the generally poor surface visibility (average less than 5%) may have contributed to this and it is felt that both the quantity of sites and numbers of artifacts per site are under-represented in the survey results. Portions of three farms, belonging to Pratt, Rothwell, and Irwin, were surveyed and each produced one site with diagnostic artifacts and four sites without.

Site 7K-A-82, located on the Pratt Farm at the confluence of Mill Creek and an unnamed tributary, is a long scatter of artifacts stretching along the stream banks for about 1300 meters. Surface visibility was principally confined to the farm lane at the edge of the field and the eroding stream banks and consequently the true limits of the site are unknown. Nevertheless, several early stage or non-diagnostic bifaces, 1 Townsend sherd, 8 Minguannan sherds, innumerable flakes, and FCR were observed. Many of the flakes were very small pressure chips, indicating tool maintenance activities.

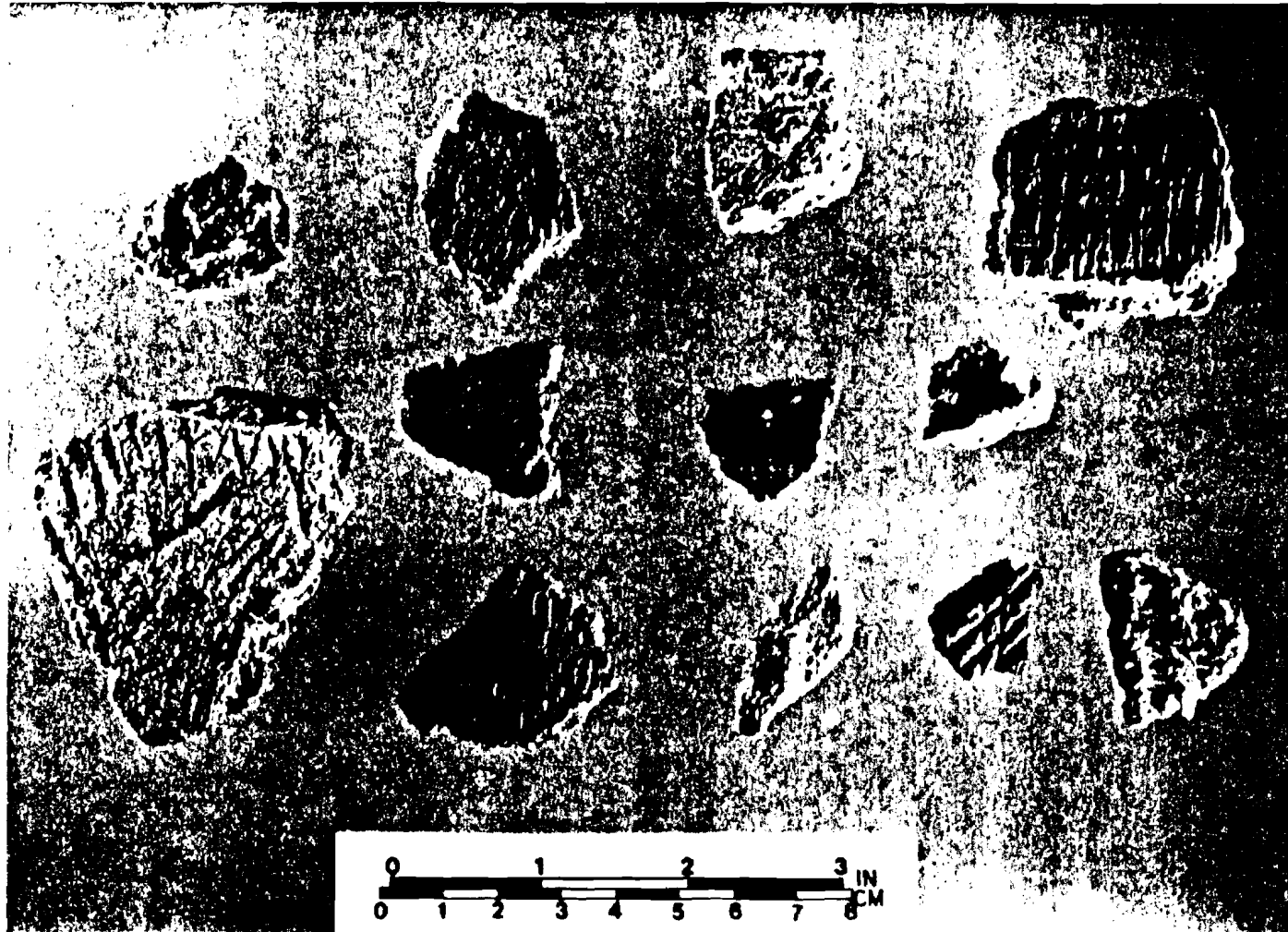
The other sites on the farm (7K-A-83, 84, and 85) are along the south side of Mill Creek, upstream from the A-82 site, and yielded many flakes and FCR, but no diagnostic artifacts. The middle section of the Pratt fields, which included ephemeral streams and several dry bay/basin features, could not be surveyed due to visibility problems, but it is expected to contain numerous sites, possibly as many as the Moore Farm (Subarea 12-4). Sites A-82, 83, and 84 are probably base camps and A-85 a procurement site.

The Mrs. George C. Rothwell farm, due east of Pratt's, offered very poor visibility and only one diagnostic artifact was found. This was a corner-notched chert biface (Woodland I) found along with a non-diagnostic quartz biface fragment, flakes, and FCR at a minor confluence (site 7K-A-87). Several other small scatters of flakes and FCR were found along the stream banks around the edge of the farm (7K-A-86, 88-90).

The Channie Irwin farm to the east lies directly south of the Moore Farm, and like the Rothwell property, produced low amounts of artifacts (again, almost certainly due to the average 2% surface visibility). One Minguannan sherd (Plate 6), 2 flakes, and 3 FCR were recorded from a small rise well up an unnamed tributary to Mill Creek and was designated 7K-A-95. Site 7K-A-92, at the confluence of two minor tributaries, produced a

PLATE 6

Selected Prehistoric Ceramics from Sites in the Route 13 South Survey



TOP ROW, left to right: Townsend sherd from 7NC-J-162, Killens Ware sherd from 7K-C-251, Mockley sherd from 7K-D-33, Wolfe Neck sherd from 7K-D-33; MIDDLE ROW, left to right: Minguannan sherd from 7K-F-136, Minguannan sherd from 7K-C-313, Coulbourn sherd from 7K-D-33; BOTTOM ROW, left to right: Wolfe Neck sherd from 7K-D-85, Minguannan sherd from 7K-F-136, Marcey Creek sherd from 7K-C-313; Minguannan sherd from 7K-A-95, Minguannan sherd from 7K-C-353.

PLATE 7

Selected Ground Stone Tools from Sites in the Route 13 South Survey



LEFT: pestle fragment from 7K-C-242; UPPER RIGHT: pestle fragment from 7K-A-92; LOWER RIGHT: abrading stone from 7NC-J-124

hammerstone, pestle fragment (Plate 7), and 2 flakes, but no diagnostic artifacts. The other three sites, A-91, 93, and 94, were small scatters of flakes and FCR along the stream banks.

In summary, the Smyrna Study Area provided an excellent overview of prehistoric cultural resources, especially at the confluence of Duck and Mill Creeks. The Jones, Bailey, Moore, Schiff, Fox, Tush, and Shane farms all produced sites of varying quantity and type in the confluence vicinity, and surface site patterns, although admittedly sketchy, indicate that controlled surface collection and systematic sub-surface excavation could yield detailed information on a wide variety of archaeological problems in the northern Delmarva Peninsula. On the Moore farm, for example, diagnostic artifacts were recorded from two sites of the Paleo-Indian Period, one from the Archaic, seven from the Woodland I, and four from the Woodland II. Many of the Woodland sites are thought to be base camps: A-47, A-61, A-64, A-69, and A-73 for the Woodland I and A-62 and A-74 for the Woodland II. Excavation of these and the numerous outlier sites in this vicinity (i.e. those mostly small sites which produced low amounts of debitage and no diagnostic artifacts, or one or two diagnostic artifacts and no debitage) should reveal intrasite and intersite patterns regarding subsistence, settlement, technology, and social organization of the prehistoric peoples of the Duck/Mill Creek drainage.

### **Area 3 - Leipsic Study Area - Surface Survey**

Figure 25 shows the archaeological sites recorded during surface survey and the subareas noted in the Leipsic area. Locational attributes of the sites are listed in Table 4 and cultural historical data are listed in Table 5. The Leipsic area as defined extends from the town of Kenton on the west to a point on the Leipsic River about three miles east of present U.S. 13 and includes land on both sides of the Leipsic River, Garrison's Lake and Massey's Millpond, as well as several tributaries to the Leipsic, including Alston, Willis, Taylor, and Pinks Branches. Each of the defined subareas and its sites are discussed below.

**Subarea 3-1** Subarea 1 lies in the westernmost part of the Leipsic Area and contains all land west of Kent 91. It is mostly farmland, although some small woodlots sit adjacent to the streams. The waterways cut deeply enough here to form 3m to 6m bluffs along their courses. Most of the subarea was in heavy crop growth at the time of the survey and only one small field could be walked. This was immediately west of the confluence of Pinks Branch and an unnamed tributary entering from the northwest. Three sites were located on the terrace about 1.5m above the streams and were designated 7K-C-116, 117, and 118. Site C-116 contained four quartz core/chopping tools, four quartz flake tools, 1 jasper flake tool, two quartz biface rejects, and 300-400 fire-cracked rocks. Some sort of butchering/processing station is suggested by this assemblage. Site C-117, immediately to the north, contained similar artifacts and is probably

TABLE 4

## LOCALIZED OVER- AND UNDER-SATURATED ZONES - FETTER STUDY AREA

WELL NUMBER	GPS NUMBER	WELL OWNER	UTM NORTH	UTM EAST	GROUNDWATER DEPTH (FEET)	GROUNDWATER PRESSURE (PSI)	GROUNDWATER TEMPERATURE (°C)	DEPT. METER	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE (ASPECT)	ELEVATION (FEET)	
OK-C-116	E-5946	KENTON	482	8357	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 F	41
OK-C-117	E-5947	KENTON	486	834	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 F	41
OK-C-118	E-5948	KENTON	479	833	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 F	41
OK-C-119	E-5949	DOVER	485	830	LOW	FEEL	5.6	1.1	111150	STREAM	N	2	5 U	39
OK-C-120	E-5950	DOVER	516	832	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2	36
OK-C-121	E-5951	DOVER	511	833	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 F	36
OK-C-122	E-5952	DOVER	511	824	LOW	FEEL	5.6	1.1	111150	STREAM	N	1	0 F	39
OK-C-123	E-5953	DOVER	512	829	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	5 F	38
OK-C-124	E-5954	DOVER	513	826	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	10 U	35
OK-C-125	E-5955	DOVER	508	820	LOW	FEEL	5.6	1.1	111150	STREAM	N	2	2 F	35
OK-C-126	E-5956	DOVER	514	822	LOW	FEEL	5.6	1.1	111150	STREAM	N	1	2 F	38
OK-C-127	E-5957	KENTON	518	836	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 S	40
OK-C-128	E-5958	KENTON	510	839	LOW	FEEL	5.6	1.1	111150	STREAM	Y	3	2 S	40
OK-C-129	E-5959	KENTON	512	836	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	5 SF	40
OK-C-130	E-5960	KENTON	509	838	LOW	FEEL	5.6	1.1	111150	STREAM	N	3	2 S	40
OK-C-131	E-5961	KENTON	502	835	LOW	FEEL	5.6	1.1	111150	STREAM	Y	3	2 SF	40
OK-C-132	E-5962	KENTON	513	825	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 N	40
OK-C-133	E-5963	KENTON	518	823	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 N	40
OK-C-134	E-5964	KENTON	511	823	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 S	40
OK-C-135	E-5965	KENTON	518	820	FEEL	0	0	111150	STREAM	N	1	0 NE	45	
OK-C-136	E-5966	KENTON	515	812	LOW	FEEL	5.6	1.1	111150	STREAM	N	4	2 NU	40
OK-C-137	E-5967	KENTON	507	813	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 F	40
OK-C-138	E-5968	KENTON	501	814	LOW	FEEL	5.6	1.1	111150	STREAM	N	3	2 F	40
OK-C-139	E-5969	KENTON	502	819	LOW	FEEL	5.6	1.1	111150	STREAM	N	1	2 U	40
OK-C-140	E-5970	KENTON	504	819	FLOW	LOW	5.6	1.1	111150	STREAM	Y	0	2 F	40
OK-C-141	E-5971	KENTON	500	819	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	2 S	39
OK-C-142	E-5972	DOVER	518	815	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 SF	40
OK-C-143	E-5973	DOVER	511	813	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 U	40
OK-C-144	E-5974	DOVER	511	812	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	0 NU	35
OK-C-145	E-5975	DOVER	519	817	LOW	FEEL	5.6	1.1	111150	STREAM	N	2	2 NU	40
OK-C-146	E-5976	DOVER	519	816	LOW	FEEL	5.6	1.1	111150	STREAM	N	2	2 NU	40
OK-C-147	E-5977	DOVER	511	811	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 N	40
OK-C-148	E-5978	KENTON	501	809	LOW	FEEL	5.6	1.1	111150	STREAM	N	4	2 NU	40
OK-C-149	E-5979	KENTON	506	806	LOW	FEEL	5.6	1.1	111150	STREAM	N	3	3 NU	40
OK-C-150	E-5980	KENTON	499	806	LOW	FEEL	5.6	1.1	111150	STREAM	N	1	2 NU	39
OK-C-151	E-5981	KENTON	501	800	LOW	FEEL	5.6	1.1	111150	STREAM	Y	3	3 N	39
OK-C-152	E-5982	DOVER	533	801	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	2 NU	39
OK-C-153	E-5983	DOVER	515	801	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 NU	39
OK-C-154	E-5984	DOVER	517	804	LOW	FEEL	5.6	1.1	111150	STREAM	Y	2	2 N	35
OK-C-155	E-5985	DOVER	512	803	LOW	FEEL	5.6	1.1	111150	STREAM	Y	1	2 NU	39
OK-C-156	E-5986	DOVER	511	805	LOW	FEEL	5.6	1.1	111150	STREAM	Y	0	2 N	39
OK-C-157	E-5987	DOVER	512	804	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 U	40
OK-C-158	E-5988	DOVER	516	801	LOW	FEEL	5.6	1.1	111150	STREAM	N	3	2 N	40
OK-C-159	E-5989	DOVER	511	800	LOW	FEEL	5.6	1.1	111150	STREAM	N	1	2 S	40
OK-C-160	E-5990	DOVER	511	801	LOW	FEEL	5.6	1.1	111150	STREAM	N	0	2 S	40

TABLE 4 (cont'd.)

## LOCATIONAL DATA, PHYSICALLY RESOURCES - LITHOSTIC STUDY AREA

WELL NUMBER	CRS NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOBIOLOGICAL SETTING	PRIMARY SOIL SETTING	SECONDARY SOIL SETTING	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
DE 1-162	E-5992	DOVER	540	67	LOW TERRACE	SUB		TERREST	STREAM	N	2	2	N	20
DE 1-163	E-5993	DOVER	543	59	RISE	SUB		TERREST	STREAM	N	3	2	N	32
DE 1-164	E-5994	DOVER	539	71	RISE	SUB		TERREST	STREAM	N	3	2	N	33
DE 1-165	E-5995	DOVER	536	69	RISE	SUB		TERREST	STREAM	N	2	2	E	30
DE 1-166	E-5996	DOVER	534	68	LOW TERRACE	SUB		TERREST	STREAM	N	3	2	E	40
DE 1-167	E-5997	DOVER	527	55	LOW TERRACE	SUB		TERREST	STREAM	N	5	2	E	40
DE 1-168	E-5998	DOVER	529	65	LOW TERRACE	SUB		TERREST	STREAM	N	2	2	E	40
DE 1-169	E-5999	DOVER	526	61	LOW TERRACE	SUB		TERREST	STREAM	N	3	2	E	40
DE 1-170	E-6000	DOVER	481	77	RISE	SUB		TERREST	STREAM	N	7	2	U	50
DE 1-171	E-6001	DOVER	494	85	LOW TERRACE	SUB		TERREST	STREAM	N	1	2	F	50
DE 1-172	E-6002	DOVER	502	77	LOW TERRACE	SUB		TERREST	STREAM	N	4	2	N	50
DE 1-173	E-6003	DOVER	495	72	LOW TERRACE	SUB		TERREST	STREAM	N	5	2	N	40
DE 1-174	E-6004	DOVER	482	64	LOW TERRACE	SUB		TERREST	STREAM	Y	3	5	NW	30
DE 1-175	E-6005	DOVER	484	64	LOW TERRACE	SUB		TERREST	STREAM		3	5	U	30
DE 1-176	E-6006	DOVER	460	61	TERREST	SUB		TERREST	STREAM		1	2	U	38
DE 1-177	E-6007	DOVER	510	84	LOW TERRACE	SUB		TERREST	STREAM	N	1	2	NW	20
DE 1-178	E-6008	DOVER	507	81	LOW TERRACE	SUB		TERREST	STREAM	Y	2	2	N	20
DE 1-179	E-6009	DOVER	494	89	RISE	SUB		TERREST	STREAM	N	1	2	W	14
DE 1-180	E-6010	DOVER	489	94	LOW TERRACE	SUB		TERREST	STREAM	N	1	2	S	20
DE 1-181	E-6011	DOVER	555	121	LOW TERRACE	SUB		TERREST	STREAM	Y	1	5	S	20
DE 1-182	E-6012	DOVER	561	114	RISE	SUB		TERREST	STREAM	Y	1	5	SW	25
DE 1-183	E-6013	DOVER	567	114	LOW TERRACE	SUB		TERREST	STREAM	Y	1	5	U	10
DE 1-184	E-6014	DOVER	558	106	LOW TERRACE	SUB		TERREST	STREAM	Y	2	2	S	10
DE 1-185	E-6015	DOVER	563	94	LOW TERRACE	SUB		TERREST	STREAM	Y	5	2	U	10
DE 1-186	E-6016	DOVER	555	88	BLUFF	SUB		TERREST	STREAM	Y	1	2	S	20
DE 1-187	E-6017	DOVER	554	77	BLUFF	SUB		TERREST	STREAM	Y	1	2	S	10
DE 1-188	E-6018	DOVER	560	83	RISE	SUB	SUB	TERREST	STREAM	Y	4	2	SE	35
DE 1-189	E-6019	DOVER	507	87	RISE	SUB		TERREST	STREAM	N	2	0	E	25
DE 1-190	E-6020	DOVER	533	88	BLUFF	SUB		TERREST	STREAM	N	2	0	E	40
DE 1-191	E-6021	DOVER	541	96	LOW TERRACE	SUB		TERREST	STREAM	Y	1	2	F	10
DE 1-192	E-6022	DOVER	542	86	RISE	SUB		TERREST	STREAM	N	1	2	N	14
DE 1-193	E-6023	DOVER	544	76	LOW TERRACE	SUB		TERREST	STREAM	N	1	2	N	10
DE 1-194	E-6024	DOVER	549	143	RISE	SUB		TERREST	STREAM	Y	1	2	SE	20
DE 1-195	E-6025	DOVER	547	172	RISE	SUB		TERREST	STREAM	Y	1	0	SE	10
DE 1-196	E-6026	DOVER	551	186	BLUFF	SUB		TERREST	STREAM	N	2	0	S	10
DE 1-197	E-6027	DOVER	554	190	RISE	SUB		TERREST	STREAM	Y	3	0	E	10
DE 1-198	E-6028	DOVER	550	186	RISE	SUB		TERREST	STREAM	N	2	0	E	16
DE 1-199	E-6029	DOVER	567	183	RISE	SUB		TERREST	STREAM	N	1	2	F	16
DE 1-200	E-6030	DOVER	560	192	LOW TERRACE	U-		TERREST	STREAM	N	1	0	U	10
DE 1-201	E-6031	DOVER	533	184	BLUFF	SUB		TERREST	STREAM	N	2	5	F	10
DE 1-202	E-6032	DOVER	537	179	LOW TERRACE	SUB		TERREST	STREAM	Y	6	5	N	15
DE 1-203	E-6033	DOVER	526	164	LOW TERRACE	SUB		TERREST	STREAM	N	3	5	N	20
DE 1-204	E-6034	DOVER	531	152	BLUFF	SUB		TERREST	STREAM	Y	4	5	NW	10
DE 1-205	E-6035	DOVER	509	171	LOW TERRACE	SUB	SUB	TERREST	STREAM	Y	1	2	U	20
DE 1-206	E-6036	DOVER	499	170	RISE	SUB		TERREST	STREAM	Y	2	2	U	20

TABLE 4. CONTINUED

SITE NUMBER	FED. ROAD NUMBER	USGS QUAD	LOCATIONAL DATA		GEOMORPHOLOGICAL SETTING	FRESHWATER RESOURCES		DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
			UTM NORTH	UTM EAST		PRIMARY SOURCE	SECONDARY SOURCE							
2000	K-6038	DOVER	490	175	LOW TERRACE	538		CEPSTIC	STREAM	N	2	2	W	30
2001	K-6039	DOVER	489	167	RI-F	538	538.5	CEPSTIC	STREAM	Y	0	3	W	50
2002	K-6040	DOVER	536	214	RI-F	538		CEPSTIC	STREAM	Y	1	2	SE	10
2003	K-6041	DOVER	543	205	BURR	538		CEPSTIC	STREAM	N	1	5	N	10
2004	K-6042	DOVER	542	207	RI-F	538		CEPSTIC	STREAM	Y	2	2	W	20
2005	K-6043	DOVER	538	210	LOW TERRACE	538.2		CEPSTIC	STREAM	N	1	5	S	10
2006	K-6044	DOVER	527	208	LOW TERRACE	538		CEPSTIC	STREAM	N	1	0	SE	10
2007	K-6045	DOVER	527	203	RI-F	538		CEPSTIC	STREAM	N	2	0	SE	5
2008	K-6046	DOVER	531	194	LOW TERRACE	538.2		CEPSTIC	STREAM	Y	3	5	W	10
2009	K-6047	DOVER	530	200	LOW TERRACE	538		CEPSTIC	STREAM	N	2	0	E	20
2010	K-6048	DOVER	524	193	LOW TERRACE	538.2		CEPSTIC	STREAM	Y	1	5	SW	10
2011	K-6049	DOVER	524	186	LOW TERRACE	538.2		CEPSTIC	STREAM	Y	4	5	NW	10
2012	K-6050	DOVER	530	212	LOW TERRACE	538.2	538	CEPSTIC	STREAM	N	1	2	W	10
2013	K-6051	DOVER	528	230	LOW TERRACE	538.2	538	CEPSTIC	STREAM	N	1	5	E	20
2014	K-6052	DOVER	520	232	LOW TERRACE	538	538	CEPSTIC	STREAM	Y	2	0	SE	10
2015	K-6053	DOVER	531	216	LOW TERRACE	538.2		CEPSTIC	STREAM	N	0	5	W	10
2016	K-6054	DOVER	532	224	LOW TERRACE	538		CEPSTIC	STREAM	Y	0	0	N	5
2017	K-6055	DOVER	532	221	LOW TERRACE	538	538.2	CEPSTIC	STREAM	Y	0	0	N	0
2018	K-6056	DOVER	461	162	RI-F	538		CEPSTIC	STREAM	N	1	0	S	35
2019	K-6057	DOVER	465	154	LOW TERRACE	538		CEPSTIC	STREAM	N	3	2	NW	30
2020	K-6058	DOVER	459	150	RI-F	538		CEPSTIC	STREAM	N	3	2	NW	38
2021	K-6059	DOVER	454	145	RI-F	538	538	CEPSTIC	STREAM	Y	2	2	W	35
2022	K-6060	DOVER	479	154	LOW TERRACE	538		CEPSTIC	STREAM	N	4	2	S	30
2023	K-6061	DOVER	473	149	RI-F	538		CEPSTIC	STREAM	Y	3	2	SE	30
2024	K-6062	DOVER	462	143	LOW TERRACE	538		CEPSTIC	STREAM	Y	3	2	SE	30
2025	K-6063	DOVER	463	135	CEPSTIC	538		CEPSTIC	STREAM	Y	2	2	NE	25
2026	K-6064	DOVER	458	134	CEPSTIC	538		CEPSTIC	STREAM	Y	2	2	SE	25
2027	K-6065	DOVER	450	131	LOW TERRACE	538		CEPSTIC	STREAM	N	1	2	S	25
2028	K-6066	DOVER	553	221	LOW TERRACE	538		CEPSTIC	STREAM	N	2	2	W	10
2029	K-6067	DOVER	559	264	LOW TERRACE	538		CEPSTIC	STREAM	Y	2	2	S	10
2030	K-6068	DOVER	553	263	LOW TERRACE	538		CEPSTIC	STREAM	N	1	2	W	5
2031	K-6069	DOVER	535	251	RI-F	538		CEPSTIC	STREAM	N	0	0	S	12
2032	K-6070	DOVER	542	244	LOW TERRACE	538		CEPSTIC	STREAM	Y	2	2	SE	10
2033	K-6071	DOVER	535	248	LOW TERRACE	538		CEPSTIC	STREAM	N	1	0	S	20
2034	K-6072	DOVER	531	248	LOW TERRACE	538		CEPSTIC	STREAM	N	0	2	S	15
2035	K-6073	DOVER	543	234	RI-F	538		CEPSTIC	STREAM	Y	3	2	NW	10
2036	K-6074	DOVER	532	236	LOW TERRACE	538		CEPSTIC	STREAM	N	3	2	W	10
2037	K-6075	DOVER	532	239	RI-F	538	538	CEPSTIC	STREAM	N	6	0	W	10
2038	K-6076	DOVER	535	237	CEPSTIC	538		CEPSTIC	STREAM	N	5	2	W	10
2039	K-6077	DOVER	532	230	BURR	538		CEPSTIC	STREAM	N	1	2	W	5
2040	K-6078	DOVER	527	240	LOW TERRACE	538		CEPSTIC	STREAM	Y	3	2	W	5
2041	K-6079	DOVER	568	302	CEPSTIC	538	538	CEPSTIC	STREAM	Y	0	2	N	5
2042	K-6080	DOVER	561	238	RI-F	538		CEPSTIC	STREAM	N	3	2	E	5
2043	K-6081	DOVER	585	238	LOW TERRACE	538		CEPSTIC	STREAM	Y	4	10	NE	5
2044	K-6082	DOVER	542	236	RI-F	538		CEPSTIC	STREAM	N	3	0	NE	10
2045	K-6083	DOVER	549	231	LOW TERRACE	538		CEPSTIC	STREAM	Y	1	0	NW	5

TABLE 5

CULTURAL - IN STRATIGRAPHIC - LITHIC AREA

SITE NUMBER	POLEO-ARCTIC I	WOODLAND II	WOODLAND III	UN-CLASSIFIED	HOLOCENE	HOLOCENE	HOLOCENE	HOLOCENE	HOLOCENE	HOLOCENE	FLAKE TOOL	COPE	FLAKES	GROUND STONE TOOL	CERAMICS
21.0 117											Y	Y			Y
21.0 118											Y	Y	Y		Y
21.0 119		Y		Y							Y	Y	Y	Y	Y
21.0 120											Y				
21.0 125											Y				
21.0 126											Y				
21.0 127											Y		Y		Y
21.0 128											Y		Y		Y
21.0 129											Y	Y	Y	Y	Y
21.0 130											Y	Y	Y		Y
21.0 131													Y		Y
21.0 132											Y	Y	Y		Y
21.0 133											Y	Y	Y		Y
21.0 134											Y				Y
21.0 135											Y				Y
21.0 136															Y
21.0 137											Y	Y			Y
21.0 138											Y	Y	Y		Y
21.0 139											Y				Y
21.0 140												Y			Y
21.0 141											Y				Y
21.0 142											Y				Y
21.0 143											Y				Y
21.0 144											Y				Y
21.0 145											Y		Y		Y
21.0 146											Y		Y		Y
21.0 147											Y	Y	Y		Y
21.0 148											Y	Y	Y		Y
21.0 149											Y	Y	Y		Y
21.0 150											Y	Y	Y		Y
21.0 151											Y	Y	Y		Y
21.0 152											Y	Y	Y		Y
21.0 153											Y	Y	Y		Y
21.0 154											Y	Y	Y		Y
21.0 155											Y	Y	Y		Y
21.0 156		Y		Y							Y		Y		Y
21.0 157											Y		Y		Y
21.0 158											Y	Y	Y		Y
21.0 159											Y	Y	Y		Y
21.0 160											Y		Y		Y
21.0 161		Y		Y							Y	Y	Y	Y	Y
21.0 162											Y	Y	Y		Y
21.0 163											Y	Y	Y		Y
21.0 164											Y	Y	Y		Y
21.0 165											Y	Y			Y
21.0 166											Y				Y
21.0 167											Y				Y
21.0 168											Y				Y



TABLE 3 (cont.)

COLUMBIAN - ARCHAEOLGICAL DATA - FLEISCHER STUDY AREA

SITE NUMBER	PALEO ARCHAIC	WOODLAND I	WOODLAND II	ORONOCO	ORONOCO	ORONOCO	HISTORIC	BLADE	SCRAPER	FLAKE CORE TOOL	FLAKES	GROUND STONE	CERAMICS
2K-1-169							Y			Y			Y
2K-1-170										Y			Y
2K-1-171										Y			Y
2K-1-172													Y
2K-1-173											Y		Y
2K-1-174		Y			Y						Y	Y	Y
2K-1-175		Y						Y		Y	Y		Y
2K-1-176									Y		Y		Y
2K-1-177										Y			Y
2K-1-178										Y	Y		Y
2K-1-179		Y						Y		Y			Y
2K-1-180										Y			Y
2K-1-181											Y		Y
2K-1-182											Y		Y
2K-1-183		Y			Y			Y					Y
2K-1-184									Y				Y
2K-1-185											Y		Y
2K-1-186								Y			Y		Y
2K-1-187									Y		Y		Y
2K-1-188											Y		Y
2K-1-189											Y		Y
2K-1-190											Y		Y
2K-1-191											Y		Y
2K-1-192											Y		Y
2K-1-193											Y		Y
2K-1-194											Y		Y
2K-1-195			Y				Y				Y		Y
2K-1-196											Y		Y
2K-1-197											Y		Y
2K-1-198											Y		Y
2K-1-199											Y		Y
2K-1-200		Y									Y		Y
2K-1-201											Y		Y
2K-1-202											Y		Y
2K-1-203											Y		Y
2K-1-204											Y		Y
2K-1-205										Y			Y
2K-1-206											Y		Y
2K-1-207										Y			Y
2K-1-208										Y			Y
2K-1-209										Y			Y
2K-1-210										Y			Y
2K-1-211	Y	Y	Y				Y	Y	Y	Y	Y	Y	Y
2K-1-212										Y			Y
2K-1-213									Y		Y		Y
2K-1-214											Y		Y
2K-1-215										Y	Y		Y
2K-1-216									Y				Y
2K-1-217										Y			Y

TABLE 5 (continued)

## CULTURAL - HISTORICAL DATA - LEPISIC STUDY AREA

SITE NUMBER	PALEO-ARCHAIC I	WOODLAND II	WOODLAND III	CD	UN	CA	HA	DA	DE	SE	HC	HISTORIC	BLUFF	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND FOR STONE TOOL	CERAMICS
22-1-218														Y	Y		Y		Y
22-1-219															Y				Y
22-1-220															Y		Y		Y
22-1-221																			Y
22-1-222																			Y
22-1-223																			Y
22-1-224																			Y
22-1-225																Y			Y
22-1-226																	Y		Y
22-1-227																	Y		Y
22-1-228													Y	Y	Y		Y		Y
22-1-229	Y												Y	Y	Y		Y		Y
22-1-230			Y										Y				Y		Y
22-1-231												Y			Y		Y	Y	Y
22-1-232															Y		Y		Y
22-1-233															Y		Y		Y
22-1-234															Y		Y	Y	Y
22-1-235															Y		Y	Y	Y
22-1-236															Y		Y	Y	Y
22-1-237															Y		Y	Y	Y
22-1-238	Y													Y	Y	Y	Y	Y	Y
22-1-239															Y		Y		Y
22-1-240															Y	Y	Y	Y	Y
22-1-241															Y		Y		Y
22-1-242	Y	Y												Y	Y	Y	Y	Y	Y
22-1-243															Y		Y		Y
22-1-244	Y	Y												Y	Y	Y	Y	Y	Y
22-1-245															Y		Y		Y
22-1-246	Y	Y													Y	Y	Y	Y	Y
22-1-247															Y		Y		Y
22-1-248															Y		Y		Y
22-1-249	Y														Y		Y		Y
22-1-250															Y		Y		Y
22-1-251															Y		Y		Y
22-1-252															Y		Y		Y
22-1-253															Y		Y		Y
22-1-254															Y		Y		Y
22-1-255															Y		Y		Y
22-1-256															Y		Y		Y
22-1-257															Y		Y		Y
22-1-258															Y		Y		Y
22-1-259															Y		Y		Y
22-1-260															Y		Y		Y
22-1-261															Y		Y		Y
22-1-262															Y		Y		Y
22-1-263															Y		Y		Y
22-1-264															Y		Y		Y
22-1-265															Y		Y		Y
22-1-266															Y		Y		Y
22-1-267															Y		Y		Y
22-1-268															Y		Y		Y
22-1-269															Y		Y		Y
22-1-270															Y		Y		Y
22-1-271															Y		Y		Y
22-1-272															Y		Y		Y
22-1-273															Y		Y		Y
22-1-274															Y		Y		Y
22-1-275															Y		Y		Y
22-1-276															Y		Y		Y
22-1-277															Y		Y		Y
22-1-278															Y		Y		Y
22-1-279															Y		Y		Y
22-1-280															Y		Y		Y
22-1-281															Y		Y		Y
22-1-282															Y		Y		Y
22-1-283															Y		Y		Y
22-1-284															Y		Y		Y
22-1-285															Y		Y		Y
22-1-286															Y		Y		Y
22-1-287															Y		Y		Y
22-1-288															Y		Y		Y
22-1-289															Y		Y		Y
22-1-290															Y		Y		Y
22-1-291															Y		Y		Y
22-1-292															Y		Y		Y
22-1-293															Y		Y		Y
22-1-294															Y		Y		Y
22-1-295															Y		Y		Y
22-1-296															Y		Y		Y
22-1-297															Y		Y		Y
22-1-298															Y		Y		Y
22-1-299															Y		Y		Y
22-1-300															Y		Y		Y
22-1-301															Y		Y		Y
22-1-302															Y		Y		Y
22-1-303															Y		Y		Y
22-1-304															Y		Y		Y
22-1-305															Y		Y		Y
22-1-306															Y		Y		Y
22-1-307															Y		Y		Y
22-1-308															Y		Y		Y
22-1-309															Y		Y		Y
22-1-310															Y		Y		Y
22-1-311															Y		Y		Y
22-1-312															Y		Y		Y
22-1-313															Y		Y		Y
22-1-314															Y		Y		Y
22-1-315															Y		Y		Y
22-1-316															Y		Y		Y
22-1-317															Y		Y		Y
22-1-318															Y		Y		Y
22-1-319															Y		Y		Y
22-1-320															Y		Y		Y

related. Site C-118, immediately to the south of C-116, yielded a full-grooved ax, one pitted stone, 2 cores, 6 utilized flakes and flake tools (Plate 8), and about 130 fire-cracked rocks. Although the ax suggests an Archaic Period occupation for the site, no diagnostic bifaces were found.

**Subarea 3-2** This subarea is situated between Kent 91 and Kent 42 and includes land on both sides of Massey's Millpond. Most of the subarea offered some degree of ground visibility during the pedestrian survey and produced 33 previously unrecorded sites. The first of this group was situated on some headlands just south of Massey's Millpond dam and included sites 7K-C-119 through 126. The most productive was C-124, on the berm of the rise immediately south of the intersection of Kent 42 and Kent 92. This Woodland I site produced one Bare Island chert point (Plate 1), one non-diagnostic quartz biface fragment, 6 utilized flakes, 6 unutilized flakes, and 3 FCR in an area measuring approximately 70 x 100 meters. Another Woodland I locale was 7K-C-119, which produced one black chert Bare Island-like point. The remaining sites contained small numbers of non-diagnostic broken tools, debitage, and FCR and are most likely small procurement sites.

Site 7K-C-127 is located at a point between two streams flowing southeast into Massey's Millpond and produced one non-diagnostic quartz biface fragment, one quartz utilized flake, one chert chopper, flakes, and FCR. The small knoll on which the site is located has suffered sheet erosion due to agriculture and the possibility of finding intact subsurface features is quite low.

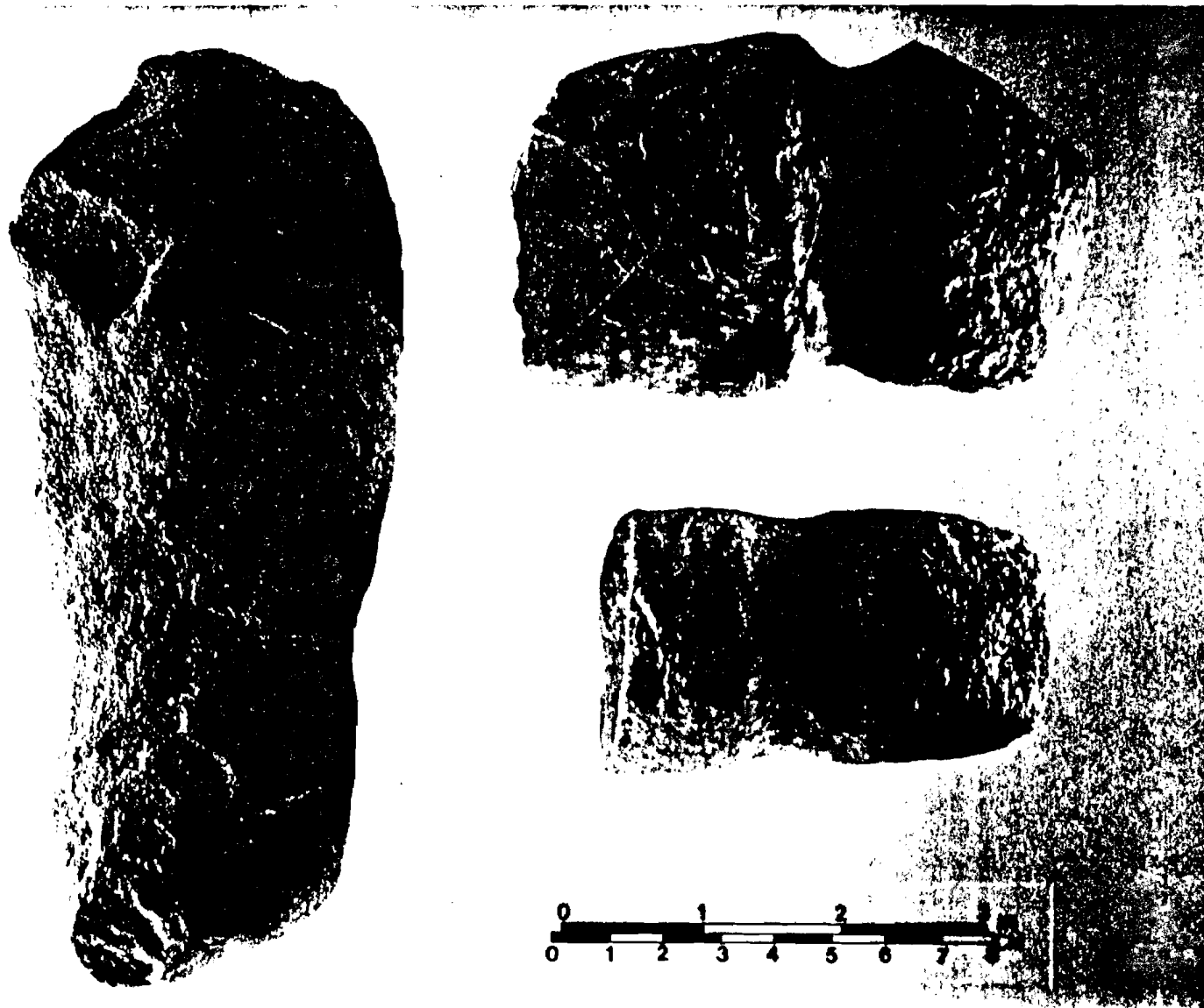
Mrs. Edward Brown's Friendship Farm occupies the northwest part of the subarea, on the north side of Massey's Millpond. Sites 7K-C-128 through 141 were found here on a variety of water settings, including flowing and ephemeral streams and a large bay/basin feature. Site 7K-C-128 is located on a 5-meter rise almost completely surrounded by flowing and ephemeral streams and produced one quartz Lehigh/Koens-Crispin broadpoint, one non-diagnostic quartz biface fragment, utilized and unutilized flakes, and FCR.

The center of the field is dominated by a large bay/basin feature which measures about 200 meters in diameter and three sites were located in its rim. The largest is 7K-C-132 on the southeast side, which produced one rhyolite biface fragment, one chert early stage biface reject, 6 utilized flakes, one quartz scraper (Plate 9), one quartz core, 4 flakes, and 10 fire-cracked rocks. Two other sites were located on the north rim of the feature: 7K-C-133 produced one quartz core and 3 fire-cracked rocks while 7K-C-135 yielded one quartz utilized flake and one FCR.

All of the remaining sites on this farm were associated with permanent or ephemeral streams and none contained diagnostic artifacts. Site 7K-C-129, on the north side of the Leipsic

PLATE 8

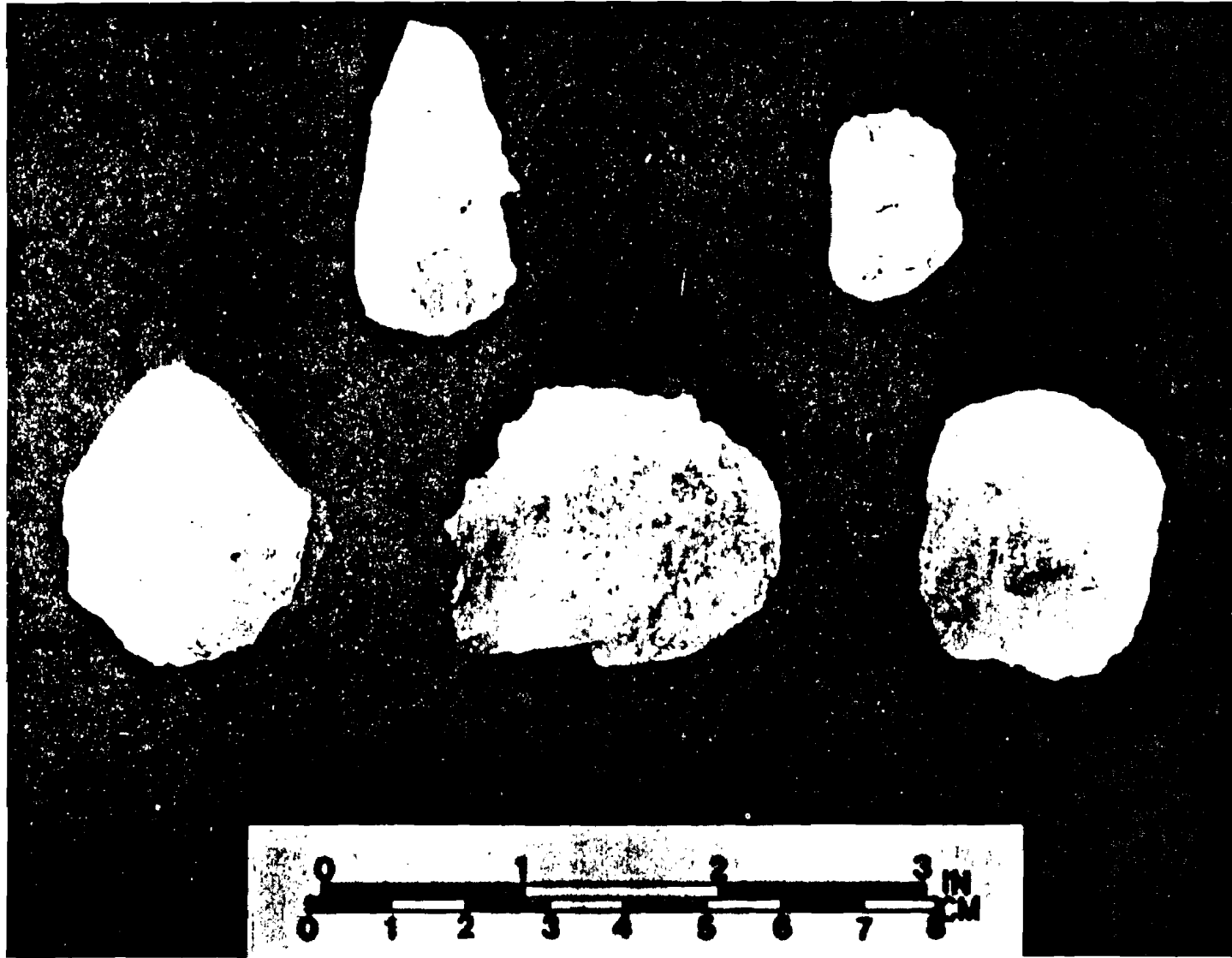
Selected Ground Stone Tools from Sites in the Route 13 South Survey



LEFT: adze or hoe from 7NC-J-125; UPPER RIGHT: grooved ax from 7K-C-118; LOWER RIGHT: full-grooved ax from 7K-D-33

PLATE 9

Selected Bifacial Flake Tools from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-C-132, 7K-C-168; BOTTOM ROW, left to right: 7K-C-218, 7K-C-187, 7NC-J-119

River, was notable in that it produced a large pestle, as well as an argillite flake. The use of argillite for stone tools was relatively infrequent in the northern part of the Rt. 13 Corridor. However, it became more common in the southern part of the Corridor, especially from the Leipsic River south. The remaining sites on the farm contained small amounts of flakes, FCR, biface rejects, and cores. Included in this group are 7K-C-130, 131, 134, and 136 through 141 and they probably represent small, ephemeral occupations.

The last group of sites located in this subarea is a group found on the south side of Massey's Millpond on the James Faulkner, Stanley Short, and Allen Miller farms. Visibility was generally low due to the presence of no-till and fallow fields, and most of the sites were found on the weathered edges of the fields along the bluff tops overlooking the millpond and floodplain. The most notable site is 7K-C-147, located at the confluence of the millpond (Leipsic River) and an ephemeral stream. Although visibility was only 5%, one square-stemmed argillite point, one non-diagnostic chert biface fragment (possibly a Jack's Reef point), one quartz flake, and 35 FCR were found. Unfortunately, this site has since been partially destroyed by housing construction. Site 7K-C-146, also on the Faulkner farm, produced a Newark jasper core, a large argillite flake, as well as several other flakes and FCR. The remaining sites in this group, 7K-C-142 through 145 and 148 through 151, produced small amounts of debitage and FCR and an occasional non-diagnostic tool.

**Subarea 3-3** This subarea contains all of the north and south banks of the Leipsic River between Massey's Millpond and Garrison's Lake and is bounded on the west by Kent 42 and on the east by the Conrail railroad tracks. Almost all of the subarea is farmland and most of it borders the Leipsic floodplain. Even considering the infilling of streams by modern agricultural erosion, the bluffs on the farms bordering the Leipsic still stand 5 to 7 meters above the floodplain. The northern and western portions of the subarea were entirely no-till fields and offered no visibility at the time of the pedestrian survey. The southeastern part was subjected to pedestrian survey and 18 sites were found on the two farms comprising this section. Mr. Edward Brown's Greenbriar Farm lies due east of Massey's Millpond dam and contained sites 7K-C-152 through 161. Site 7K-C-152 is an intensely occupied location around the head of an ephemeral stream draining northwesterly to the Leipsic. Even though visibility was only 20%, one quartz broadpoint, one jasper point tip, 5 non-diagnostic quartz biface fragments, one jasper utilized flake, one chert core, 35 flakes, and 34 FCR were recorded. It is one of the most heavily utilized sites in this type of setting (ephemeral streamhead) recorded in the Rt. 13 Corridor survey. Just south of this site was found a contracting stem jasper point, which was recorded as C-155 (Plate 1). Site C-153 is located about 300 meters downstream from C-152 and produced flake tools, utilized and unutilized flakes (including argillite), and FCR. The owner also showed us a pestle he had

collected from the site. Other diagnostic artifacts were found at C-159, at the head of another ephemeral stream leading to the Leipsic (corner-notched point), and C-161, on a sandy knoll about 200 meters east of the Leipsic (one jasper Lackawaxen point (Plate 1) plus other broken tools, debitage and FCR). The remaining sites on Brown's Greenbriar farm, C-154, 156, 157, 158, and 160, contained low amounts of non-diagnostic artifacts on a variety of stream settings.

Just to the east lies the John and Rusty Schmidt farm, which had just been plowed at the time of the survey and offered excellent visibility. Seven prehistoric (7K-C-162 through 168) and one combination prehistoric/historic sites (7K-C-169) were found, with diagnostic artifacts being found on 2 prehistoric sites. Site 7K-C-163, on a one meter rise on the south side of the Leipsic, produced one chert Bare Island-like stemmed point (Plate 3), cores, flakes, and FCR. Site 7K-C-165, on a low rise on the east side of an ephemeral stream, yielded a chert side-notched point, flakes, a core, and FCR. The site containing both prehistoric and historic components, C-169, is located on the southwest slope of a 3 meter rise about 150 meters north of Kent 92. The prehistoric component consisted of one flake tool and about 100 FCR while the historic materials included 5 pieces of lead glazed redware, one porcelain teacup basal fragment, one green glass wine bottle basal fragment, one other hand-blown green glass fragment one hand-blown molded tumbler basal fragment, one cast iron bottle fragment, and numerous glazed brick fragments. The historic assemblage suggests a late eighteenth/early nineteenth century dwelling occupation for this site.

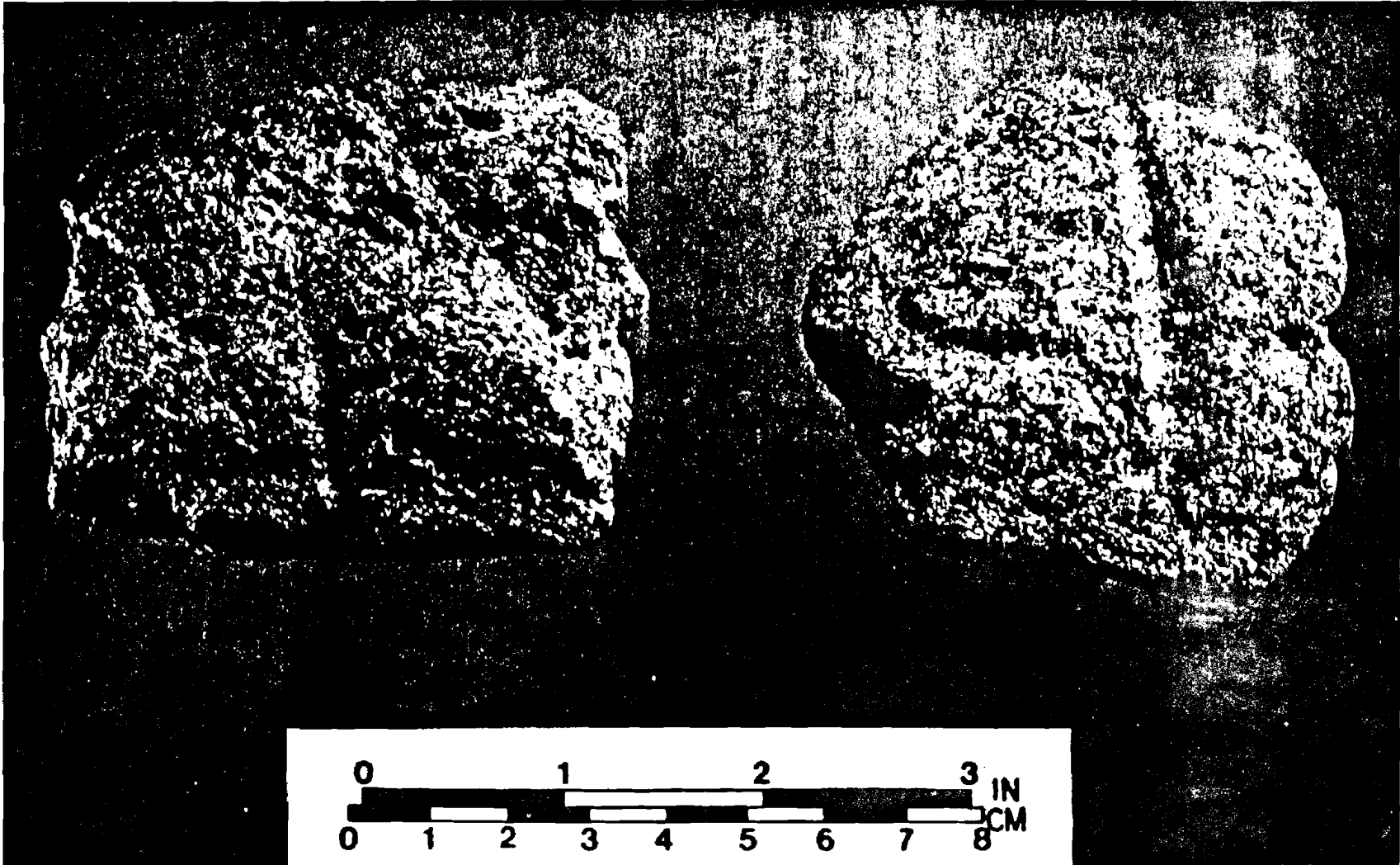
All of the diagnostic prehistoric artifacts from this subarea suggest a Woodland I occupation (3100 B.C. to 850 A.D.) and are typical of micro-band base camp and butchering/processing sites.

**Subarea 3-4** This subarea is comprised of farmland on either side of Willis Branch, west of the Conrail tracks and between Kent 92 and Kent 152 (Linberry Road). The north side was in excessive crop growth at the time of the survey and could not be walked, but the south side, which is wholly owned by John and Rusty Schmidt and known as the Linberry Farm, could be surveyed. Although it is a no-till corn field and visibility ranged from 1% - 30%, several sites were located. Diagnostic artifacts were recovered from 7K-C-174 (steatite bowl fragment, Plate 10) and C-179 (quartz contracting stem point). The other nine sites recorded from this farm (C-170-173, 175-178, and 180) all produced low amounts of non-diagnostic tools, debitage, and FCR. This farm suffers from sheet erosion problems and it is quite unlikely that any of these sites would produce intact subsurface features.

**Subarea 3-5** This subarea lies along the north side of Garrison's Lake between U.S. 13 and the Conrail tracks and south of Kent 149. It is entirely owned by Joseph Lamberta of Brenford

PLATE 10

Steatite Bowl Fragments from Sites in the Route 13 South Survey



71

LEFT TO RIGHT: 7K-C-40, 7K-C-174



and offered generally poor visibility (average 2% - 5%) at the time of the survey. Nevertheless, eight sites were identified (7K-C-181 through 188). The only diagnostic artifact recovered was a quartzite Lehigh/Koens-Crispin broadpoint from C-183 (Plate 4). The other 7 sites were all situated on the bluffs along the north side of Garrison's Lake or along tributaries. Site 7K-C-185 is notable in that its limits likely extend far to the west into the woodlot between the identified portion of the site and the tributary. Site C-184 (one red jasper bevel edge scraper/graver and 15 FCR, Plate 11). appears to be almost completely destroyed by a former borrow operation.

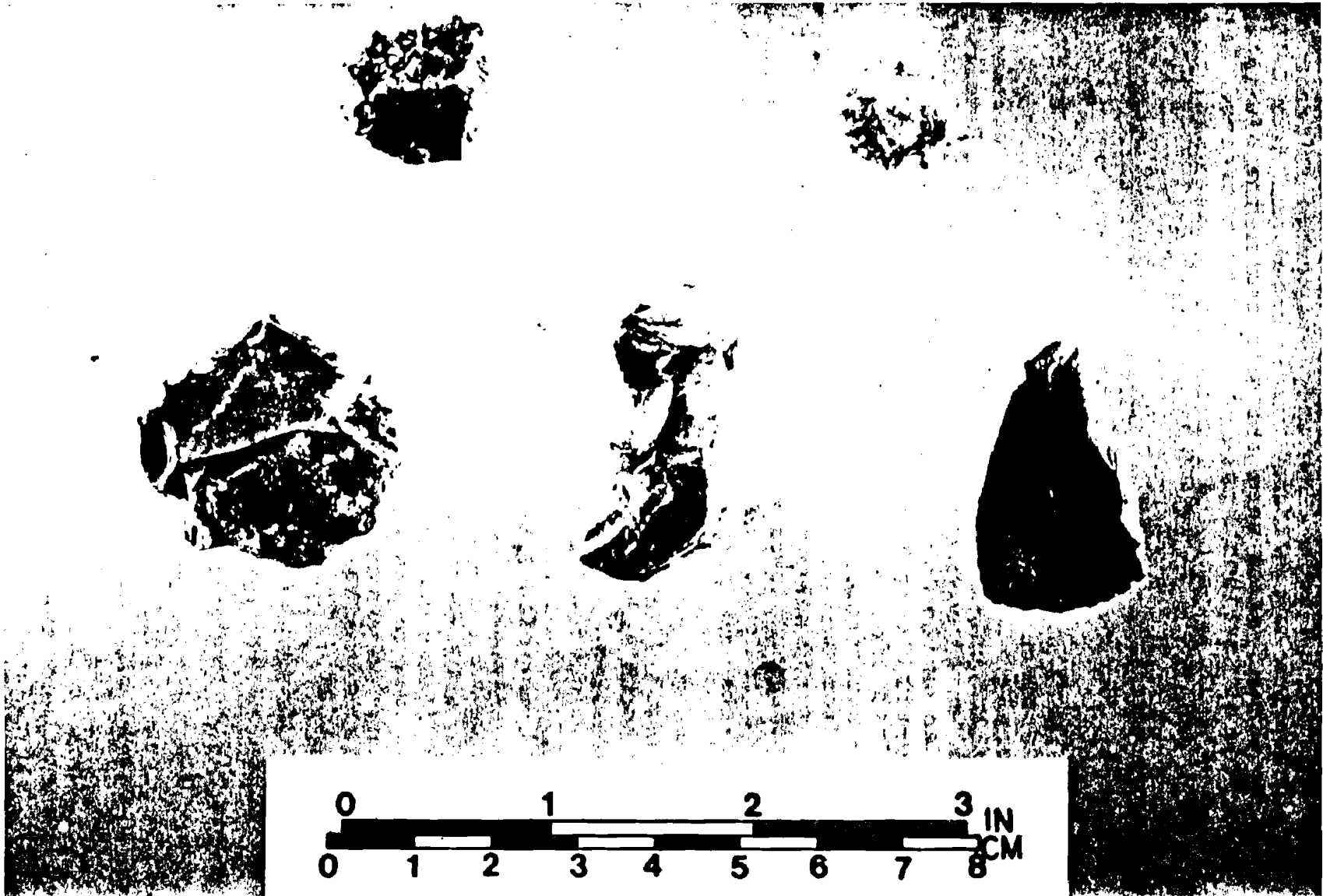
**Subarea 3-6** This subarea includes all ground on the south side of Garrison's Lake to Kent 151 and between U.S. 13 and the Conrail tracks. With the exception of a small section northwest of Willis Branch, most of the subarea could not be surveyed due to access denial by the owner. The section northwest of Willis Branch lies on the John Schmidt farm (see also subarea 3-3) and was in no-till corn with low visibility at the time of the survey. Five sites were recorded (7K-C-189 through 193), all of which were scatters of flakes and FCR. However, 191 and 192 were separated from Garrison's Lake by heavy strips of woodlot which historically had never been plowed. Most likely these two sites extend into the unplowed woods and thus, even though the adjacent survey produced only small amounts of debitage, it is possible that artifacts and undisturbed subsurface features exist in the woodlot.

**Subarea 3-7** Extending east from U.S. 13 about 1500 meters along the north side of the Leipsic River, this subarea included lands owned by A. Gene Short of Dover and the surface vegetation at the time of the survey was no-till corn with an average visibility of about 1%. Despite this very low visibility, seven sites were recorded (7K-C-194 through 200). All of the sites produced flakes and FCR and were situated on low terraces along the river or on 1 m - 4 m rises along tributaries. Site C-195 produced 2 Killens Ware sherds (Woodland II), a worked chert pebble, 18 flakes and several FCR located in a 1 x 2 meter patch of bare surface on the north side of the Leipsic. This artifact density suggests a very intense prehistoric occupation at this locus. All of the sites in this subarea show minimal erosion and the possibility of intact subsurface features existing here is good.

**Subarea 3-8** This subarea is comprised of that land east of U.S. 13 which lies within the triangle formed by the confluence of Alston Branch and the Leipsic River. At the time of the pedestrian survey, the fields were in no-till corn stubble and visibility was less than 1%. Four sites were recorded (7K-C-201 through 204). One non-diagnostic shell-tempered sherd was found at C-201 on a 4-meter high bluff just south of the confluence of the two streams. This and the other three sites all contained small amounts of flakes and FCR but since visibility was so low, no substantive conclusions can be drawn about any of them.

PLATE 11

Selected Unifacial Flake Tools from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-D-105, 7K-C-184; BOTTOM ROW, left to right: 7K-C-305, 7K-C-18, 7K-C-168

**Subarea 3-9** This subarea contains large expanses of farmland on the south side of Alston Branch and the Leipsic River and just downstream from the confluence of the two. Two landowners hold the entire subarea: the western section by Wilmington attorney Donald Booker and a larger eastern section by Wilbur Hesseltine of Townsend. Five sites were found on the former's land and 16 on the latter's and each farm will be discussed separately.

Booker's farm, which is planted by A. Gene Short of Dover, was in no-till soybean stubble at the time of the survey with average visibility of less than one percent. Flakes and FCR were found at sites designated 7K-C-205 through 209.

Hesseltine's farm produced 16 sites on a variety of settings along the Leipsic River and up Alston Branch and three sites deserve special mention. Site C-211 is a long continuous scatter just downstream from the confluence of the two streams. Stretching for about 600 meters along the banks, most artifacts were found within 35 meters of the edge and included one chert bifurcate (Plate 5), 2 argillite stemmed points, 1 ironstone stemmed point, 7 non-diagnostic biface fragments (6 quartz, 1 chalcedony), 1 quartz flake scraper, 20 utilized flakes (3 quartz, 1 ironstone, 11 chert, and 5 jasper), 1 chert core, 1 quartz core, 2 hammerstones (Plate 12), 1 sherd of Townsend plain ceramics, 29 flakes, and 109 FCR. The cultural periods represented extend from the Archaic through the Woodland II and span about 8000 years. The majority of artifacts were found in a concentration at the point at the northernmost part of the site and the entire assemblage suggests base camp types of activities.

Site C-213 is located up an unnamed tributary to the Leipsic and produced 2 non-diagnostic biface fragments (1 quartz, 1 chert), 1 chert flake tool, 1 unutilized flake, and 8 FCR. It is most likely a small procurement station. Site C-215 contained 40 FCR in a tight scatter about 2 by 5 meters well back from any past or present water course and is probably a plow disturbed hearth or hearths. No associated artifacts were found.

The remaining 13 sites from this farm (7K-C-210, 212, 214, and 216 through 225) produced flakes, FCR, and broken non-diagnostic tools.

**Subarea 3-10** Included in this subarea is land on both sides of Alston Branch between U.S. 13 and the Conrail tracks. The south side is owned by Mr. Caleb Boggs of Cheswold and was in rye with an average visibility of 50% at the time of the survey. Four sites were recorded (7K-C-226 through 229) with the first two producing only flakes and FCR, while the latter two contained diagnostics of the Woodland I Period. Site C-228 is located on a 2.5-meter rise between two ephemeral streams to Alston Branch and produced 1 quartz stemmed point (Plate 2), 1 chert early stage biface reject, several utilized flakes and flake tools, 30 flakes, and 35 FCR. Site C-229 is just west of it and lies between ephemeral and flowing tributaries to Alston Branch on a

PLATE 12

Selected Ground Stone Tools from Sites in the Route 13 South Survey



LEFT: anvilstone/muller from 7K-D-73; RIGHT: bi-pitted hammerstone from 7K-C-211

3-meter rise above the floodplain. Recovered were 1 quartz stemmed point (Plate 2), 1 large quartzite lanceolate biface (79 x 35 x 18 mm), 1 quartz biface reject, 1 jasper bevel edge scraper (Plate 13), 3 utilized flakes, 2 non-diagnostic sherds (probably grit-tempered), 80 unutilized flakes and 50 FCR and the assemblage is thought to represent a micro-band base camp.

The northern side of Alston Branch contained one previously recorded site, 7K-C-6, which was walked by the survey team. Two bifaces, one a jasper triangle (Plate 14) and the other a non-diagnostic of quartz, were recovered. Site C-230 produced only 2 utilized flakes, 2 other flakes, and 2 FCR. However, one of the 2 utilized flakes was of an exotic material similar to Flint Ridge, Ohio chalcedony. This material, which occurs on the Delmarva Peninsula during the Adena cultural phase of the Woodland I Period, implies that some sort of trade or exchange network with Ohio Valley peoples was in place at this time. Site C-231, around the head of an ephemeral stream to the Leipsic, produced several non-diagnostic tools, flakes, and FCR, as well as a honey-colored gunflint. The remaining sites found on the north side of Alston Branch, 7K-C-232 through 234, produced only small amounts of flakes and FCR and their function and temporal period is unknown.

**Subarea 3-11** This subarea lies on the south side of the Leipsic River and contains diverse water settings, including flowing and ephemeral tributaries and bay/basin features as well as the Leipsic itself. The entire subarea is farmed and consists of well-drained Sassafras soils. The eastern section lies on the Tony Ficner farm while the western section is owned by Charles Dempsey.

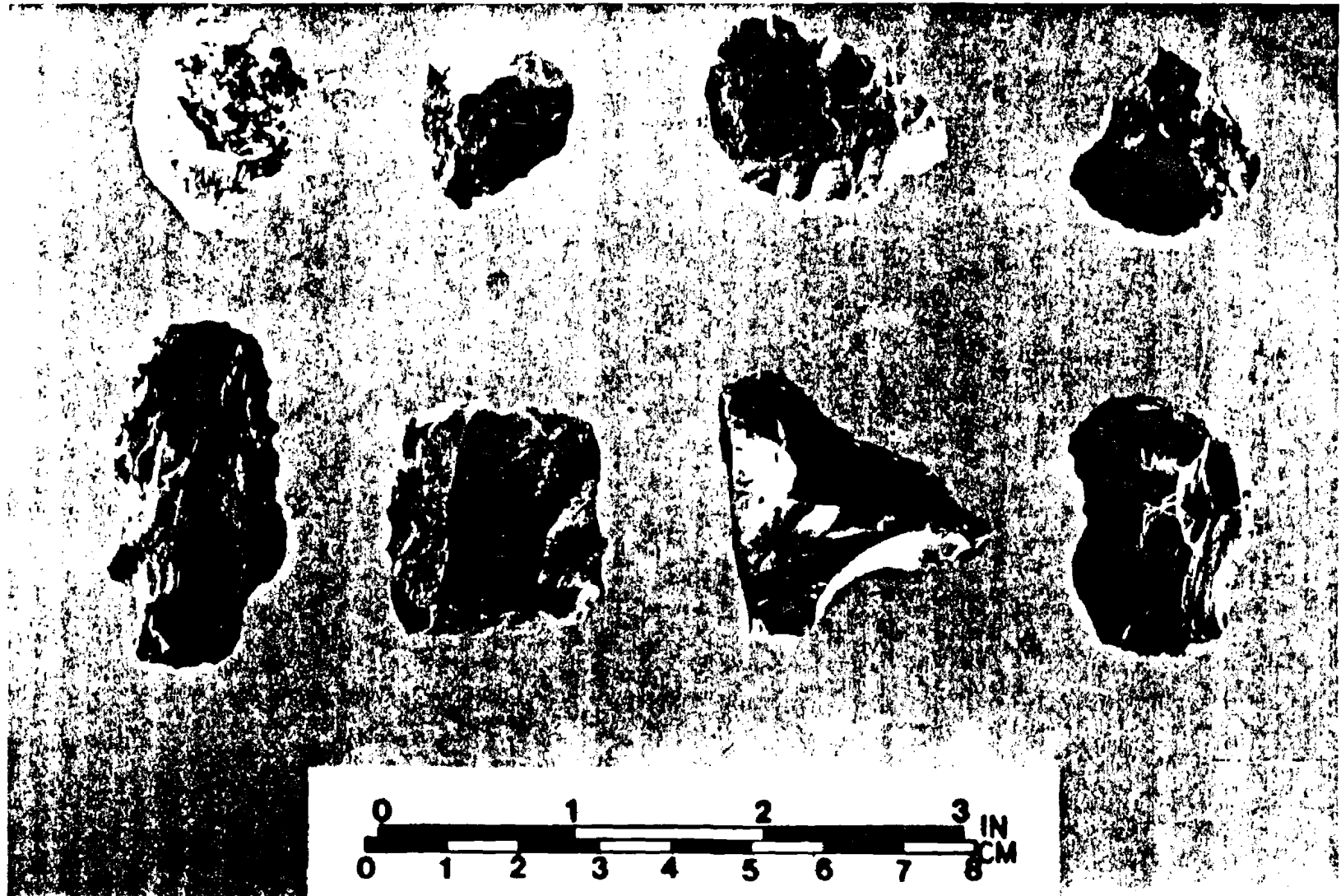
Ficner's farm produced 3 sites (7K-C-235, 236, and 237) on a neck formed by 2 unnamed tributaries to the Leipsic. All were on a very sandy terrace and produced large quantities of debitage and FCR, but no diagnostic artifacts. However, given the low visibility (5%), it is likely that large, intense occupations are present.

Dempsey's farm produced 11 sites in a variety of water settings (7K-C-238 through 248) and 6 of those deserve special mention. Site C-238 lies on the south bank of the Leipsic and is a large site with 2 meter elevation changes over its 400 meter length. It also cut by 2 ephemeral streams. Artifacts found included 1 chert corner-notched point (Plate 3), 1 jasper stemmed point fragment, 1 jasper stemmed biface reject (hump), 3 non-diagnostic split cobble chert bifaces, 5 cores, 25 utilized flakes and flake tools of various materials, 3 non-diagnostic quartz biface fragments, 1 jasper late stage biface reject, just 18 unutilized flakes, and many FCR. Although the debitage count is low, the quantity and variety of artifacts suggests a macro-band base camp function.

Site C-241 is a find reported by a farmhand. It is a grooved ax found some years ago and shows heavy use damage on the

PLATE 13

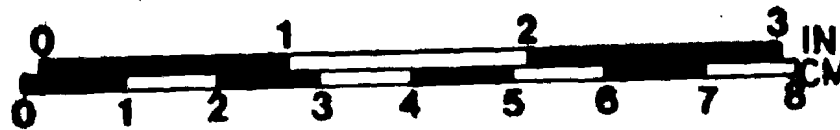
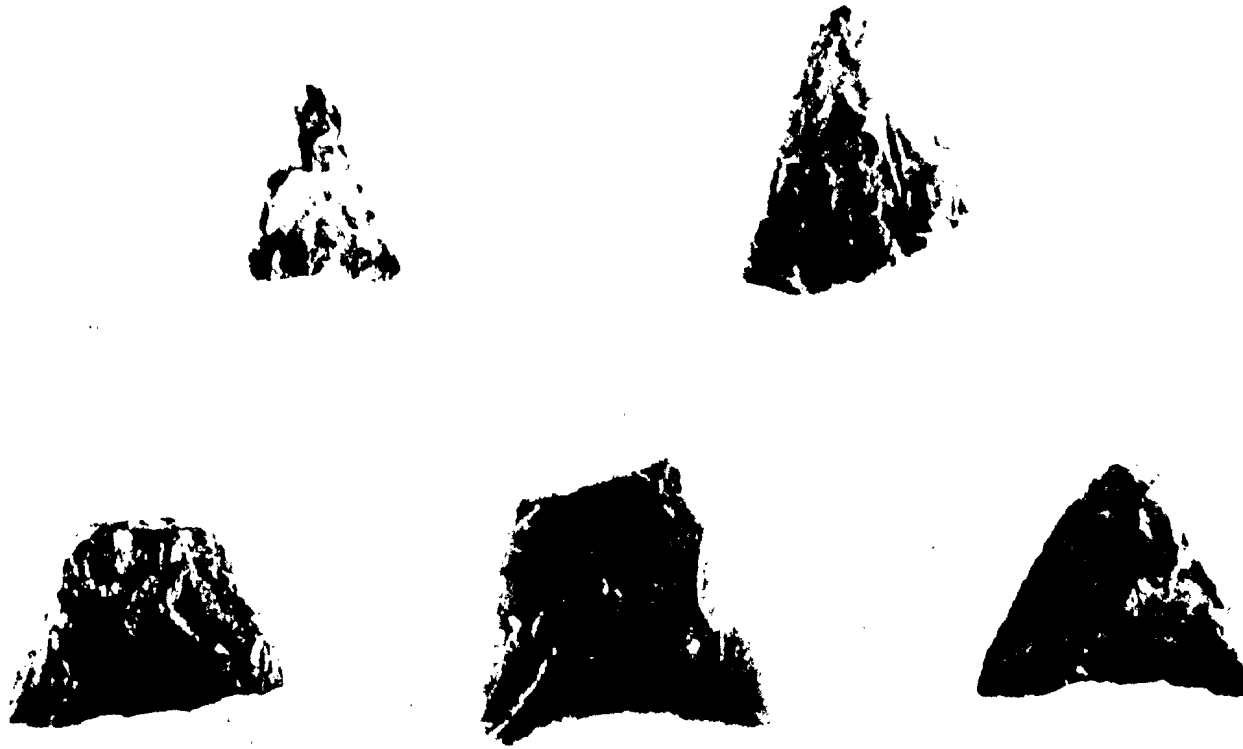
Selected Bifacial Flake Tools from Sites in the Route 13 South Survey



TOP ROW: left to right; 7K-C-229, 7K-D-10, 7NC-J-148, 7K-D-95; BOTTOM ROW, left to right: 7K-C-119, 7K-F-137, 7K-C-339, 7K-D-25

PLATE 14

Selected Triangle Points from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-C-6, 7K-C-322; BOTTOM ROW, left to right: 7K-D-10, 7K-C-249, 7K-C-329

head and bit ends. It was recovered from the north rim of a bay/basin feature which now serves as a livestock pen. Site C-242 lies on a 2 meter rise southeast of the confluence of the Leipsic and an unnamed tributary. Most likely another large macro-band base camp, it produced 9 non-diagnostic biface fragments, 21 utilized flakes, 2 unifacial scrapers, 6 cores, 1 bi-pitted stone, 1 pestle fragment, 2 small friable non-diagnostic ceramic sherds, and 1 chunk of cemented shell deposits resembling a quartzite. The lack of diagnostic bifaces is at least partially explained by a farmhand's assertion that unnamed collectors have periodically walked the farm over the years.

Site C-243 was found on a 3 meter high ridge bounded on the north and south by deep bay/basin features. One chert corner-notched point (Woodland I), 6 utilized flakes, 1 scraper, 2 cores, 72 flakes, and 8 FCR were recovered. Site C-245 also produced a Woodland I diagnostic artifact, a chert contracting stem point, plus a jasper flake tool and 3 flakes.

The source of the cemented shell deposits was determined when the survey team checked the woodlot on the west edge of C-242 to see if it had ever been plowed (it had not). The adjacent bank was also checked for eroding artifacts out of it and three large shards of Wolfe Neck ceramics were found. We also encountered many large (up to 50 kg) slabs of exfoliating cemented shell deposits. A sample of the cemented shell deposits was identified by Dr. Thomas Pickett of the Delaware Geological Survey as a "beach rock" from the Miocene (28-12 million years ago) or Pliocene (12-1 million years ago) Periods, a shoreline shell deposit which has been completely silicified (Pickett, personal communication, 1985). The bank deposition was labeled 7K-C-247, even though it may be an extension of C-242. The remaining sites on the Dempsey farm, 7K-C-239, 240, 241, 244, 246, and 248, produced low amounts of utilized and unutilized flakes, FCR and an occasional broken non-diagnostic tool and are most likely procurement sites.

**Subarea 3-12** This is the easternmost of the 12 Leipsic River drainage subareas and is situated on the south bank of the River about 2.5 km northwest of the town of Leipsic. It is composed of 2 parts: a no-till cornfield on the eastern side and a large poorly-drained woodlot on the west. The former was subjected to pedestrian survey, while the latter was the site of three 1x1 meter shovel test units. The field produced 4 sites, the most notable of which is 7K-C-249, a huge, sprawling site along the first terrace on the south side of the River and on a short neck formed by 2 unnamed tributaries to the Leipsic. Although surface visibility on this 12-16 hectare site was only about 3%, literally hundreds of artifacts were found, including 3 stemmed points (1 quartz, 1 chert, 1 argillite), 1 argillite corner-notched point (Plate 3), 1 jasper triangle (Plate 14), 6 broken or rejected biface fragments (5 quartz, 1 red jasper), 10 utilized flakes (8 chert, 1 quartz, 1 argillite), 4 cores, 4 Townsend undecorated sherds, and innumerable flakes and FCR. The site contains both Woodland I and Woodland II components and the



quantity of artifacts recovered given the very low visibility suggests this is not only one of the most extensive, but also one of the most intensively-occupied sites discovered during the 1984-85 Rt. 13 Corridor field seasons.

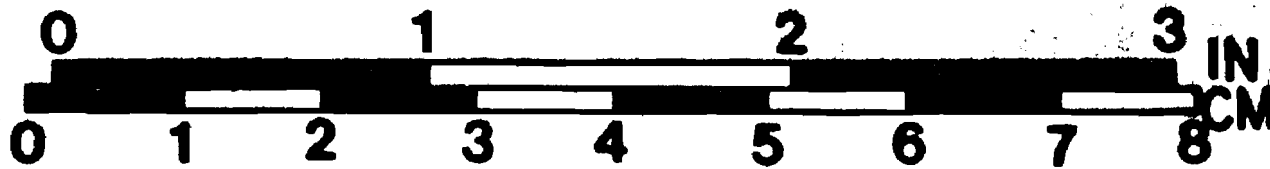
The other three sites found in this field also deserve some mention. A solitary bay/basin feature well up one of the tributaries mentioned above was also the focus of some prehistoric activity, as 6 FCR were found on its southeast rim (7K-C-250). Two other sites were found on the terraces on the west side of the same tributary. Site C-251 produced one Killens Ware sherd (Woodland II, Plate 6), while C-252 yielded 1 early stage argillite biface, one chunk of unworked argillite, 4 utilized flakes and flake tools, 1 core, 7 flakes, and 15 FCR. These sites are most likely related to the macro-band base camp mentioned above (C-249).

### **Area 3 - Leipsic Study Area - Subsurface Testing**

Figure 26 shows the subsurface tests placed in Area 3 and Appendix VII lists the artifacts recovered from the test units in this area. Three test pits were placed in the woodlot in Subarea 3-12 and all produced prehistoric material which was similar to that found on the surface-collected sites. Site 7K-C-253 was located on the southwest rim of a bay/basin feature and material was found to a depth of 53 cm below the surface. In addition to flakes and FCR, a heavily resharpened teardrop shaped point (Plate 15) was found at about 25 cm below the surface. Although hard evidence is lacking, this style appears to be from the Woodland I Period. Site C-254 was found on the southwest rim of a second bay/basin feature and produced 1 jasper flake and charcoal to a depth of 37 cm. Site C-255 is the designation given to a test unit placed at the confluence of the Leipsic and an unnamed tributary which produced two features and a large quantity of artifacts. See Appendix VI for unit wall profiles of this test unit. Feature 1 was a shallow pit encountered at 17 cm below surface and contained charcoal flakes, FCR, and 16 flakes of gray-green argillite. Numerous argillite flakes were found in the soil matrix around the feature as well, suggesting a living floor or surface. The unit was then taken deeper, with many more argillite flakes being recovered, until about 80 cm below the surface, when a section of another much larger feature was identified. This feature, whose total areal limits are unknown, extended to a depth of 163 cm below the surface, with the sterile underlying sands taken to 173 cm. Material recovered included over 230 flakes, most of which were the same gray-green argillite. Curiously, many unmodified, secondary stage thinning flakes were present. Many of these could have been made into bifaces and other tools but were apparently simply discarded. This fact suggests that this exotic material (middle Delaware River Valley) may have been quite plentiful on this site, thus making raw material curation unnecessary. It is possible that proximity to water transportation may have made it easier for the prehistoric inhabitants of this area to obtain this material.

PLATE 15

Selected Teardrop Shaped Bifaces from Sites in the Route 13 South Survey



LEFT TO RIGHT: 7K-C-299, 7K-C-253, 7K-C-299

## Area 10 - Dyke and Muddy Branches Study Area - Surface Survey

Figure 27 shows the archaeological sites recorded and the subareas noted in the Dyke and Muddy Branches area. Locational attributes of the sites are listed in Table 6 and cultural historical data in Table 7. This study area was divided into two separate drainages of the Leipsic River: 1) almost all of the length of Dyke Branch southwest of the town of Leipsic, and 2) a portion of Muddy Branch and tributaries on the west side of Delaware 9 between Kent 88/334 and Kent 337. The former includes Subareas 10-1 through 10-5 and the latter 10-6 through 10-9.

**Subarea 10-1** This is situated on the northwest side of Dyke Branch, just below its confluence with the Leipsic. Only its northern part could be walked, due to crop growth restrictions, and one historic and four prehistoric sites were encountered. Site C-339 is located on a 3 meter rise at the confluence of Muddy Branch and the Leipsic and measures approximately 200 x 400 meters. Woodland I and II diagnostic artifacts were found, including 2 contracting stem points (Plate 2), 1 possible jasper triangle, 3 non-diagnostic biface fragments, 2 cores, 6 utilized flakes (Plate 13), 1 undecorated Minguannan sherd, 5 flakes, and 49 FCR. Most of the artifacts were concentrated in the southeast corner of the site on a low terrace adjacent to the floodplain.

Site C-340 is situated on a point between two ephemeral streams and produced 1 argillite flake tool, 2 other flakes, and 8 FCR and is probably a small procurement site associated with C-339.

Sites C-341 and 342, upstream from the above two, also produced diagnostic artifacts of the Woodland I Period. The former site, on a point which slopes gently down to the floodplain, produced a large red jasper Fox Creek biface (Plate 1), a chopper, several utilized flakes, FCR, and debitage, while the latter, a 300 meter long scatter on the first terrace above the floodplain, yielded 1 ironstone Poplar Island-like point (Plate 1), 4 biface rejects, 15 utilized flakes and flake tools, 1 large siltstone chopper, 4 cores, debitage, and FCR. Visibility on both of these sites was less than 25%, which limits the assumptions which can be made about them. Nevertheless, it appears that, based upon site areal extent and tool type variety, C-339, C-341, and C-342 are all base camps: 339 and 342 macro-band and 341 a micro-band.

**Subarea 10-2** Subarea 10-2 occupies the east bank of Dyke Branch opposite 10-1. Due to crop growth restrictions, only the southern part of the subarea could be walked. The limits of known site 7K-C-94 were extended and 2 other new sites were recorded. The C-94 limits were extended northward along the Dyke Branch floodplain and material recovered included utilized flakes, several non-diagnostic biface rejects, and numerous waste flakes and FCR, but no diagnostic artifacts. The C-353 site is located at the confluence of Dyke Branch and an unnamed minor

TABLE 6

## LOCATIONAL DATA - PREHISTORIC RESOURCES - DYKE AND MUDY BRANCHES STUDY AREA

SITE NUMBER	CRS NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOGRAPHICAL COORD. SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
JK C 339	K-6219	DOVER	553	361	TERROUE	SAR		TERREST	STREAM	Y	2	2 E		5
JK C 340	K-6220	DOVER	575	351	TERROUE	SAR	U1	TERREST	STREAM	Y	1	2 SE		5
JK C 341	K-6221	DOVER	577	349	TERROUE	U1		TERREST	STREAM	Y	1	0 E		5
JK C 342	K-6222	DOVER	512	350	TERROUE	SAR	SAR	TERREST	STREAM	Y	1	2 E		5
JK C 343	K-6223	DOVER	479	349	TERROUE	SAR		TERREST	STREAM	Y	1	2 W		5
JK C 344	K-6224	DOVER	455	333	TERROUE	SAR		TERREST	STREAM	Y	1	0 NW		12
JK C 345	K-6225	DOVER	487	355	ELINE	SAR		TERREST	STREAM	N	1	2 N		10
JK C 346	K-6226	DOVER	439	297	TERROUE	SAR		TERREST	STREAM	Y	1	2 S		10
JK C 347	K-6227	DOVER	441	296	TERROUE	SAR		TERREST	STREAM	N	1	2 S		10
JK C 348	K-6228	DOVER	439	311	TERROUE	SAR		TERREST	STREAM	Y	1	0 S		10
JK C 349	K-6229	DOVER	452	314	TERROUE	SAR		TERREST	STREAM	N	1	2 SE		10
JK C 350	K-6230	DOVER	459	319	TERROUE	SAR		TERREST	STREAM	N	1	2 SE		10
JK C 351	K-6231	DOVER	463	319	TERROUE	SAR	SAR	TERREST	STREAM	Y	1	0 E		10
JK C 352	K-6232	DOVER	459	281	ELINE	SAR		TERREST	NON	N	0	2 NA		25
JK C 353	K-6233	DOVER	449	353	TERROUE	SAR		TERREST	STREAM	Y	1	2 N		5
JK C 354	K-6234	DOVER	436	312	TERROUE	SAR	SAR	TERREST	STREAM	Y	1	0 W		10

TABLE 2

CULTURAL - HISTORICAL DATA - DUFF AND MIDDY BRONZE AGE STUDY AREA

WELL NUMBER	PALEO ARCHAEOLOGICAL	WOODLAND I	WOODLAND II	CHALCOLITHIC	BRONZE AGE	IRON AGE	ROMAN	MEDIEVAL	POST MEDIEVAL	STONE AGE	BRONZE AGE	FLAKE TOOL	COLE	FLANDS	GROUND STONE TOOL	FOR CERAMICS
2000-009		Y	Y						Y	Y	Y	Y	Y		Y	Y
2000-010										Y	Y	Y	Y		Y	
2000-011		Y								Y	Y	Y	Y		Y	
2000-012		Y								Y	Y	Y	Y		Y	
2000-013		Y	Y		Y	Y		Y		Y	Y	Y	Y		Y	Y
2000-014			Y							Y			Y		Y	
2000-015													Y			
2000-016										Y		Y		Y		Y
2000-017													Y		Y	
2000-018													Y		Y	
2000-019													Y		Y	
2000-020													Y		Y	
2000-021													Y		Y	
2000-022			Y	Y						Y		Y	Y	Y	Y	
2000-023			Y	Y						Y		Y	Y	Y	Y	
2000-024			Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-025	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-026	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-027			Y	Y						Y		Y	Y	Y	Y	
2000-028			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-029			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-030			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-031			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-032			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-033			Y	Y		Y	Y			Y		Y	Y	Y	Y	
2000-034	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-035	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-036	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-037	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-038	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-039	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-040	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-041	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-042	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-043	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-044	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-045	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-046	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-047	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-048	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-049	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-050	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-051	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-052	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-053	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-054	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-055	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-056	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-057	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-058	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-059	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-060	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-061	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-062	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-063	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-064	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-065	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-066	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-067	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-068	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-069	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-070	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-071	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-072	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-073	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-074	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-075	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-076	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-077	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-078	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-079	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-080	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-081	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-082	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-083	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-084	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-085	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-086	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-087	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-088	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-089	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-090	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-091	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-092	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-093	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-094	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-095	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-096	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-097	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-098	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-099	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y
2000-100	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y	Y	Y	Y

Note: \* Mapped on Figure 32, although outside and along L.F.H. Brown/Thaps Flc. Bronze Study Area. See Appendix I.

Note: † Located well outside any study area. See Appendix I.

tributary. Recovered were 1 Minguannan cord-marked sherd (Woodland I, Plate 6), 1 flake, and 11 FCR. However, visibility was very low (1%) and it is likely that much of the site is obscured by an adjacent fallow field as well. Given the poor surface conditions, it is entirely possible that a large site exists here. The final site in this field, C-345, was a scatter of chert flakes located on an ephemeral stream well up from its confluence with Dyke Branch (visibility also extremely low).

**Subarea 10-3** This entire subarea contains one large farm, which was no-till corn and offered very poor visibility at the time of the survey. Seven sites were recorded (7K-C-346 through 352), all of which contained small amounts of flakes and FCR.

**Subarea 10-4** This subarea, comprised entirely of a portion of the Millard Dixon farm, contains one known site (7K-C-40) and another smaller site to the southwest of it (C-354). The limits of the C-40 site were greatly expanded and the site as presently defined covers about 4 hectares. It occupies a broad point at the confluence of Dyke Branch and an unnamed tributary and is directly southwest of the C-94 site. Diagnostic artifacts found included a jasper Bare Island-like stemmed point and a steatite bowl fragment (Plate 10) (both Woodland I), and a jasper triangle point (Woodland II). Also recovered were numerous early stage biface rejects, utilized flakes, cores, hammerstones, debitage, and FCR, some of which occurred in clusters signifying plowed out hearths. The site is presumed to be a macro-band base camp.

The C-354 site is situated southeast of the confluence of Dyke Branch and a second unnamed minor tributary and contained only 1 utilized flake, 1 core, 20 FCR, and a three kilogram slab of argillite with minimal working.

**Subarea 10-5** Vegetation restrictions prevented any pedestrian survey in this subarea.

**Subarea 10-6 and 10-7** These subareas contain entirely no-till corn or tilled fields with excessive crop growth and offered no opportunities for pedestrian survey. Subarea 6 contains previously recorded sites 7K-C-90 and C-91, while Subarea 7 contains site C-88. See Appendix II (Leitzinger/Chapman collection) for a detailed description of surface collected artifacts from these sites.

**Subarea 10-8** This subarea is composed entirely of one large potato field on the south side of Muddy Branch which is bounded by several other minor unnamed tributaries. The field had been extensively surface-collected by Andrew Leitzinger and Christopher Chapman of Dover and these gentlemen had previously recorded three sites from it: 7K-C-86A, 86B and 86C. Mr. Leitzinger kindly allowed us to catalogue their combined collections and also conducted the UDCAR survey crew on a personal pedestrian survey of this field to show us the locations of these sites. During the pedestrian survey, additional artifacts were collected from the three aforementioned sites and

two new sites were recorded (7K-C-86D and 7K-C-86E). One thin steatite bowl fragment and an argillite flake were found at C-86C, while flakes and FCR were visible at C-86A and C-86B. See Appendix II for a detailed discussion of the Leitzinger/Chapman collection from these sites.

The 7K-C-86D site is located just east of the C-86C site along the west side of an unnamed tributary to Muddy Branch. Covering about 1.6 hectares, it sits on a rise about 2 meters above the floodplain. Recovered were one Woodland I jasper stemmed point, one Woodland II chert triangular point, utilized flakes, FCR, and debitage. Site 7K-C-86E was found in the middle of the field on the crest of a 3 meter high ridge and produced only a single jasper corner-notched point in an area of very low surface visibility.

**Subarea 10-9** This small subarea lies at the confluence of three minor tributaries to Muddy Branch and was entirely fallow field at the time of survey. However, Andrew Leitzinger of Dover had previously surface collected the fields and had recorded sites 7K-C-87A and 87B with the BAHP in Dover. See Appendix II for a detailed description of his finds from these two sites.

#### **Area 6 - Hughes Crossing Study Area - Surface Survey**

Figure 28 shows the archaeological sites recorded and the subareas noted in the Hughes Crossing area. Locational attributes of the sites are listed in Table 8 and cultural historical data in Table 9. This area encompasses sections of the Mudstone and Fork Branch drainages of the St. Jones River northwest of Dover. Land surfaces rise 2 to 4 meters above the stream floodplains and occasional poorly-drained swamps can be found at the heads of minor tributaries feeding Fork and Mudstone Branches. The low spots are usually wooded and historically unplowed, but overall most of the area is in cultivation. Soils are of the Sassafras-Fallsington association, with the majority of the prehistoric locations being found on well-drained Sassafras loam and sandy loam.

**Subarea 6-1** This subarea is bounded by Kent 168 on the northwest, Kent 101 on the southeast, Kent 167 on the southwest and an arbitrary line on the northeast. Included is a portion of Fork Branch and all of an unnamed tributary and is about one-third wooded. Ten surface sites and one large private collection were recorded during the pedestrian survey and five of seven test units also produced prehistoric remains.

The Sonny Ridgeway farm lies at the northern end of the subarea along Kent 168 and was walked in February, 1985 when field visibility was about 70%. The farm contains several dry bay/basins and all 8 sites found in the field were either on the rims or inside of these features. Very few artifacts were found at each site but several diagnostic artifacts were recovered. Site 7K-C-256 produced 1 rhyolite stemmed point fragment and a jasper core; C-257 an argillite broadspear (Plate 4) and a jasper





TABLE B (Cont'd.)

## LITHOLOGICAL DATA - DETRIMENTAL RESOURCES - HUGHES CROSSING STUDY AREA

WELL NUMBER	U.P.S. NUMBER	USGS GRID	UTM NORTH	UTM EAST	GEOLOGICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
20-1-505	E-6186	DOVER	325	105	TEEBROE	SWR	FS	ST. JONES	STREAM	Y	1	2	N	40
20-1-506	E-6187	DOVER	308	106	TEEBROE	SWR	FW	ST. JONES	STREAM	N	3	2	S	50
20-1-507	E-6188	DOVER	309	121	TEEBROE	SWR	F	ST. JONES	STREAM	Y	0	2	W	40
20-1-508	E-6189	DOVER	298	125	RIFE	SWR	FS	ST. JONES	STREAM	N	1	2	E	35
20-1-509	E-6190	DOVER	295	122	TEEBROE	SWR	FS	ST. JONES	STREAM	N	3	2	E	30
20-1-510	E-6191	DOVER	299	189	EDNE	SWR	FS	ST. JONES	STREAM	N	4	2	N	30
20-1-511	E-6192	DOVER	301	187	EDNE	SWR	FS	ST. JONES	STREAM	N	2	2	E	35
20-1-512	E-6193	DOVER	334	189	BLUE	SWR	FS	ST. JONES	STREAM	N	1	2	S	35
20-1-513	E-6194	DOVER	336	193	BLUE	SWR	FS	ST. JONES	STREAM	N	1	2	S	35
20-1-514	E-6195	DOVER	322	201	BLUE	SWR	FS	ST. JONES	STREAM	Y	1	2	S	35
20-1-515	E-6196	DOVER	235	160	FLD	SWR		ST. JONES	STREAM	N	6	5	N	40
20-1-516	E-6197	DOVER	243	157	TEEBROE	SWR		ST. JONES	STREAM	Y	5	2	S	40
20-1-517	E-6198	DOVER	249	151	TEEBROE	SWR		ST. JONES	STREAM	N	7	2	E	40
20-1-518	E-6199	DOVER	252	136	TEEBROE	SWR		ST. JONES	STREAM	N	2	2	E	40

TABLE 9

## CULTURAL RESOURCES DATA - RICHES CROSSING STUDY AREA

SITE NUMBER	PALEO ARCHAIC		WOODLAND		WOODLAND OR EARLY HOLOCENE		HOLOCENE		HISTORIC		BLADE SCRAPER		FLAKE CORE		FLAKES		GROUND STONE TOOL		POTTERY	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
201-0254			Y								Y			Y						
201-0257			Y								Y			Y						
201-0268														Y					Y	
201-0269											Y			Y						
201-0270											Y								Y	
201-0271																			Y	
201-0272																Y			Y	
201-0273			Y		Y						Y			Y		Y		Y		
201-0274														Y		Y			Y	
201-0275														Y		Y			Y	
201-0276														Y		Y			Y	
201-0277														Y		Y			Y	
201-0278														Y		Y			Y	
201-0279														Y		Y			Y	
201-0280														Y		Y			Y	
201-0281														Y		Y			Y	
201-0282														Y		Y			Y	
201-0283														Y		Y			Y	
201-0284														Y		Y			Y	
201-0285														Y		Y			Y	
201-0286														Y		Y			Y	
201-0287														Y		Y			Y	
201-0288														Y		Y			Y	
201-0289														Y		Y			Y	
201-0290														Y		Y			Y	
201-0291														Y		Y			Y	
201-0292														Y		Y			Y	
201-0293														Y		Y			Y	
201-0294														Y		Y			Y	
201-0295														Y		Y			Y	
201-0296														Y		Y			Y	
201-0297														Y		Y			Y	
201-0298														Y		Y			Y	
201-0299														Y		Y			Y	
201-0300														Y		Y			Y	
201-0301														Y		Y			Y	
201-0302														Y		Y			Y	
201-0303														Y		Y			Y	
201-0304														Y		Y			Y	
201-0305														Y		Y			Y	
201-0306														Y		Y			Y	
201-0307														Y		Y			Y	
201-0308														Y		Y			Y	
201-0309														Y		Y			Y	
201-0310														Y		Y			Y	
201-0311														Y		Y			Y	
201-0312														Y		Y			Y	
201-0313														Y		Y			Y	
201-0314														Y		Y			Y	
201-0315														Y		Y			Y	
201-0316														Y		Y			Y	
201-0317														Y		Y			Y	
201-0318														Y		Y			Y	
201-0319														Y		Y			Y	
201-0320														Y		Y			Y	
201-0321														Y		Y			Y	
201-0322														Y		Y			Y	
201-0323														Y		Y			Y	
201-0324														Y		Y			Y	
201-0325														Y		Y			Y	
201-0326														Y		Y			Y	
201-0327														Y		Y			Y	
201-0328														Y		Y			Y	
201-0329														Y		Y			Y	
201-0330														Y		Y			Y	
201-0331														Y		Y			Y	
201-0332														Y		Y			Y	
201-0333														Y		Y			Y	
201-0334														Y		Y			Y	
201-0335														Y		Y			Y	
201-0336														Y		Y			Y	
201-0337														Y		Y			Y	
201-0338														Y		Y			Y	
201-0339														Y		Y			Y	
201-0340														Y		Y			Y	
201-0341														Y		Y			Y	
201-0342														Y		Y			Y	
201-0343														Y		Y			Y	
201-0344														Y		Y			Y	
201-0345														Y		Y			Y	
201-0346														Y		Y			Y	
201-0347														Y		Y			Y	
201-0348														Y		Y			Y	
201-0349														Y		Y			Y	
201-0350														Y		Y			Y	
201-0351														Y		Y			Y	
201-0352														Y		Y			Y	
201-0353														Y		Y			Y	
201-0354														Y		Y			Y	
201-0355														Y		Y			Y	
201-0356														Y		Y			Y	
201-0357														Y		Y			Y	
201-0358														Y		Y			Y	
201-0359														Y		Y			Y	
201-0360														Y		Y			Y	
201-0361														Y		Y			Y	
201-0362														Y		Y			Y	
201-0363														Y		Y			Y	
201-0364														Y		Y			Y	
201-0365														Y		Y			Y	
201-0366														Y		Y			Y	
201-0367														Y		Y			Y	
201-0368														Y		Y			Y	
201-0369														Y		Y			Y	
201-0370														Y		Y			Y	
201-0371														Y		Y			Y	
201-0372														Y		Y			Y	
201-0373														Y		Y			Y	
201-0374														Y		Y			Y	
201-0375														Y		Y			Y	
201-0376														Y		Y			Y	
201-0377														Y		Y			Y	
201-0378														Y		Y			Y	
201-0379														Y		Y			Y	
201-0380														Y		Y			Y	
201-0381																				

TABLE 10 (Cont'd)

SITE NUMBER	HUMAN REMAINS STUDY AREA													
	PALEO ARCHAIC	WOODLAND I	WOODLAND II	CELESTINE	UNCLASIFIED	PRE-CELESTINE	CELESTINE	POST-CELESTINE	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	CERAMICS
28 F 209										Y			Y	
28 F 210											Y		Y	
28 F 211											Y		Y	
28 F 212	Y	Y	Y		Y		Y	Y	Y		Y		Y	Y
28 F 213		Y	Y						Y		Y		Y	
28 F 214			Y									Y	Y	
28 F 215													Y	
28 F 216													Y	
28 F 217									Y					
28 F 218														

biface fragment; C-258 a very well made jasper lanceolate biface, a jasper flake tool, and 1 FCR; and C-260 a contracting stem jasper biface, a jasper discoidal ESBR, and a jasper pebble flake tool. Another site, C-265, also produced rhyolite debitage. The lithic preferences are clearly for either a high-grade cryptocrystalline or the exotic materials rhyolite and argillite. These materials are frequently seen on Woodland I sites of 2000 - 1000 B.C. The other two prehistoric sites found on this farm, C-259 and 262, are FCR scatters. An historic artifact scatter, C-261 (K-6142), was found on the berm of a ridge about 400 meters east of Green Hill Mennonite School and 250 meters southeast of Kent 168. Presently, no farm lanes or modern roads pass anywhere near this location, which contained a brick scatter and nineteenth century ceramics over several square meters. Byles' 1859 Atlas of Kent County and Beers' 1868 Atlas of Delaware indicated no structures were present in this spot at those times.

To the east of this woods lies the Leroy Yoder farm, which was also surveyed and produced two sites, 7K-C-263 and 264. Site C-263 is a small artifact scatter on a slight rise on the northeast side of an ephemeral stream to Fork Branch and yielded a hammerstone, a quartz flake tool, and 5 FCR. A much larger site is C-264, which lies at the confluence of two ephemeral streams and Fork Branch. Covering about 2.5 hectares, it produced 1 rhyolite Kirk point (Plate 16), 3 stemmed points (1 argillite, 1 quartz, 1 chert; Plate 2), several non-diagnostic bifaces, plus scrapers, flake tools, a pecked quartz cobble, flakes, and FCR. A Woodland I base camp is suggested by this assemblage.

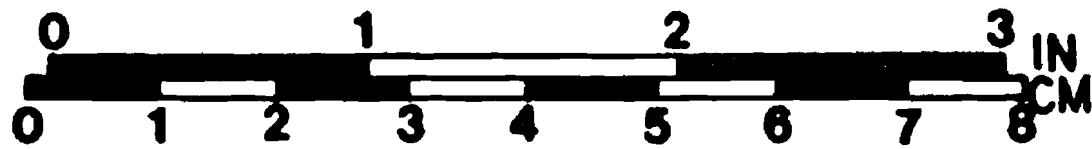
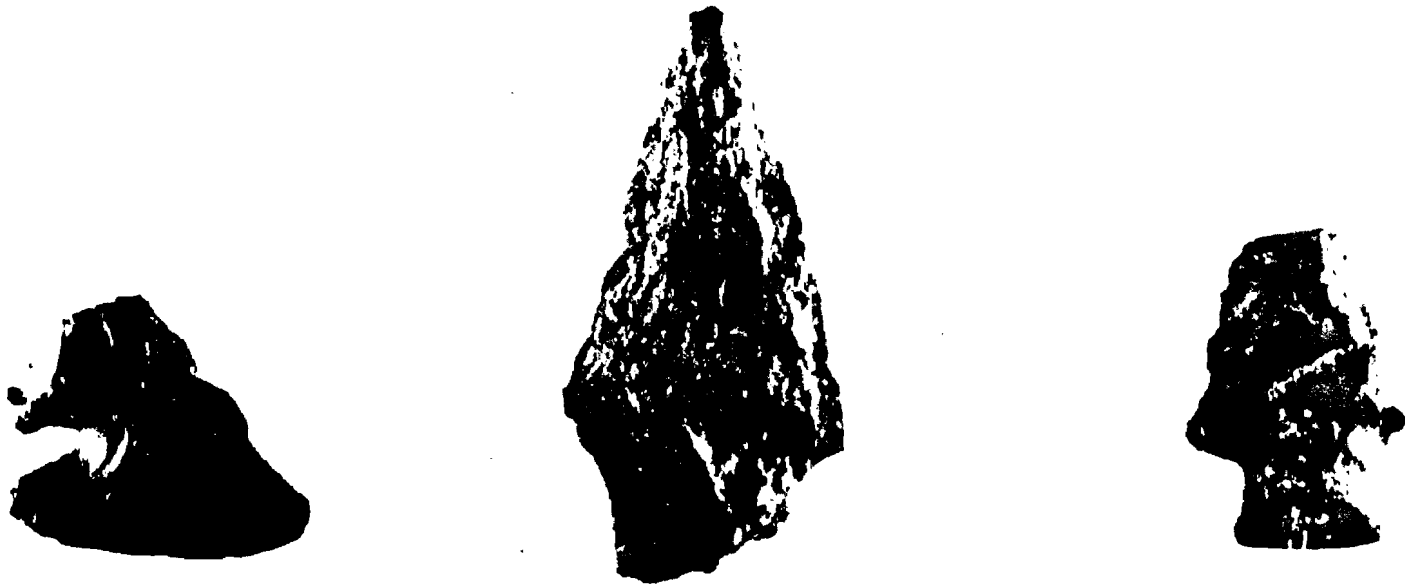
Also notable from this subarea is the Mrs. Albert G. Deneumoustier collection of nearly 600 prehistoric artifacts, all from site 7K-C-344 on her family's farm. Containing representative artifacts from all four periods of Delaware prehistory, this hitherto unknown collection is remarkable in the large number of late Paleo points contained within it, including Dalton, Kirk, and Palmer varieties. This collection will be discussed later in this report (see Appendix III).

**Subarea 6-2** Almost all of this subarea is woodlot or was in crops in an advanced state of growth at the time of the survey and no pedestrian reconnaissance could be attempted. However, Fork Branch and several permanent and ephemeral streams course through it and several prominent knolls lie at the confluences, suggesting the possibility of extensive prehistoric occupations.

**Subarea 6-3** This subarea encompasses both sides of Fork Branch downstream from Subarea 6-2 and about half of it was obscured by crop growth. However, two farms were walked with positive results. The Edward Evans property on the north side of Fork Branch produced 12 sites, 7K-C-279 through 290, all associated with permanent or ephemeral tributaries and their confluences with Fork Branch. Two of this total produced diagnostic artifacts. Site C-282, located on a sharp point formed by the confluence of an unnamed tributary and a bend in

PLATE 16

Paleo-Indian Points from Sites in the Route 13 South Survey



LEFT TO RIGHT: 7K-C-299, 7K-C-264, 7K-C-80

Fork Branch, produced a Woodland I stemmed point along with other lithic debitage. A large base camp was found on a very sandy rise on the east side of an unnamed tributary, about 300 meters north of its confluence with Fork Branch (site 7K-C-289). The full assemblage consisted of 1 large quartz stemmed biface (116 x 55 x 27 mm), 6 non-diagnostic biface fragments (2 quartz, 2 chert, 1 jasper, 1 argillite), 9 utilized flakes and flake tools, 3 quartz choppers, 1 quartz core, 1 small hammerstone, 1 mortar fragment, 1 highly polished stone (leather working tool?), 22 flakes, and 41 FCR. All of the other sites produced cores, utilized flakes, occasional FCR, and debitage and are most likely procurement sites associated with the large base camp.

The Anna Kucek farm, directly south of Evans' on the south bank of Fork Branch, produced 3 more sites, 7K-C-291, 292, and 293. The first of these, C-291, is a long, narrow scatter stretching along the bank for over 800 meters and which produced Archaic and Woodland I period diagnostic artifacts. A red jasper Neville-like point, 2 quartz square-stemmed points, and a chert contracting stem biface (Plate 1) were found along with numerous other cores, tools, rejected bifaces, a chopper, a hammerstone, 3 abrading stones, flakes, and FCR. At its closest point, C-291 is about 700 meters southeast of 7K-C-289, the base camp across the stream on the Evans farm. Two other sites were found on the Kucek farm: C-292, on the south side of a bay/basin, produced a Poplar Island stemmed point and debitage, and C-293, on the bank of Fork Branch, yielded 1 quartz chopper, 1 quartz utilized flake, 2 hammerstones, 3 flakes, and 10 FCR.

The settlement pattern in this subarea is one of intensive utilization of attractive water settings, including major, minor, and ephemeral tributaries and bay/basins. Large base camps and procurement sites are indicated by the surface scatters found.

**Subarea 6-4** This subarea lies south and southwest of Hughes Crossing and is comprised largely of floodplain, woodlot, fields in succession and a few plowed fields. The major watercourses are a segment of Fork Branch and an unnamed tributary to it. All of the ground which could be subjected to pedestrian survey was held by one of three owners: Saxton Lambertson, Wilbur Durham, Jr., and Judge William Bush. Lambertson's holdings within the subarea lie on either side of Kent 156 and 11 sites were found: 7K-C-294 through 298 and 300 through 305 and two of these produced diagnostic artifacts (C-294 and C-305). A jasper stemmed point (Woodland I, Plate 1) and 5 FCR were found on a one meter rise adjacent to an unnamed tributary to Fork Branch (C-294). Site C-305 is a sprawling artifact scatter west of the confluence of Fork Branch and an unnamed tributary and Archaic and Woodland I materials were recovered, including 1 chert bifurcate (Plate 5), 1 jasper teardrop point, 5 stemmed points (2 quartz, 2 chert, 1 argillite), 13 biface fragments in various stages of reduction, 21 utilized flakes (Plate 11), 4 cores, 4 hammerstones, 1 pecked cobble, 1 bevel-edged scraper, 41 flakes, and 43 FCR. Most likely it is a macro-band base camp.

The C-299 site, on the Durham property on the north side of Fork Branch, also appears to be a base camp, and produced one deeply corner notched Late Paleo point (Plate 16), 1 argillite fishtail point (Plate 4), 2 chert teardrop bifaces (Plate 15), 10 non-diagnostic biface fragments, 3 utilized flakes, 1 core, 3 worked pebble chunks, 59 flakes, and 30 FCR. The site is located on an L-shaped 2.5 meter rise between two small tributaries to Fork Branch.

A notable group of small procurement sites was found due north of the intersection of Kent 100 and 156. These five sites, C-300 through 304, were situated on sandy ridges between a cluster of 4 bay/basin features, which are less common in this part of the coastal plain than in other areas. Unfortunately, no diagnostic artifacts were recovered from these sites. A third cluster of sites was found south of the C-305 site on the south side of a major unnamed tributary to Fork Branch and west of Kent 156. These sites, on Judge William Bush's property, were labeled 7K-C-306 through 311 and produced only non-diagnostic utilized flakes, FCR, and debitage.

The settlement pattern in this vicinity appears to consist of two base camps (C-299 and 305) supported by a number of small procurement sites. The largest site, C-305, occupies the confluence of Fork Branch and a major unnamed tributary, while the smaller sites occupy positions along the lesser tributaries and around the bay/basin features.

**Subarea 6-5** Most of this subarea lies west and south of Lower Moore's Corner and consists of much low, wet ground drained by ephemeral and permanent tributaries to Fork and Mudstone Branches. Much of the higher ground is pasture and no-till soybeans and could not be walked. Only 4 sites were recorded for this subarea.

A single quartz corner-notched point was found while investigating a field adjacent to historic structure #706 on the east side of Kent 100 and was designated 7K-C-315. Three small scatters (7K-C-277, 316, and 317) in Leroy Legar's soybean field southwest of Lower Moore's Corner produced only a few flakes and FCR but no diagnostic artifacts. Aubrey Unruh's large cornfield northwest of Lower Moore's Corner and Daniel Mast's clover field on the south side of Kent 100 were also walked but nothing was found.

Previously recorded site 7K-C-71, on the south side of Mudstone Branch, is in a fallow field and was not walked. The site's future is in doubt, as single family houses are being constructed in the same field immediately adjacent to the site.

#### **Area 6 - Hughes Crossing Study Area - Subsurface Testing**

Figure 29 shows the location of subsurface tests placed in the Hughes Crossing Area and Appendix VII lists the artifacts recovered from the test units. The large woodlot in the center

of Subarea 6-1 is owned partly by Leroy Yoder and partly by Walter Peretiakos and seven 1 x 1 meter test units were placed in this woodlot. The topography of this woods is interesting in that it forms the headwaters of a minor tributary to Fork Branch and is dissected by several fingers of that stream. These ephemeral streams are separated by low ridges averaging 2 meters high which were composed of well-drained Sassafras sands. The test units were placed at selected locations on these ridges, which historically had never been plowed. Test units 1, 2, 3, 5, and 7 produced prehistoric material in undisturbed contexts and were designated sites C-266 through 270. None produced diagnostic artifacts, but flakes, charcoal, FCR, and an occasional utilized flake were found in all of them and the depths to which artifacts were recovered were 85, 77, 57, 57, and 77 cm below surface, respectively. Thus the deposits are deep as well. See Appendix VI for a soil profile of the test units in site 7K-C-267. Sites C-266 and 270 also produced features of an undetermined type which were quite indistinct and probably date to the early Woodland I Period. This would be consistent with the other materials found in the subarea.

Nine test units were placed in Subarea 6-2 at likely locations on the north and south sides of Fork Branch, with 7 producing prehistoric artifacts (designated sites 7K-C-271 through 276 and 278). However, only one contained diagnostic artifacts: 7K-C-275 on a 3-meter rise at the confluence of Fork Branch and a small unnamed tributary. Thirty-five Minguannan sherds were found just under the humus and flakes and charcoal fragments were found with the sherds and in subsequent lower levels. All of the other units produced flakes, charcoal, and FCR, but no diagnostic artifacts. All of these units were in historically unplowed contexts, which means that not only are the sites undisturbed by the plow, but they have probably suffered minimal erosion as well. Thus, the possibility for finding intact subsurface features is very good.

Four 1 x 1 meter test units were excavated in Subarea 6-4 on high ground in wooded sections. Three were on Reichold Chemical Company property on the northeast side of Fork Branch, south of the C-299 site (7K-C-312, 313, and 314). All three were in a mature woodlot on 2 to 4 meter bluffs which were occasionally cut by ephemeral streams and all produced prehistoric cultural material, including Woodland I points (Poplar Island and Lamoka-like forms) and ceramics (Wolfe Neck, Marcey Creek; Plate 6), Woodland II ceramics (Minguannan, Plate 6), utilized flakes, FCR, charred nut hulls, and wood charcoal. See Appendix VI for a soil profile of the test unit in site 7K-C-314.

The fourth test unit was placed on a low rise on the south side of a tributary to Fork Branch, just east of Kent 104, but produced no cultural material.



## Area 8 - Chestnut Grove Study Area - Surface Survey

Figure 30 shows the archaeological sites recorded and the subareas noted in the Chestnut Grove area. Locational attributes of the sites are listed in Table 10 and cultural historical data in Table 11. This study area includes a segment of the Calhoon Branch tributary to the St. Jones River and lies about 5 kilometers west of the center of Dover. The topography is very flat and the land use pattern is a mixture of agricultural fields, poorly-drained woodlots, and dispersed clusters of single family houses. Three previously recorded sites are known from this study area. Sites 7K-C-17 and C-18 lie on the immediate west side of Calhoon Branch, while C-72 lies east of the Branch some distance up a small, unnamed tributary. All three of these sites were partially resurveyed (ground cover restrictions) for this project.

**Subarea 8-1** This consisted entirely of no-till cornfield, floodplain, and residential areas and no pedestrian survey could be conducted.

**Subarea 8-2** This large subarea was comprised of mostly fallow and no-till fields, residential sections, and the Sharon Hill Memorial Park, and only two small fields could be walked. The first was just north of the Memorial Park on the west side of Calhoon Branch and contained a section of the C-18 site. The survey served to extend the southern limits of the site to the grass line at the southern end of the field. It is unknown if the limits extend any further to the south. Recovered during this survey were: 1 corner-notched chert point (Woodland I, Plate 3), 4 biface rejects and fragments, 6 utilized flakes (Plate 11), 1 core, 6 flakes, and 4 FCR.

The second field lies just north of the C-18 site and was separated from it by a fallow field. Three loci of archaeological activity were identified in this field, the first being an extension of known site C-17 to the south side of Kent 158. However, only 4 flakes and 2 FCR were found. Two other small artifact scatters were found to the south along the banks of Calhoon Branch but produced only utilized flakes, FCR, and debitage. These were designated sites C-319 and C-320.

**Subarea 8-3** Five sites, including the previously recorded C-72, were identified in this subarea, which includes the southeast side of Calhoon Branch, north of Delaware 8 to Kent 158. Site C-322, located well back from the stream, produced only a single jasper triangle (Plate 14, Woodland I), probably lost during hunting activities, while site C-323, in a similar location, produced only a jasper corner-notched point (Plate 1, Woodland I) and is probably a similar hunting loss. Sites C-321 and C-324, located closer to the stream edges, yielded only small amounts of non-diagnostic biface fragments and debitage. The C-72 site limits were significantly reduced to include only a strip of ground close to the unnamed tributary on which it lies, in the northeastern section of the original site limits. Found during

TABLE 10

## LOCATIONAL DATA - PRELIMINARY RESULTS - CHESTNUT GROVE STUDY AREA

SITE NUMBER	USGS NUMBER	USGS GRID	UTM NORTH	UTM EAST	GEOGRAPHICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
2100-18	E-464	DOVER	165	153	TERRACE	S&B		ST. JONES	MAJOR TRIBUTARY	N	1	2	E	40
2100-17	E-455	DOVER	192	167	RISE	S&B		ST. JONES	STREAM	Y	1	2	N	40
2100-319	E-419	DOVER	184	171	RISE	S&B		ST. JONES	STREAM	Y	1	2	E	40
2100-50	E-4200	DOVER	183	166	RISE	S&B		ST. JONES	STREAM	Y	1	2	E	40
2100-51	E-4201	DOVER	165	168	TERRACE	S&B	S&D	ST. JONES	STREAM	Y	0	3	U	45
2100-52	E-4202	DOVER	162	173	TERRACE	S&B		ST. JONES	STREAM	N	3	2	U	45
2100-53	E-4203	DOVER	163	170	TERRACE	S&B	S&D	ST. JONES	STREAM	N	4	2	U	45
2100-54	E-4204	DOVER	172	168	TERRACE	S&B		ST. JONES	STREAM	N	6	2	U	45
2100-21	E-465	DOVER	179	178	TERRACE	S&B	S&D	ST. JONES	STREAM	Y	2	1	N	45
2100-22	E-4205	DOVER	99	142	RISE	S&B		ST. JONES	STREAM	N	1	0	N	45

TABLE 11

## CULTURAL - HISTORICAL DATA - CHESTNUT GROVE STUDY AREA

SITE NUMBER	PALEO ARCHAEOL	WOODLAND I	WOODLAND II	CE	DE	UN	CO	HA	OR	DE	SI	MS	HISTORIC	BLADE	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	FOR CERAMICS
CE 1 15		Y											Y	Y		Y		Y		Y
CE 1 17													Y	Y		Y		Y		Y
CE 1 519																Y				
CE 1 520													Y			Y		Y		Y
CE 1 521		Y	Y											Y				Y		
CE 1 522		Y												Y				Y		
CE 1 523		Y												Y				Y		
CE 1 524		Y												Y		Y		Y	Y	
CE 1 525																		Y		
CE 1 526																		Y		

the 1985 survey were 1 chert Lehigh/Koens-Crispin broadspear (Plate 4) (minority material type, most are of argillite), 1 jasper Bare Island-like biface (Plate 2), 3 utilized flakes, and 1 abraded stone, purpose unknown.

**Subarea 8-4** Comprised entirely of poorly-drained woodlot, residential areas, and fallow fields, this subarea offered no visible ground surface.

**Subarea 8-5** This subarea was composed entirely of woodlot, no-till cornfields and residential areas and offered no visible ground surface.

#### **Area 8 - Chestnut Grove Study Area - Subsurface Testing**

Figure 31 shows the location of the subsurface test unit placed in Area 8 and Appendix VII lists the artifacts recovered from the subsurface tests. One test unit was placed in Subarea 8-5 in an historically unplowed woodlot east of Kent 197, on a 60 cm rise on the south side of a bay/basin feature. Only one quartz flake and 4 charcoal fragments were found, but all were in an undisturbed context, so the location was given the designation 7K-C-325.

#### **Area 5 - Little River/Pipe Elm Branch Study Area- Surface Survey**

Figure 32 shows the archaeological sites recorded and subareas noted in the Little River/Pipe Elm Branch area. Locational attributes of the sites are listed in Table 12 and cultural historical data in Table 13. Located on the east side of the Rt. 13 Corridor in the vicinity of Little Creek, Delaware, this study area was one of the most archaeologically productive in the survey, considering its small size Thirty-seven new sites were recorded with the Bureau of Archaeology and Historic Preservation and 8 previously recorded sites were also resurveyed for this project, with additional artifacts being recovered from those. Almost all of it is utilized for agricultural purposes and at the time of the survey, most of the crops, primarily potatoes, were in a too advanced state of growth to allow for pedestrian survey. The Pipe Elm Branch vicinity offered better visibility than Little River, however. Relief, as well as sheet erosion, is minimal throughout this area, and most of the soils are well-drained loams and sandy loams.

**Subarea 5-1** This entire subarea is located on Philip Cartanza's Cherbourg Farm, also known locally as "Round Barn Farm" after a circular, multi-story, poured concrete barn located on the property. It is situated on the west side of Pipe Elm Branch between Kent 67 (South Little Creek Rd.) and an unnamed tributary flowing eastward from the north end of the Dover Air Force Base runway. Eight new sites were recorded and one previously known site was resurveyed, with diagnostic artifacts being recovered from 3 sites. Site 7K-D-73 is located along the west bank of Pipe Elm Branch and measures approximately 650 x 250

TABLE 12

## LOCATIONAL DATA, FRESHWATER RESOURCES, LITTLE RIVER/PIPE ELM BRANCH STUDY AREA

WELL NUMBER	CRS NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOMORPHOLOGICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
JK D 027	K 6099	LITTLE CREEK	90	151	TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	2 SE	10	
JK D 028	K 6100	LITTLE CREEK	102	151	TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	2 SE	10	
JK D 029	K 6101	LITTLE CREEK	113	153	TERRACE	MAR		LITTLE RIVER	STREAM	N	13	2 SE	20	
JK D 025	K 6102	LITTLE CREEK	110	155	TERRACE	MAR		LITTLE RIVER	STREAM	N	15	2 N	22	
JK D 026	K 6103	LITTLE CREEK	112	159	LOW TERRACE	MAR		LITTLE RIVER	STREAM	N	3	2 S	15	
JK D 027	K 6104	LITTLE CREEK	116	157	TERRACE	MAR		LITTLE RIVER	STREAM	N	3	2 E	15	
JK D 022	K 6095	LITTLE CREEK	121	168	TERRACE	MAR		LITTLE RIVER	STREAM	N	3	2 E	5	
JK D 020	K 6105	LITTLE CREEK	133	173	TERRACE	MAR		LITTLE RIVER	STREAM	N	1	2 E	5	
JK D 029	K 6106	LITTLE CREEK	127	165	LOW TERRACE	MAR		LITTLE RIVER	STREAM	N	1	2 S	12	
JK D 030	K 6107	LITTLE CREEK	105	172	LOW TERRACE	MS	MAR	LITTLE RIVER	STREAM	Y	1	0 W	5	
JK D 031	K 6108	LITTLE CREEK	106	172	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	0 N	10	
JK D 032	K 6109	LITTLE CREEK	99	174	LOW TERRACE	MAR		LITTLE RIVER	STREAM	N	2	2 SW	10	
JK D 033	K 6107	LITTLE CREEK	94	166	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 W	0	
JK D 034	K 6110	LITTLE CREEK	77	160	LOW TERRACE	MS	MAR	LITTLE RIVER	STREAM	Y	3	0 W	10	
JK D 035	K 6111	LITTLE CREEK	85	163	TERRACE	MAR		LITTLE RIVER	STREAM	Y	6	0 W	10	
JK D 036	K 6112	LITTLE CREEK	78	164	RIDGE	MAR		LITTLE RIVER	STREAM	N	3	2 S	15	
JK D 038	K 6115	LITTLE CREEK	77	168	RIDGE	MAR		LITTLE RIVER	STREAM	N	5	2 S	15	
JK D 037	K 6114	LITTLE CREEK	71	157	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	2 W	5	
JK D 038	K 6095	LITTLE CREEK	56	151	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	2 W	15	
JK D 025	K 6089	LITTLE CREEK	178	55	TERRACE	MAR	MAR	LITTLE RIVER	STREAM	Y	1	1 S	15	
JK D 030	K 6105	LITTLE CREEK	170	46	RIDGE	MAR	MAR	LITTLE RIVER	STREAM	Y	1	0 E	15	
JK D 029	K 6116	LITTLE CREEK	171	37	RIDGE	MAR		LITTLE RIVER	WINE		20	5 UN	25	
JK D 030	K 6117	LITTLE CREEK	156	41	LOW TERRACE	MS	MAR	LITTLE RIVER	STREAM	Y	2	0 E	10	
JK D 031	K 6118	LITTLE CREEK	201	134	RIDGE	MAR		LITTLE RIVER	STREAM	N	1	2 E	12	
JK D 032	K 6119	LITTLE CREEK	125	135	RIDGE	MAR	MAR	LITTLE RIVER	MAR TRIB	N	1	0 E	12	
JK D 033	K 6120	LITTLE CREEK	125	125	LOW TERRACE	MAR		LITTLE RIVER	MAR TRIB	Y	4	2 S	12	
JK D 034	K 6121	LITTLE CREEK	120	101	LOW TERRACE	MAR	MAR	LITTLE RIVER	STREAM	N	2	0 S	5	
JK D 030	K 6090	LITTLE CREEK	182	86	KNOLL	MAR	MAR	LITTLE RIVER	STREAM	Y	1	2 W	10	
JK D 025	K 6112	LITTLE CREEK	125	145	TERRACE	MAR	MAR	LITTLE RIVER	STREAM	Y	1	0 SW	5	
JK D 026	K 6113	LITTLE CREEK	149	167	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	0 S	5	
JK D 027	K 6114	LITTLE CREEK	194	178	LOW TERRACE	MAR		LITTLE RIVER	STREAM	N	1	2 W	10	
JK D 028	K 6125	LITTLE CREEK	142	142	KNOLL	MAR		LITTLE RIVER	STREAM	N	1	2 S	10	
JK D 029	K 6126	LITTLE CREEK	167	141	TERRACE	MAR		LITTLE RIVER	STREAM	N	1	2 N	10	
JK D 030	K 6127	LITTLE CREEK	167	137	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	2	2 N	10	
JK D 031	K 6128	LITTLE CREEK	165	132	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 N	10	
JK D 032	K 6129	LITTLE CREEK	165	115	TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 N	10	
JK D 033	K 6130	LITTLE CREEK	163	90	KNOLL	MAR		LITTLE RIVER	STREAM	N	1	2 N	10	
JK D 034	K 6131	LITTLE CREEK	168	80	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 N	15	
JK D 035	K 6132	LITTLE CREEK	171	82	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 N	15	
JK D 036	K 6133	LITTLE CREEK	174	76	TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 N	15	
JK D 037	K 6134	LITTLE CREEK	167	62	TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	0 N	20	
JK D 038	K 6135	LITTLE CREEK	168	71	RIDGE	MAR		LITTLE RIVER	STREAM	N	7	2 N	25	
JK D 039	K 6085	LITTLE CREEK	166	55	LOW TERRACE	MAR		LITTLE RIVER	STREAM	Y	1	2 W	25	
JK D 039	K 6136	LITTLE CREEK	155	46	KNOLL	MAR		LITTLE RIVER	STREAM	Y	1	0 W	20	

TABLE 13

## CULTURAL - HISTORICAL DATA - LITTLE RIVER/RICE FLB BRANCH STUDY AREA

SITE NUMBER	PALEO ARCHAIC	WOODLAND I	WOODLAND II	ET	OL	PH	CO	MI	DO	DF	SC	HS	HISTORIC	BLIND	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	FOR CERAMICS
28 B 72																Y	Y			Y
28 B 73		Y					Y					Y		Y		Y		Y	Y	Y
28 B 74															Y					
28 B 75		Y																Y		Y
28 B 76																		Y		Y
28 B 77																		Y		Y
28 B 78														Y		Y				Y
28 B 79		Y												Y		Y		Y		Y
28 B 80	Y													Y				Y		Y
28 B 81															Y				Y	
28 B 82		Y												Y					Y	
28 B 83		Y				Y	Y		Y					Y		Y	Y	Y	Y	Y
28 B 84		Y												Y		Y		Y		Y
28 B 85		Y				Y								Y				Y		Y
28 B 86		Y							Y					Y		Y	Y	Y		Y
28 B 87														Y		Y	Y	Y		Y
28 B 88		Y		Y					Y				Y	Y		Y	Y	Y	Y	Y
28 B 89		Y		Y										Y		Y	Y	Y		Y
28 B 90											Y			Y		Y	Y	Y		Y
28 B 91														Y		Y		Y		Y
28 B 92														Y		Y		Y		Y
28 B 93														Y		Y		Y		Y
28 B 94		Y												Y		Y		Y	Y	Y
28 B 95		Y		Y										Y		Y	Y	Y	Y	Y
28 B 96		Y												Y		Y	Y	Y		Y
28 B 97														Y		Y		Y		Y
28 B 98																Y		Y		Y
28 B 99		Y												Y						Y
28 B 100															Y					Y
28 B 101																		Y		Y
28 B 102		Y												Y		Y		Y		Y
28 B 103																				Y
28 B 104																Y	Y			Y
28 B 105															Y	Y			Y	Y
28 B 106																Y				Y
28 B 107		Y												Y	Y	Y	Y	Y	Y	Y
28 B 108																Y	Y			Y
28 B 94		Y		Y										Y		Y	Y	Y		Y
28 B 109															Y					Y

meters. Dissected by 5 ephemeral streams, it yielded 1 jasper Lehigh Koens/Crispin broadpoint (Plate 4), 1 quartz square-stem point base, 1 jasper Jack's Reef point (all Woodland I), 1 quartz late stage biface reject, 3 flake tools (2 jasper, 1 chert), 17 utilized flakes (7 chert, 6 quartz, 3 jasper, 1 quartzite), 1 large quartzite chopper, 1 anvilstone/muller (Plate 12), 1 bi-pitted hammer, 24 flakes, and 74 FCR. It probably functioned as a macro-band base camp, although ceramics are lacking. Site 7K-D-75 produced 1 jasper fishtail point (Woodland I), 1 quartzite point distal fragment, 1 flake, and 3 FCR, while 7K-D-78 produced 1 quartzite corner-notched point (Woodland I), 1 jasper utilized flake, 1 unutilized flake, and 10 FCR. The latter site was located on the bank of Pipe Elm Branch, while the former was found some distance up an ephemeral tributary to the same stream. The other 6 sites from this subarea, 7K-D-72, 74, 76, 77, 79, and previously recorded D-27, produced utilized and unutilized flakes, cores, FCR, and 2 biface rejects (D-27) along the lengths and at the heads of ephemeral streams leading to Pipe Elm Branch.

**Subarea 5-2** This is located on the east bank of Pipe Elm Branch directly opposite Subarea 5-1. Most of it was in crops at the time of the survey, including known site 7K-D-69, and could not be walked. The only visible ground was on the Fred Stites farm at the south end of the subarea and this was walked with 3 new sites being recorded. Site 7K-D-80 lies on a 1 meter rise on the east bank of Pipe Elm Branch at its confluence with two unnamed tributaries and produced a corner-notched chert point with a heavily ground base which resembled a Kirk point (Plate 16), 1 chert early stage biface reject, 3 utilized flakes (2 chert, 1 rhyolite), 6 unutilized flakes, and 6 FCR. The Kirk point dates to the late Paleo-Indian Period of about 7500 B.C. Up one of the unnamed tributaries from D-80, on a 2 meter rise, lies the D-81 site, which yielded just three artifacts: 1 hammerstone, 1 utilized quartz flake, and 1 unutilized rhyolite flake. However, these artifacts were found in a remarkably tight cluster measuring only 1 x 1.5 meters and probably represent a single episode butchering site. The final site is D-82, also situated along one of the unnamed tributaries mentioned in connection with the D-80 site, and it produced just one artifact - a chert fishtail or reworked broadpoint of the early Woodland I Period.

The D-69 site is also located on the Stites Farm, and although it was inaccessible at the time of the survey due to crop growth, Fred Stites' collection from the site was examined by the UDCAR survey crew. It contains about 50 bifaces and several ground stone tools but no ceramics, probably due to collector bias. Recorded from the collection were 4 argillite Poplar Island points, 1 triangle, 1 fishtail, 1 Lehigh/Koens-Crispin broadpoint, 1 whole celt, 2 celt fragments, 1 pestle fragment, 3 hammerstone fragments, 1 ground diorite stone resembling an anthropomorphic form, the mouthpiece fragment of a ground stone platform pipe, 1 tabular dense ground stone fragment with 3 drill holes, 2 mortars, several utilized flakes, and 1 calcined bone fragment. Several other bifaces were noted, most

of which were Woodland I stemmed and notched varieties. Lithic materials included quartz, quartzite, chert, jasper, Flint Ridge (Ohio) chalcedony, porphyritic rhyolite, and purple argillite.

**Subarea 5-3** This subarea is also situated on the east side of Pipe Elm Branch on the farms of Fred Stites and Richard Bergold. Again, relief is slight and the majority of the land surface is cultivated. The bank of Pipe Elm Branch in this subarea is covered with an historically unplowed woodlot, which likely obscures other sites. Two previously recorded sites were resurveyed (7K-D-8 and D-33) and 5 new sites (7K-D-83 through 87) were recorded with the BAHP. Site D-33 is located due south of D-80 at the confluence of Pipe Elm Branch and an unnamed tributary. A substantial Woodland I assemblage was gathered from the site, including 1 ironstone Poplar Island point, 1 Bare Island/Lackawaxen point, 1 Rossville point, 12 utilized flakes (6 quartz, 1 quartzite, 3 chert, 2 jasper), 2 large argillite flakes, 2 quartz cores, 1 full grooved-ax (Plate 8), 1 celt bit fragment, 1 pitted stone, numerous flakes and FCR, 1 Coulbourn sherd (Plate 6), 1 Wolfe Neck sherd (Plate 6), and 2 Mockley sherds (Plate 6). The site is large, measuring about 300x400 meters, and probably is a macro-band base camp. About 250 meters south of this lies the D-83 site, which produced another Woodland I component. This site, located at the confluence of Pipe Elm Branch and an ephemeral stream, yielded a chert Bare Island point, 1 small chert broadspear, 1 quartz utilized flake, 1 quartz core, 3 flakes, and 11 FCR and could be a micro-band base camp. Another site of this type, D-84, was found between these two at another ephemeral stream and produced 1 corner-notched jasper point (Plate 3) and a utilized jasper flake. Sites D-85 and D-86 were located on rises on the north side of the ephemeral stream mentioned in connection with D-83 and also produced diagnostic artifacts. One chert Bare Island point, 1 Wolfe Neck sherd (Plate 6), 1 rhyolite flake, and 2 FCR were recovered from D-85, while D-86 produced 1 quartz core, 3 chert flakes (2 utilized), and a 53 x 54 mm medial section of an Adena biface made of Flint Ridge, Ohio, chalcedony. This last-named artifact is one of the most significant found on the survey, as it serves to further support the Ohio connection with the Woodland I cultures of Kent County, Delaware, and has important implications for trade and exchange in the Middle Atlantic at that time (cf. Custer 1984: passim; Thomas 1970:56-87, 1977; Ritchie and Dragoo 1959; Wise 1974; Ford 1976). Another small site was located south of D-83, across the ephemeral stream and yielded a jasper core, 2 utilized flakes, and several FCR (7K-D-87).

The D-8 site on the Richard Bergold farm was resurveyed and the owner's collection from the site was also examined. The UDCAR pedestrian survey found 1 jasper triangle, 2 utilized flakes, 1 chert core, 1 pestle fragment, 3 bi-pitted stones, 2 hammerstones, and 1 bi-pitted stone/hammerstone. The owner's collection included 3 triangles, 1 side-notched Adena biface, 1 lobate-stemmed Adena biface, 1 lanceolate point, 2 corner notched bifaces, 2 contracting stem bifaces, 1 Perkiomen broadpoint, 2 Fox Creek stemmed points (1 argillite 64 x 28 x 8 mm, 1 aphanitic



rhyolite 46 x 28 x 7 mm), 2 other non-diagnostic bifaces, 1 prehistoric pipestem fragment, two 3/4-grooved axes, 1 full-grooved ax, 1 granite celt, 1 pestle, 1 abrading stone, 1 pitted stone, 2 heavy hammerstones, and 2 large mortars with use wear on both faces. The total assemblage suggests a macro-band base camp of both the Woodland I and II Periods. Note once again the presence of Adena points in this drainage.

**Subarea 5-4** This subarea is composed entirely of fallow fields, small woodlots, and commercial yards and offered no visible ground.

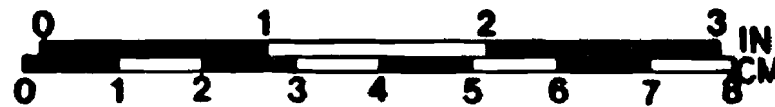
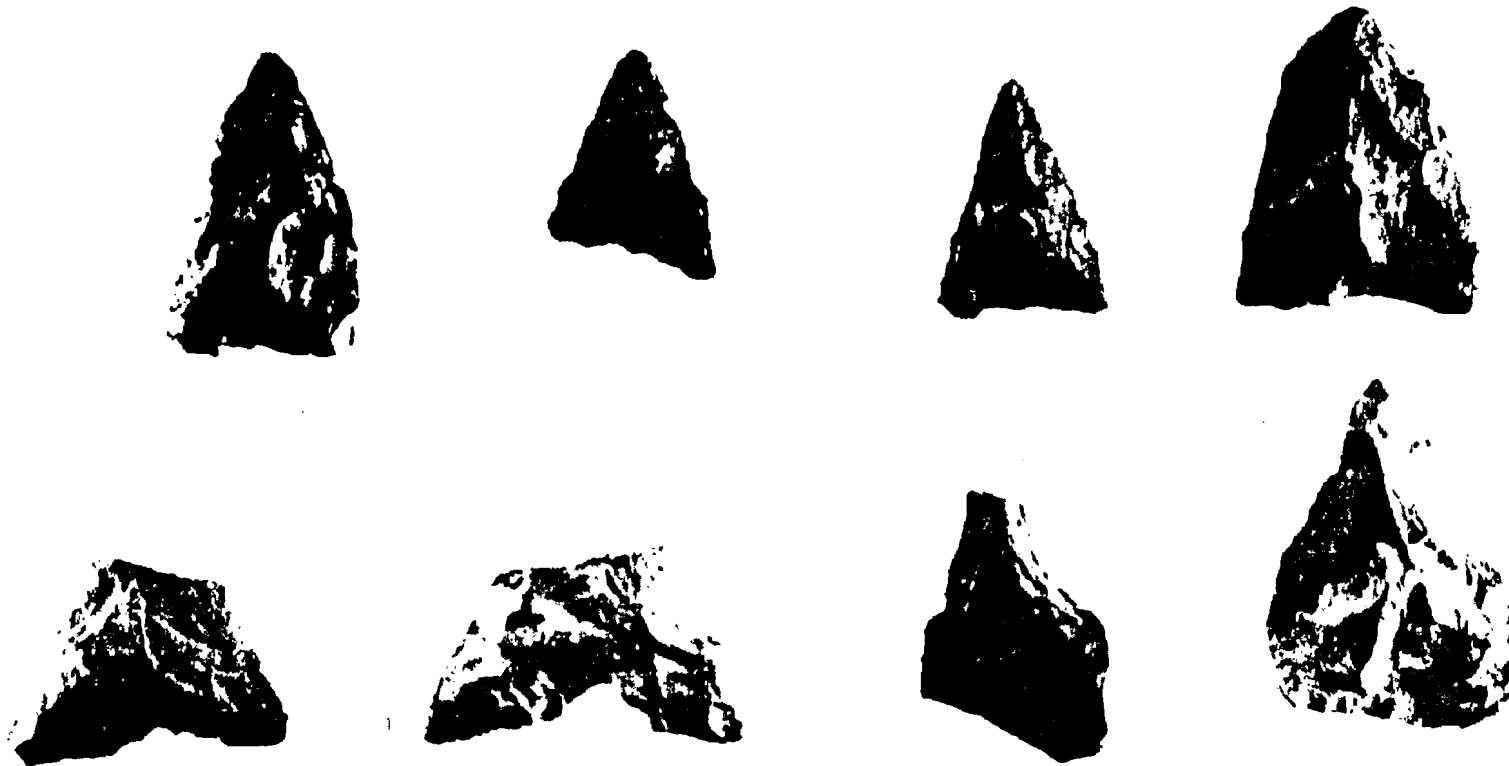
**Subarea 5-5** Lying between Kent 344 (Fox Lane) and Morgan Branch, this subarea is situated entirely on lands owned by Stanley J. Rolle, Sr. and is characterized by moderate relief, including several 3-meter high knolls along the Branch itself. Two previously recorded sites, 7K-D-25 and D-60, were resurveyed and 2 new sites, 7K-D-89 and 90, were recorded with the BAHP. The D-25 site limits were greatly expanded by this year's survey and it measures approximately 700x180 meters. The limits now extend from the Rolle Farm barn on the west to the confluence of Morgan Branch and Little River on the east. Although the artifact scatter was thin, several tools, including diagnostic artifacts, were found. Two jasper triangles, 1 non-diagnostic jasper medial/distal biface section, 1 non-diagnostic rhyolite biface, 2 biface reject fragments, 2 flake tools, 6 utilized flakes, and a few flakes and FCR were recovered. Site D-60 lies southwest of D-25 and is also a long artifact scatter on the north side of Morgan Branch. Woodland I and Woodland II materials were found, including 1 argillite broadspear, 1 triangular jasper drill (Plate 17), 3 non-diagnostic bifaces, 7 utilized flakes, 1 jasper core, 2 Townsend cord-marked sherds, 36 flakes, and 35 FCR. Both of these sites are probably base camps.

The D-89 site is curious in that it is located just east of Fox Lane far from any modern or relict water source. Just one utilized quartz flake and 6 FCR were recovered and it probably is the remains of a single overnight campsite. The D-90 site lies south of D-60, just southwest of the confluence of Morgan Branch and an ephemeral tributary, and yielded only 2 flakes and a handful of FCR and, like D-89, is probably a single episode campsite.

**Subarea 5-6** The farm comprising this subarea is entirely owned by Philip Cartanza, Shady Brook Farm, Rt. 9, Little Creek, Delaware. At the time of the survey, it was planted with potatoes and the field proper could not be walked. However, the farm lane around the perimeter did offer moderate-to-good visibility and 5 sites were identified. Site 7K-D-92, a lengthy scatter along the west side of an unnamed tributary to Little River, produced 1 jasper triangle (Plate 17), 1 quartz biface reject, 6 utilized flakes, 1 Townsend undecorated sherd, 4 flakes, and several FCR. Site 7K-D-94 is situated along a low terrace on the north bank of Little River and yielded a Woodland I component consisting of 1 argillite teardrop biface (Plate 2),

PLATE 17

Selected Triangle Points from Sites in the Route 13 South Survey



TOP ROW, left to right: 7K-D-25, 7K-D-34, 7K-D-92, 7K-D-95; BOTTOM ROW, left to right: 7K-D-25, 7K-D-34, 7K-D-10, 7K-D-60

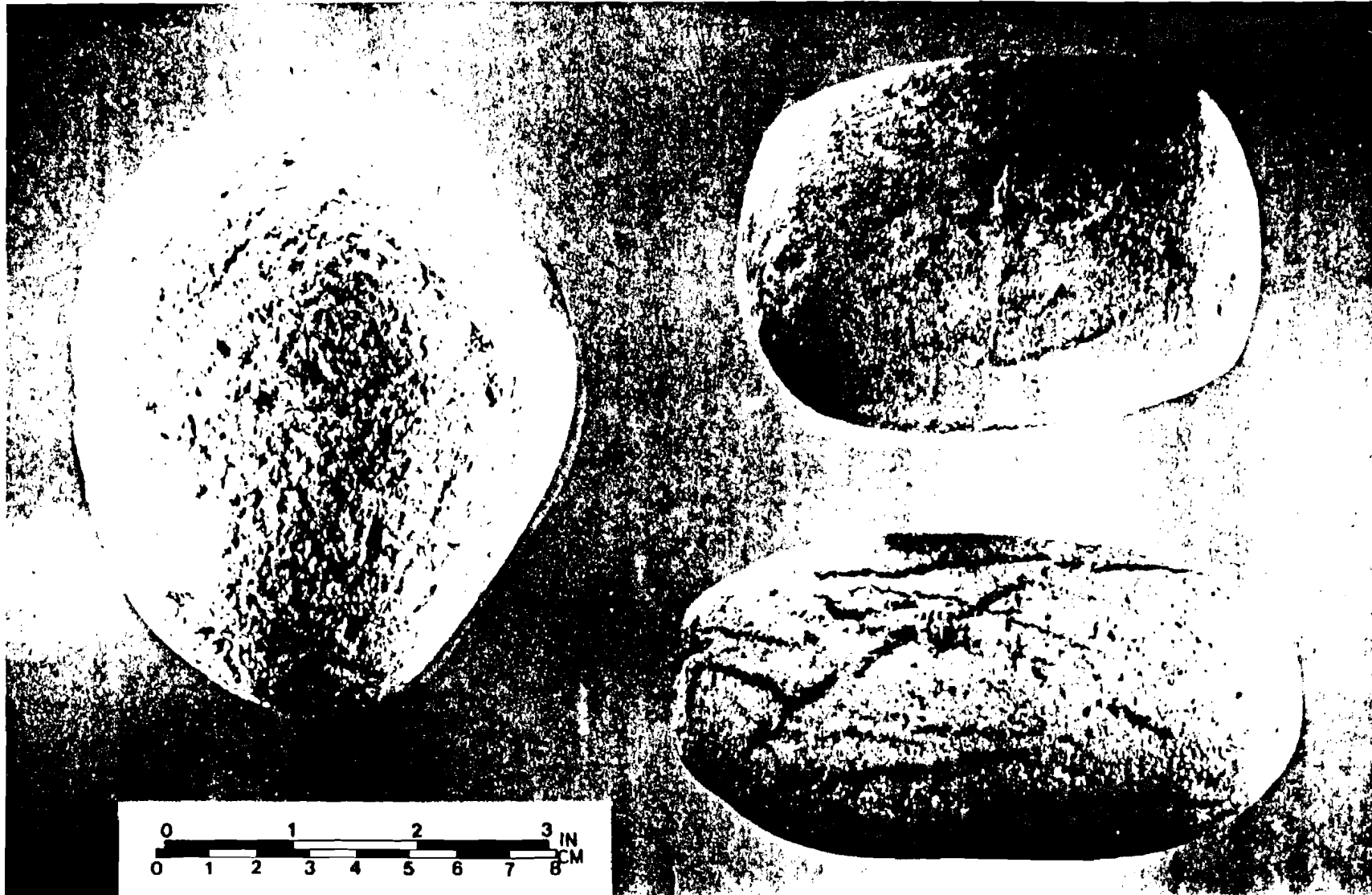
1 non-diagnostic chert biface fragment, 5 flakes, and 12 FCR. Another surface scatter was found along the east side of an unnamed tributary to Little River and is presumed to be an extension of the previously recorded D-10 site. Diagnostic artifacts found here included a triangular drill fragment, a chert triangle point (plate 17) and 1 sherd of Townsend ceramics; other recovered artifacts included utilized flakes, cores, a drill, rejected bifaces (Plate 13), flakes, and FCR. Also found in this subarea were D-91 and D-93, which produced broken bifaces, discarded tools, and FCR in small amounts and are most likely procurement sites related to the nearby larger base camps.

**Subarea 5-7** Like Subarea 5-6, this area was also planted in potatoes and offered little visibility at the time of the survey. However, the edge of the field did offer a 3 to 6 meter wide strip which could be walked with positive results. The limits of the D-68 site, located just northwest of the Little Creek town line, were expanded southward as a result of the survey. Found were 2 stemmed points (1 chert, 1 quartz), 3 utilized flakes, and several FCR. Located southwest of the D-68 site, opposite the confluence of Little River and an unnamed tributary, is the D-96 site, which contained a chert Bare Island point, 1 chert core, an argillite flake tool, a muller (Plate 18) and several flakes and FCR. A much larger artifact scatter was found northwest of this site, at the confluence of Little River and an unnamed tributary. It measures about 900 meters in length but averages only 3 meters in width - limits which are most likely artificially set by the potato crop. Tools were plentiful on this site, designated 7K-D-95, and diagnostic artifacts included 1 Lehigh/Koens-Crispin broadpoint, 1 rhyolite Bare Island point, 1 other Woodland I stemmed point, and 1 chert triangle (Plate 17). Several other non-diagnostic bifaces, a dozen utilized flakes and flake tools (Plate 13), cores, unutilized flakes, and FCR were found. The artifacts suggest it is some sort of hunting/processing site, although its size would suggest a base camp. The precaution about the site's true limits has been noted above. Site D-97, located up the unnamed tributary from D-95, produced only 1 chert flake tool.

**Subarea 5-8** Survey in this large subarea on the south side of Little River was hampered by considerable advanced crop growth and visibility was quite limited. Nevertheless, 1 previously recorded site (7K-D-34) and 12 new ones (7K-D-98 through 109) were located by pedestrian survey, with diagnostic artifacts being recorded from 4 of the 13 total sites. The eastern half of the subarea is in the Ernest Zimmerman farm and two sites produced diagnostic artifacts. Site D-99 is located directly opposite D-95 on the south bank of Little River and produced 1 quartz Poplar Island point. The D-102 site lies on a spit jutting out into the Little River floodplain and was partially obscured by a barley field. However, another quartz Poplar Island point was found, as well as 5 utilized flakes, and several unutilized flakes and FCR. Four other sites were recorded from the Zimmerman farm (D-98, 100, 101, and 103), all of which were

PLATE 18

Selected Ground Stone Tools from Sites in the Route 13 South Survey



LEFT: muller from 7K-D-96; UPPER RIGHT: hammerstone from 7K-D-105; LOWER RIGHT: anvil/hammerstone from 7K-C-162

located on the terrace on the bank of Little River, and all produced small amounts of non-diagnostic debitage and FCR. Another portion of the Stanley J. Rolle, Sr. farm comprised the western end of this subarea. Two notable sites were recorded from this farm. A Woodland I assemblage of Rossville points (Webb Complex) and Bare Island points (Barker's Landing Complex, Plate 2), as well as numerous other utilized flakes, biface fragments, scrapers, cores, and hammerstones, were found at D-107, while the resurveyed D-34 site yielded a Woodland I side-notched quartz point (Plate 3), a pair of Woodland II triangles (Plate 17), and a total of 24 other non-diagnostic tools of miscellaneous types.

Five other sites (D-104, 105, 106, 108, and 109) were found around the perimeter of the field on the terrace above Morgan Branch or Little River and all produced small quantities of non-diagnostic artifacts.

### **Area 9 - Wyoming Lake Study Area - Surface Survey**

Figure 33 shows the archaeological sites recorded and the subareas noted in the Wyoming Lake area. Locational attributes of the sites are listed in Table 14 and cultural historical data in Table 15. This study area includes a section of Isaac Branch northwest of Wyoming, Delaware. The most prominent landmark is the dammed pond known as Wyoming Lake, situated in the east end of the study area. Surveyed ground included the fields along the banks of the lake and the western tributaries which feed it.

**Subareas 9-1 and 9-2** Both of these subareas consisted entirely of asparagus, no-till soybeans, and freshly plowed, unweathered fields and offered no visible ground surface.

**Subarea 9-3** Four small surface scatters were found in the southeast corner of the cornfield at the confluence of Isaac Branch and an unnamed tributary. All produced FCR and an occasional flake, but no diagnostic artifacts, and were designated 7K-C-331 through 334.

**Subarea 9-4** This subarea, located on the north side of Wyoming Lake, had been plowed, disced and weathered at the time of the survey and offered good visibility. Five sites were recorded, three of which were locations of single diagnostic bifaces. These three, located about 100 meters apart on a terrace 250 meters north of Wyoming Lake, produced a quartzite Bare Island-like stemmed point (C-328), a jasper triangle (C-329) (Plate 14), and a quartz corner-notched point (C-330) (Plate 3). No other artifacts were found with these bifaces and it is presumed that they are projectile points which were lost during hunting activities. Two other sites by the lake edge, C-326 and C-327, produced only non-diagnostic bifaces and debitage.

**Subarea 9-5** This was entirely orchards and asparagus fields and offered no visible ground surface.

TABLE 14

## LOCATIONAL DATA - PREHISTORIC RESOURCES - WYOMING LAKE STUDY AREA

SITE NUMBER	ERS NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOARCHAEOLOGICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE ASPECT	ELEVATION
JK 0 331	K-6211	DOVER	3	196	TERROCE	SAB		ST. JONES	STREAM	Y	2	2 S	30
JK 0 332	K-6212	DOVER	4	203	TERROCE	SAB		ST. JONES	STREAM	Y	1	2 SE	30
JK 0 333	K-6213	DOVER	2	195	TERROCE	SAB		ST. JONES	STREAM	N	2	2 E	38
JK 0 334	K-6213	DOVER	3	183	TERROCE	SAB		ST. JONES	STREAM	N	1	0 S	30
JK 0 326	K-6205	DOVER	574	252	KIPE	SAB		ST. JONES	STREAM	N	4	2 S	30
JK 0 327	K-6207	DOVER	1	222	KIPE	SAB		ST. JONES	STREAM	N	3	2 S	30
JK 0 328	K-6208	DOVER	10	220	KIPE	SAB		ST. JONES	STREAM	N	1	2 W	35
JK 0 329	K-6209	DOVER	11	222	KIPE	SAB		ST. JONES	STREAM	N	2	2 W	35
JK 0 330	K-6210	DOVER	9	227	KIPE	SAB		ST. JONES	STREAM	N	1	2 W	35
JK 0 335	K-6216	WYOMING	575	209	TERROCE	ESB		ST. JONES	STREAM	Y	1	2 N	30
JK 0 337	K-6217	WYOMING	575	188	TERROCE	ESB		ST. JONES	STREAM	Y	1	2 N	35
JK 0 338	K-6218	WYOMING	574	177	TERROCE	SAB		ST. JONES	STREAM	Y	1	2 N	30

TABLE IV

## CULTURAL - HISTORICAL DATA - WYOMING LARID STUDY AREA

SITE NUMBER	PALEO ARCHAIC I	WOODLAND II	WOODLAND III	PL	AN	LA	ME	DN	TP	SC	MG	HISTORIC	REFUSE	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND STONE TOOL	FOR CERAMICS
201 C-331															Y				Y
201 C-332																			Y
201 C-333																			Y
201 C-334																	Y		Y
201 C-335												Y		Y	Y				Y
201 C-336															Y				
201 C-337															Y				
201 C-338	Y														Y				
201 C-339		Y																	
201 C-340	Y																	Y	Y
201 C-341																		Y	Y
201 C-342																		Y	Y
201 L-330	Y																		

## **Area 9 - Wyoming Lake Study Area - Subsurface Testing**

Figure 34 shows the location of subsurface test units in Area 9 and Appendix VII lists the artifacts recovered from the test units. A 1 x 1 meter test unit was placed in the woods on the north bank of Isaac Branch, southwest of the surface finds, but produced only debitage. The context was undisturbed, however, so it was designated 7K-C-335.

In Subarea 9-5, the testing was confined to four 1 x 1 meter sub-surface test units placed along the bluff on the south side of Wyoming Lake and Isaac Branch. None had ever been historically plowed and three of the four produced undisturbed prehistoric materials. Sites C-336 and C-338 yielded debitage and charcoal to 80 cm below the surface and C-337 to 48 cm. In addition, C-338 produced a quartz Kessell Side-Notched-like biface from 48 cm below surface. Broyles (1971) has suggested a date of 8500 - 8000 B.C. for this point type. See Appendix VI for a soil profile of the unit at 7K-C-338.

## **Area 7 - Derby Pond Study Area - Surface Survey**

Figure 35 shows the archaeological sites recorded and the subareas noted in the Derby Pond area. Locational attributes of the sites are listed in Table 16 and cultural historical data in Table 17. Derby Pond lies at the confluence of Red House Branch and Tidbury Creek, just west of Alternate U.S. 13 and the study area extends up the two streams and down Tidbury Creek from the Pond, approximately 2 kilometers in any direction. The streams are well dissected, producing steep bluffs along the banks. Five previously recorded sites were known for this study area: 7K-C-104 at Derby Pond, C-160 on the west side of Rt. 13, and E-5, E-9, and E-75 up Tidbury Creek from its confluence with Red House Branch. None of these sites were reexamined as part of this survey. For a variety of reasons, including no-till fields, advance crop growth, and residential tract housing, no pedestrian survey could be conducted in this study area. However, two test units were excavated and one of those produced prehistoric material.

**Subareas 7-1, 7-2, and 7-3** These three subareas were comprised entirely of residential areas, orchards, no-till soybean fields, cabbage fields, and small woodlots and offered no visible ground surface.

**Subarea 7-4** Comprised entirely of freshly plowed fields (unweathered, no visibility), cover crops, no-till corn, and woodlot, it afforded no visible ground surface.

**Subarea 7-5** This was comprised entirely of barley, potato, and no-till corn fields and offered no surveyable fields.



TABLE 16

## LOCATIONAL DATA - PREHISTORIC REMAINS - DEERY POND STUDY AREA

SITE NUMBER	LRS NUMBER	USGS QUAD	UTM NORTH	UTM EAST	GEOGRAPHICAL COORDINATES	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER SLOPE ASPECT ELEVATION			
											DISTANCE (METERS)			
DEERY 100	N 4115	WYOMING	405	252	RISE	SND		SE. JONES RIVER TRIBUTARY	Y		1	2	5	30

TABLE 17

CULTURAL HISTORICAL DATA - DUFFY POND STUDY AREA

SITE NUMBER	PALFO	ARCHAIC	WOODLAND I	WOODLAND II	CE	BL	WH	FO	WA	DA	DP	SC	MG	HISTORIC	BEAVER	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND FOR STONE TOOL	FOR CERAMICS
000-510																				Y	Y

## **Area 7 - Derby Pond Study Area - Subsurface Testing**

Figure 36 shows the location of sub-surface testing in this area and Appendix VII lists the artifacts recovered from the test units. Two 1 x 1 meter test units were placed in Subarea 7-4 in two separate woodlots. The first was on a bluff 5 meters above the confluence of two unnamed minor tributaries to Tidbury Creek. The woodlot had never been historically plowed. Despite these favorable conditions, the unit proved to be sterile. The second unit was placed on the north side of Tidbury Creek about 350 meters east of U.S. 13A and was situated on a 2 meter rise on the north bank of the Creek. Sixteen flakes, 24 FCR, charcoal, and charred nut fragments were found to a depth of 55 cm below the surface (Site 7K-C-318). See Appendix VI for a soil profile of this test unit.

## **Area 4 - Double Run/Spring Creek Study Area - Surface Survey**

Figure 37 shows the archaeological sites recorded and the subareas noted in the Double Run/Spring Creek area. Locational attributes of the sites are listed in Table 18 and cultural historical data are listed in Table 19. This is the southernmost study area in the Rt. 13 Corridor, encompassing parts of the Spring Creek and Double Run tributaries of the Murderkill River northwest of Frederica, Delaware. It had been extensively surveyed in the early 1970s by Dan Griffith and Rich Artusy as part of the planning for an earlier Dover By-pass and large numbers of sites were recorded at that time which today lie within the study area limits. It was not deemed necessary to resurvey these sites as part of the present operation. Much of the remainder of the drainage's flanks are obscured by woodlot and no-till agriculture and thus the actual amount of ground which could be subjected to pedestrian survey was rather small. Nevertheless, 13 sites from this area were recorded, including 3 historical archaeological sites and 2 family cemeteries.

**Subarea 4-1** This subarea lies on either side of Double Run on the north side of Kent 31 and was entirely woodlot and no-till corn at the time of the survey.

**Subarea 4-2** Extending along both sides of Double Run, this subarea contains previously recorded sites 7K-F-52, 57, and 121, which were not reexamined as part of this survey. Most of the subarea is woodlot and could not be surveyed.

**Subarea 4-3** This subarea was entirely no-till soybeans and barley and woodlot at the time of the survey and offered no ground suitable for pedestrian survey. Three previously recorded sites were located in the subarea, F-50, F-56 and F-58, but were not resurveyed for this project.

**Subarea 4-4** This subarea lies northwest of the confluence of Double Run and Spring Creek and was all no-till and/or crops in an advanced growth state and offered little walkable surface. Only 2 sites were recorded (7K-F-144 and 145), both in the no-

TABLE 18

## LOCATIONAL DATA - PREHISTORIC RESOURCES - DOUBLE RUN/SRING CREEK STUDY AREA

SITE NUMBER	CRS NUMBER	USGS QUOD	UTM NORTH	UTM EAST	GEOGRAPHICAL SETTING	PRIMARY SOIL SERIES	SECONDARY SOIL SERIES	DRAINAGE	SURFACE WATER SETTING	CONF.	WATER DISTANCE (METERS)	SLOPE	ASPECT	ELEVATION
21 E 135	E-6086	FREDERICA	261	11	LOW TERRACE	SUB		MUDENKILL	STREAM		4	2		18
21 E 136	E-6087	FREDERICA	254	13	LOW TERRACE	SUB		MUDENKILL	STREAM		0	2	0	12
21 E 137	E-6088	FREDERICA	255	14	TERRACE	SUB		MUDENKILL	STREAM	Y	1	2	S	15
21 E 137	E-6089	FREDERICA	260	9	LOW TERRACE	SUB		MUDENKILL	STREAM	N	2	2	W	15
21 E 137	E-6091	FREDERICA	236	20	TERRACE	SUB		MUDENKILL	STREAM	N	4	2	E	20
21 E 139	E-6090	DOVER	551	301	BLVD	SUB		LEISTIC	STREAM	N	1	2	NW	10
21 E 139	E-6070	DOVER	534	345	LOW TERRACE	SUB		LEISTIC	STREAM	N	0	0	SE	10
21 E 139	E-6092	FREDERICA	250	20	LOW TERRACE	JA		MUDENKILL	STREAM	0	0	0		0
21 E 140	E-6093	FREDERICA	196	79	LOW TERRACE	E		MUDENKILL	STREAM	Y	4	0	E	30
21 E 141	E-6094	FREDERICA	204	34	TERRACE	E		MUDENKILL	STREAM	Y	4	0	N	30
21 E 141	E-6095	FREDERICA	204	25	TERRACE	SUB		MUDENKILL	STREAM	Y	3	2	N	30
21 E 143	E-6096	FREDERICA	189	46	TERRACE	SUB		MUDENKILL	STREAM	Y	3	2	NE	30
21 E 143	E-6097	FREDERICA	136	54	LOW TERRACE	SUB		MUDENKILL	STREAM	Y	1	2	E	10
21 E 145	E-6098	FREDERICA	142	40	LOW TERRACE	SUB		MUDENKILL	STREAM	Y	1	2	S	10

TABLE 11

## CULTURE - HISTORICAL DATA - DOUBLE RUNZONING CREEK STUDY AREA

SITE NUMBER	PALEO ARCHAIC	WOODLAND I	WOODLAND II	ST. LOUIS	PLATEAU	EARLY MISSISSIPPIAN	MIDDLE MISSISSIPPIAN	LATE MISSISSIPPIAN	SCHEFFER	HISTORIC	BIFACE	SCRAPER	FLAKE TOOL	CORE	FLAKES	GROUND FOR CERAMICS		
																STONE	TOOL	
20 F 155																		
20 F 156		Y	Y	Y											Y		Y	Y
20 F 157		Y	Y	Y													Y	Y
20 F 158																		
20 F 159																		
20 F 160															Y			
20 F 161																	Y	
20 F 162		Y	Y										Y		Y		Y	Y
20 F 163		Y	Y										Y		Y		Y	Y
20 F 164													Y		Y		Y	
20 F 165															Y		Y	

till corn field at the confluence, and both produced flakes and FCR in low quantities. Surface visibility on these sites was only about 1% and little can be said about their size or significance.

**Subareas 4-5 and 4-6** These subareas were surveyed in 1972 by Daniel Griffith for a prior Dover By-pass. Numerous sites were recorded at that time and that work was considered sufficient for this Phase I survey. See Fig. 37 for the locations of these sites.

#### **Area 4 - Double Run/Spring Creek Study Area - Subsurface Testing**

Figure 38 shows the location of subsurface tests in this area and Appendix VII lists the artifacts recovered from the test units. Two 1 x 1 meter test units were placed in Subarea 4-1 on the berm of the terrace on the northeast side of Double Run in Richard R. Baines' woodlot. Neither had ever been plowed. The first, labeled 7K-F-136, was placed on a 4 meter high bluff north at the confluence of Double Run and an unnamed tributary. The soil is well drained Sassafras sandy loam and the unit produced a quartzite Lehigh/Koens-Crispin broadpoint (Woodland I), Minguannan sherds (Woodland II) (Plate 6), flakes, charcoal, and FCR. The second unit was placed about 150 meters north of F-136 at another confluence of Double Run and a minor tributary and was designated 7K-F-137. It produced a Woodland I Bare Island/Lackawaxen stemmed point, more Minguannan ceramics, a flake tool (Plate 13), flakes, and charcoal.

Four 1 x 1 meter test units were placed in Subarea 4-2 on the top of the 7 to 8 meter high bluffs on the west bank of Double Run opposite previously recorded site F-57. Although these woodlots had never been historically plowed, one of the units was sterile and the remaining three produced only 1 or 2 flakes, charcoal, and FCR per unit (7K-F-140, F-141 and F-142). The paucity of artifacts may be explained by the suggestion that these bluffs were actually too high above the stream and impractical for use by prehistoric peoples, especially when compared with the more gradual slopes on the opposite side of the stream.

The only work done in the subarea 4-3 was a 1 x 1 meter test unit placed on the bluff top southwest of the confluence of Double Run and an unnamed tributary (7K-F-143). Unlike the previous units placed in similar settings just to the north in Subarea 4-2, this unit was quite productive. The unit was taken to 85 cm below the surface, with cultural material found to 75 centimeters. The only diagnostic artifacts found were undecorated Minguannan ceramics, while a red jasper biface tip was found at 70 cm and utilized and unutilized flakes, FCR, charcoal, and many carbonized nut hulls were found throughout. See Appendix VI for a soil profile of this test unit.

## HISTORIC SITE SURVEY RESULTS

This section of the report describes the survey of standing structures and potential historical archaeological sites in each of the nine project areas. The specific sites tested were those noted in the original Route 13 Corridor Planning Study (Custer et al. 1984: Appendix II, Appendix III). The purpose of this survey was to assess the archaeological potential of each standing structure and potential historic archaeological site as indicated by historic maps. These types of sites were field checked because the initial planning study noted only the presence of historic archaeological and standing structures located in the BAHP inventory files. This survey also located 11 previously unrecorded historic archaeological and standing structure locations. Each of these additional sites were then registered with the BAHP.

As noted in the initial description of the field research methods, a series of variables were recorded in order to indicate the state of site preservation, the possibility of the site having multiple functions, and the size and density of the archaeological resources. Specific variables recorded included 1) the number and type of original outbuildings extant, which was assumed to reflect the degree to which a site had multiple functions and exhibited a range of well-defined activity/functional loci; 2) the visible disturbance levels at the site which were assumed to indicate the degree of preservation of the archaeological site; and 3) the number and type of archaeological features present, which was assumed to reflect the size and density of the material culture present at the site. Visible archaeological features included foundation remains, wells, and cellar depressions. The archaeological potential was derived from a subjective weighting of these three variables. The tables presented below list the results of the field check including the archaeological potential of each location visited. Historic significance data contained were obtained from Appendices II and III of the initial planning report (Custer et al. 1984). The values for the historic significance and the archaeological potential were then averaged to produce an overall cultural resource potential. This assessment was considered to be the most important for the planning aspects of the present project.

### Smyrna Study Area

Table 20 gives a summary description of the historic sites in the Smyrna area. Figure 39 shows the location of the standing structures in the area and Figure 40 shows the location of historical archaeological sites. The Smyrna Study Area includes part of Appoquinimink and Duck Creek Hundreds (Figure 3). In general, preservation is excellent in this area--only two standing structures (K-4023, K-4026) have been removed since inclusion in the BAHP files. Disturbance to archaeological sites, however, is more substantial--fully one-third of the 33 historic archaeological sites in the Smyrna area have a low potential for

## Key to Tables 20-28

**Site Number** - CRS Number assigned by the SHPO (N####), or archaeological resource number from Custer et al. (1984: Appendix III)

**Hundred** - Hundred within which the site is located

**USGS Quad** - USGS 7.5' quadrangle within which the site is located

**Date** - Estimated date of the structure

**Functions** - One or more functions of the structure

AGBLG	-	Agricultural Outbuilding
AGCX	-	Agricultural Complex
AGMCX	-	Agricultural-Mill Complex
AGTEN	-	Agricultural Tenant Dwelling/Farm
ALMHSE	-	Almshouse
BANK	-	Bank
BRID	-	Bridge
BSSH	-	Blacksmith/Whitesmith Shop
CAUWY	-	Causeway
CCBLG	-	Canal Company Building
CEM	-	Cemetery
CHUR	-	Church
COMM	-	Commercial Structure
DAM	-	Dam or Earthwork
DWCX	-	Dwelling Complex
EST	-	Estate
GMCX	-	Gristmill Complex
GOVBLG	-	Government Building
HISTD	-	Historic District
HOT	-	Hotel
INDTEN	-	Industrial Tenant
LANOP	-	Landing Operation
LMKILN	-	Lime Kiln
LTHSE	-	Lighthouse
MANUFY	-	Manufactory
MMCX	-	Multiple-Mill Complex
MWHSE	-	Migrant Worker House
PEACH	-	Peach House
PEAORC	-	Peach Orchard
PHYS	-	Physician's Office
PLANT	-	Plantation
PO	-	Post Office
RR	-	Railroad Bed
RRR	-	Railroad-related
RRSTA	-	Railroad Station
RT	-	Racetrack
SCH	-	School
SCOSTA	-	Stagecoach Station
SERVST	-	Service Station



SLAVQ	-	Slave Quarters
SMCX	-	Sawmill Complex
SOMCX	-	Sorghum Mill Complex
STO	-	Store
STRUC	-	Structure
TAV	-	Tavern, Inn
TENANT	-	Tenant House
VESSEL	-	Vessel (sunken)
WARE	-	Warehouse
WKDW	-	Worker Dwelling
WKSH	-	Workshop

**Historic Signif. - Historic Significance of the Site**

H	-	High
M	-	Medium
L	-	Low
U	-	Unknown

**Disturb. - Disturbance to the Site**

DET	-	Deteriorated
E	-	Erosion
L	-	Landscaping
MD	-	Machine Disturbance ie. grading, other earth moving
P	-	Plowing - Total, Partial, Not Plowed (TP, PP, NP)
ROS	-	Removal of Residence Structure
SA	-	Structure Altered
UN	-	Undisturbed

**Number of Type of Extant Outbuildings - Number of Outbuildings on the Site and Type of Extant Outbuildings.**

A	-	Agricultural Implements
B	-	Granary
C	-	Corn Crib
D	-	Animal Shed
E	-	Summer Kitchen
F	-	Smoke House
G	-	Ice House
H	-	Milk House/Seperator Shed
I	-	Dairy Barn
J	-	Other Barn (Bank, etc.)
K	-	Carraige Shed
L	-	Misc. Shed
M	-	Pump House
N	-	Garage
O	-	Chicken House
P	-	Spring House
Q	-	Root Cellar/Dry Cellar
R	-	Tenant House
S	-	Piers and Docks
T	-	Windmill
U	-	Silos

**Number and Type of Known Archaeological Features - Number of Features on the Site and Type of Features present.**

CH	-	Cellar Hole
CM	-	Cemetery
D	-	Dam/Earthenwork
FN	-	Foundation
OD	-	Other Depression
PR	-	Privy Hole
W	-	Well
U	-	Unknown

**Archaeo. Potent. - Archaeological Potential of the Site**

H	-	High
M	-	Medium
L	-	Low
U	-	Unknown

**Total Resource Potent. - Total Resource Potential is the combined average of the Historic Significance and Archaeological Potential of the Site.**

H	-	High
M	-	Medium
L	-	Low

## SAYRENS STUDY AREA HISTORIC SITES SUMMARY DESCRIPTION

SITE NUMBER	HUNDRED	USGS GRID	DATE	FUNCTION	DISTRICT	APPROX. POTENTIAL	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEOL. FEATURES	TOTAL RESOURCE POTENTIAL
961	BLANCHARD	CLAYTON	F1849	RR	RDS, TP	L	L	0	0	L
968	BLANCHARD	SMYRNA	F1849	AGEX	DN	H	H	L4,01,J1	01	H
971	BLANCHARD	SMYRNA	1849-68	AGEX	RDS, RD, L	F	H	N1,L1,J1	02,02	H
975	BLANCHARD	SMYRNA	1849-68	AGLEN	RDS, TP	M	H	0	0	H
977	BLANCHARD	SMYRNA	1849-68	AGLEN	RDS, TP	M	H	0	0	H
978	BLANCHARD	SMYRNA	F1849	CORN	RDS, RD, L	F	H	0	0	H
979	BLANCHARD	SMYRNA	F1849	CORN	RDS, RD, L	F	H	0	0	H
980	BLANCHARD	SMYRNA	F1849	CORN	RDS, RD, L	F	H	0	0	H
981	BLANCHARD	SMYRNA	1849-68	MARNEY	RDS, TP, L	L	H	0	0	H
986	BLANCHARD	SMYRNA	F1849	AGEX	DN, L	M	H	L1	01,001	H
987	BLANCHARD	SMYRNA	1849-68	MARNEY	RDS, TP	L	H	0	0	H
990	BLANCHARD	SMYRNA	1868-93	TRITEN	RDS, TP	M	H	0	0	H
991	BLANCHARD	SMYRNA	F1868	LAND	RDS, L	F	H	0	0	H
992	BLANCHARD	SMYRNA	F1849	LAND	RDS, L	F	H	0	0	H
993	BLANCHARD	SMYRNA	F1868	TRITEN	RDS	M	H	0	0	H
994	BLANCHARD	SMYRNA	F1868	TRITEN	RDS, L	M	H	0	0	H
995	BLANCHARD	SMYRNA	F1868	MARNEY	LAND, DWF	RDS, RD	M	H	0	H
996	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	M	H	0	001	H
997	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	M	H	0	0	H
998	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	F	H	0	0	H
999	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	F	H	0	0	H
1000	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	L	H	0	0	H
1001	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	H	H	0	0	H
1002	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	H	H	0	0	H
1003	BLANCHARD	SMYRNA	F1868	DWF	RDS, RD	H	H	0	0	H
1004	BLANCHARD	SMYRNA	F1868	DWF	RDS, TP	H	H	0	0	H
1005	BLANCHARD	SMYRNA	F1868	AGLEN	RDS, TP	M	H	0	0	H
1006	BLANCHARD	SMYRNA	F1868	AGLEN	RDS, TP	M	H	0	0	H
1007	BLANCHARD	SMYRNA	F1868	AGLEN	RDS, RD, L	F	H	0	0	H
1008	BLANCHARD	SMYRNA	F1868	AGEX	RDS, L	M	H	0	0	H
1009	BLANCHARD	SMYRNA	F1868	DWF	RDS, L	M	H	0	0	H
1010	BLANCHARD	SMYRNA	1868-93	TRITEN	RD	H	H	L1	0	H
1011	BLANCHARD	SMYRNA	F1868	AGEX	RDS	H	H	0	0	H
1012	BLANCHARD	SMYRNA	F1849	LAND	RDS, L	M	H	0	0	H
1013	BLANCHARD	SMYRNA	1740	AGEX	DN, L	H	H	I1,J1,M1,FR1,L4,R2,N2,R1	01,001	H
1014	BLANCHARD	SMYRNA	L19 C	AGLEN	RDS, L	H	H	0	001	H
1015	BLANCHARD	SMYRNA	C1050-19	AGEX	DN	H	H	L1,N1	0	H
1016	BLANCHARD	SMYRNA	M19 C-19	AGEX	DN	H	H	L1	0	H
1017	BLANCHARD	SMYRNA	E-M19C	AGLEN	DN	H	H	I1,R1,L3,R1	0	H
1018	BLANCHARD	SMYRNA	E19 C	AGEX	DN	H	H	R1	001	H
1019	BLANCHARD	SMYRNA	E-M19 C	AGEX	DN	H	H	L2,L3,M1,C1	02	H
1020	BLANCHARD	SMYRNA	M19 C	DWF	DN, L	H	H	N1,L1	001	H
1021	BLANCHARD	SMYRNA	C1800	DWF	DN, L	M	H	0	0	H
1022	BLANCHARD	SMYRNA	E-M19 C	DWF	DN	H	H	01,J1	001	H
1023	BLANCHARD	SMYRNA	E-M19 C	DWF	DN	H	H	L1,N2	0	H
1024	BLANCHARD	SMYRNA	C1940	DWF	DN	H	L	L1	0	H
1025	BLANCHARD	SMYRNA	E-M19 C	DWF	DN, J1	H	H	N1	0	H
1026	BLANCHARD	SMYRNA	M-L19 C	DWF	DN	H	H	01,L2	01	H
1027	BLANCHARD	SMYRNA	E-M19 C	DWF	DN	H	H	N1,L1	0	H
1028	BLANCHARD	SMYRNA	M19 C	DWF	DN, L	H	H	L1	FR1	H
1029	BLANCHARD	SMYRNA	M19 C	DWF	DN	H	H	L1,R1	0	H
1030	BLANCHARD	SMYRNA	1846	FD	DN	H	H	N1	001	H
1031	BLANCHARD	SMYRNA	E-M19 C	DWF	RDS, L	M	H	0	0	H
1032	BLANCHARD	SMYRNA	E-M19 C	DWF	DN, L	H	H	E1,01	01	H
1033	BLANCHARD	SMYRNA	E19 C	DWF	DN	H	H	01	0	H
1034	BLANCHARD	SMYRNA	L18 C	DWF	RD	H	H	FR1,L5	0	H
1035	BLANCHARD	SMYRNA	1800	AGEX	DN, L	H	H	J1,R3,L1,T1	0	H
1036	BLANCHARD	SMYRNA	1849	PECH	DN, DN	H	H	R2,M1,01,L2	01,FR1	H
1037	BLANCHARD	SMYRNA	L18 C	AGEX	DN	H	H	J1,C2,L1,M1	0	H
1038	BLANCHARD	SMYRNA	C1761	STD	DN, DN	H	H	0	0	H
1039	BLANCHARD	SMYRNA	STRUC	HOT	RDS, RD	M	H	0	02	H
1040	BLANCHARD	SMYRNA	1849-68	AGEX	DN, L	H	H	R1,L3,M1	01	H
1041	BLANCHARD	SMYRNA	F1849	AGEX	DN	H	H	M1,I1,J1,03,L2	0	H
1042	BLANCHARD	SMYRNA	1753	DWF	DN	H	H	0	0	H

intact subsurface features.

The Smyrna area is the largest and most complex of any the study areas. The range of site types includes both agricultural types (agricultural complexes, tenant residences) and commercial types (warehouses, manufactories, landing operations). Two groups of historic site types were given a high overall cultural resource potential.

The first group of historic sites with significant cultural potential are the dwelling and commercial sites along Smyrna Landing. Over 30 historic locations have been located in this area along Duck Creek including early eighteenth to mid twentieth century dwelling complexes (i.e K-4013, K-4016); commercial structures (418-420); warehouses (433-440); landing operations (i.e 433, K-202) and lime kilns (i.e. K-4025). Data recovered from these commercial sites could provide a foundation for future work in Delaware and surrounding states. Comparing these commercial sites with sites of similar function, but in more urban contexts could also yield significant historic and archaeological information.

The second group of historic sites given a high overall cultural resource potential are 13 mid-eighteenth to early twentieth century agricultural complex locations. Each of these sites is undisturbed and offers a high potential for intact subsurface features. The survey located visible archaeological features for seven of the locations. Associated with these large agricultural complexes are six agricultural tenant sites, two of which (K-3939 and K-4009) are standing structures. All six of these tenant sites have a high potential for intact archaeological features.

Two other standing structures deserve special mention in the Smyrna area. The first is a pre-1849 "peach house" (N-133) (Plate 19). Although perhaps more accurately a "wheat house," this structure is in good repair and is almost completely undisturbed (see Plate 20). A number of original outbuildings also exist, including three implement sheds, a pumphouse, and a chicken house. Two archaeological features were located on this property and the potential for more subsurface features is excellent. This site offers the potential for the recovery of significant information on the material culture of these large agricultural estates and their role in local, state and regional history.

The second significant standing structure is a ca. 1761 brick structure, known locally as the "Brick Store." Although deteriorated and bounded on one side by tidal marsh, the Brick Store has served as a store, hotel, landing operation, and warehouse. Data from this site would yield information of the role of local economic centers in the development and patterning of eighteenth century agricultural communities.

PLATE 19

Anvilstone from Site 7NC-J-143 in the Route 13 South Survey



PLATE 20

Standing Structure N-133, Looking East from Kent 485



## **Leipsic Study Area**

Table 21 provides a summary description of the historical archaeological and standing structure sites in the Leipsic area. Figure 41 shows the location of the standing structures in the area and Figure 42 shows the location of the historical archaeological sites. The Leipsic Study Area includes parts of Little Creek, Kenton, and Duck Creek Hundreds (Figure 3). In general, the sites within this area are well preserved, with only two standing structures (K-238, K-1393) removed since inclusion in the BAHF files. The historic archaeological sites also have been only moderately disturbed. Four of the 19 historic archaeological sites in this area have visible features.

The Leipsic area contains seven mill sites, both as standing structures and archaeological sites. This is more than in any other study area. Two of the mills (K-833, K-1395) date from the early to mid-nineteenth century and are still standing and in very good condition. Both structures offer high archaeological potential and may contain undisturbed subsurface features. Mills are especially significant in this area along the Leipsic River and its tributaries and data recovered from them would provide useful information on the role of local processing centers in rural community development.

A second series of sites given a high cultural resource potential were three extant agricultural tenant houses (K-1613, 1627, K-1628). Each of these standing structures are in fair to good condition and are associated with visible archaeological features. Generally agricultural tenant houses are not well preserved along the proposed Corridor and these three structures, especially because of their proximity to each other, offer the potential for the recovery of significant comparative data with other tenant structures in Delaware. Similarly, four archaeological sites, tentatively identified as industrial tenant residences are in this study area.

A third group of sites was given a high cultural resource potential. A number of mid eighteenth and nineteenth century agricultural complexes, both as standing structures (K-1398, K-1376, K-1385, K-1613, K-3946) and historical archaeological sites (591, 595) have been identified. Each of these sites is relatively undisturbed and is associated with visible archaeological features.

## **Dyke and Muddy Branches Study Area**

Table 22 provides a summary description of the historic sites in the Dyke and Muddy Branches area. Figure 43 gives the location of the standing structures in the area and Figure 44 gives the location of historical archaeological sites. This study area is located in Little Creek Hundred (Figure 3). Preservation is fair to good; three-quarters of the identified historical archaeological sites have been significantly disturbed. Three of

TABLE 21

## LITTLE CREEK TRAIL HISTORIC SITES - SUMMARY DESCRIPTION

SITE NUMBER	NAME	USGS GRID	DATE	FUNCTION	DISTRICT	ARCHAEO. POTENTIAL	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEO. FEATURES	TOTAL RESOURCE POTENTIAL
424	DUKE CREEK	DOVER	F1868	WATER	RES, TP	H	H	0	0	H
426	LITTLE CREEK	DOVER	1802-50	WATER	RES	H	H	0	0	H
427	DUKE CREEK	DOVER	1868	WATER	RES, MD, TP	H	H	0	0	H
443	KENTON	KENTON	F1860	WATER	RES, TP	H	H	0	0	H
444	KENTON	KENTON	F1850	WATER	RES, TP	H	H	0	0	H
449	KENTON	KENTON	F1868	WATER	RES, MD	I	I	0	0	L
451	KENTON	DOVER	F1868	WATER	RES	H	H	11, L3, A1, J1	0	H
452	KENTON	DOVER	F1868	WATER	DUK	H	H	0	0	H
453	KENTON	KENTON	F1860	WATER	DN	H	H	L1, J1	0	H
454	KENTON	KENTON	1802-50	WATER	RES	H	H	0	0	H
455	KENTON	KENTON	1802-50	WATER	RES	H	H	0	0	H
456	KENTON	DOVER	1868	WATER	RES, TP	I	H	0	0	H
457	KENTON	DOVER	1868	WATER	RES, MD	I	I	0	0	H
458	LITTLE CREEK	DOVER	F1860	WATER	RES, TP	H	H	0	0	H
459	LITTLE CREEK	DOVER	F1868	WATER	RES, TP	I	H	0	0	H
460	LITTLE CREEK	DOVER	F1860	WATER	RES, MD, I	H	H	0	FN1	H
461	LITTLE CREEK	DOVER	F1860	WATER	RES, TP	H	H	0	0	H
462	LITTLE CREEK	DOVER	F1868	WATER	RES, TP	H	H	0	0	H
463	LITTLE CREEK	DOVER	F1868	WATER	RES	H	H	0	0	H
464	LITTLE CREEK	DOVER	F1868	WATER	RES, MD, TP	H	H	0	0	H
465	LITTLE CREEK	DOVER	F1860	WATER	DN	H	H	J1, L2	0	H
466	KENTON	KENTON		WATER	DN	H	H	N1	0	H
467	KENTON	KENTON	KENTON	WATER	DN	H	H	C1, T1, J2, L3	0	H
468	KENTON	DOVER	C1850-60	WATER	DN, TP	H	H	N1	0	H
469	KENTON	DOVER	F1860	WATER	DN	H	H	J1, N1, A1, L1	0	H
470	KENTON	DOVER	F1868	WATER	DN	H	H	11, 01, J1, M1, A2	M2	H
471	KENTON	DOVER	F1860	WATER	DN	H	H	L1, A1, F1, N2	0	H
472	KENTON	DOVER	C1875	WATER	RES, TP	H	H	0	0	H
473	KENTON	DOVER	F1868	WATER	DN	H	H	11, L2, N1, J1, D1, A1	0	H
474	KENTON	DOVER	F1862	WATER	DN, MD	H	H	L1	0	H
475	KENTON	KENTON	C1780-90	WATER	DN	H	H	01, J1, T1, M1	W1	H
476	KENTON	KENTON	C1750-60	WATER	DN	H	H	11, J1, R1, L6, 01, M1, A1, E1	W1	H
477	LITTLE CREEK	DOVER	F1868	WATER	DN	H	H	A2	W1	H
478	LITTLE CREEK	DOVER	F1868	WATER	DUK	H	H	L2, FR1	FR1, W1	H
479	LITTLE CREEK	DOVER	F1868	WATER	DUK, TP	H	H	FR1	0	H
480	LITTLE CREEK	DOVER	F1860	WATER	DN	H	H	13, A2	0	H
481	LITTLE CREEK	DOVER	F1860	WATER	DUK, TP	H	H	L2, J1, FR1	0	H
482	LITTLE CREEK	DOVER	F1868	WATER	DN	H	H	11, J1, L1, N1	0	H
483	LITTLE CREEK	DOVER	F1868	WATER	DN	H	H	J1	0	H
484	LITTLE CREEK	DOVER	F1868	WATER	DN	H	H	N1	0	H
485	DUKE CREEK	DOVER	E20-1	WATER	MD	L	I	0	0	I
486	DUKE CREEK	DOVER	M19-1	WATER	DN	H	H	A1, N1, C1	0	H
487	LITTLE CREEK	DOVER	19-C	STEM	RES, TP	H	H	0	FN2	H
488	KENTON	DOVER	19-C	STEM	RES, TP, F	H	H	0	0	H





the seven standing structures in the area (K-954, K-2069, K-2082) have been removed since inclusion in the BAHF files.

Only one group of historic site types in the Dyke and Muddy Branches area was given high overall cultural resource potential. Although most of the historical archaeological sites in this area are poorly preserved, three pre-1868 agricultural complex sites (609, 616, 619) have a high potential for intact subsurface features.

Further evidence of large-scale agriculture can be seen in the only mid eighteenth century plantation in the Corridor, K-136. This brick structure is in excellent condition and has a high potential for undisturbed archaeological features.

Two sites not included in the initial survey were also surveyed. The first site, K-6316, is a late eighteenth to early nineteenth century family cemetery and contains members of the Naudain family. A residence of the same name and a "Naudain Landing" are identified near the cemetery by Beers. The second historic site added is "Pleasanton Abbey" (K-187), aca. 1742 church and cemetery. Both of these historic sites represent a significant aspect of state and local history.

#### **Hughes Crossing Study Area**

Table 23 provides a summary description of the historic archaeological and standing structure sites in the Hughes Crossing area. Figure 45 shows the location of the standing structures in the area and Figure 46 shows the location of the historical archaeological sites. This study area includes portions of Kenton, Little Creek, and East Dover Hundreds (Figure 3). Preservation is excellent--only one standing structure (K-1045) has been removed since inclusion in the BAHF files. Historical archaeological sites are also relatively intact. Approximately one-half of the archaeological locations showed no evidence of severe mechanical disturbance.

The Hughes Crossing area contains a significant range of early nineteenth to twentieth century site types. Included in this area are two mills, a church, and two schools. The church, Central Church (K-1037) and one of the schools, Green Hill Mennonite School, is still active.

The Hughes Crossing area is one of the largest and most complex of the study areas. This area contains a wide range of site types not well represented along the corridor. The Hughes Crossing area offers the opportunity to study on a significant scale community development in rural nineteenth and twentieth century Delaware. Particularly important would be the opportunity to investigate the development of "crossroad" communities (i.e. Moore's Corner) and the growth and decline of these communities as local economic/transportation centers.

TABLE 23

## HUGHES CROSSING STUDY AREA HISTORIC SITES - SUMMARY DESCRIPTION

SITE NUMBER	HUNDRED	USGS GRID	DATE	FUNCTIONS	DISTURB.	ARCHAEO. POTENTIAL	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEO. FEATURES	TOTAL RESOURCE POTENTIAL
525	KENTON	DOVER	P1868	AGX	EUS	H	U	M1,L1,N2	0	H
526	KENTON	DOVER	P1868	OSTEN	EUS,TP	L	M	0	0	M
527	KENTON	DOVER	P1868	AGX	EUS,TP	L	M	0	0	M
528	KENTON	DOVER	P1868	SDI	EUS	H	H	0	0	H
529	KENTON	DOVER	P1868	OSTEN	UN,SA	L	H	L2,N1	M1	H
530	KENTON	DOVER	P1868	OSTEN	EUS,MD	L	M	0	M1	M
531	KENTON	DOVER	P1868	AGX	EUS	M	H	L2	0	H
532	EAST DOVER	DOVER	P1868	AGX	UN,L	H	H	J1,L2	0	H
533	EAST DOVER	DOVER	P1868	OSTEN	EUS,TP,I	M	U	0	0	M
534	EAST DOVER	DOVER	P1868	OSTEN	EUS,TP	M	H	0	0	M
535	EAST DOVER	DOVER	P1868	AGX	EUS	H	U	R1,C1,L2	0	H
536	EAST DOVER	DOVER	P1868	AGX	EUS,MD,I	L	M	0	0	M
537	EAST DOVER	DOVER	P1868	AGX	EUS,L	M	H	J1,L1	0	H
538	EAST DOVER	DOVER	P1868	AGX	EUS,TP	M	H	0	0	H
539	EAST DOVER	DOVER	P1868	OSTEN	EUS,TP	M	H	0	0	H
540	EAST DOVER	DOVER	P1868	OSTEN	EUS,L	L	H	0	0	H
541	EAST DOVER	DOVER	P1868	AGX	EUS,MD	M	H	C1,L1	0	M
542	EAST DOVER	DOVER	P1868	OSTEN	EUS,MD	L	U	0	0	M
543	EAST DOVER	DOVER	P1868	AGX	UN	H	U	M1,C1,R1,L4,D1	M1	H
544	EAST DOVER	DOVER	P1850	AGX	EUS,MD	L	U	0	0	M
545	EAST DOVER	DOVER	P1868	INDEN	EUS	H	U	I1,L2,R1	M1,CH1,FN2	H
546	EAST DOVER	DOVER	P1868	INDEN	DET	H	H	0	0	H
547	EAST DOVER	DOVER	C1870	AGX	UN	H	U	FR1,J1	FN1	H
548	EAST DOVER	DOVER	1900	AGX	UN	H	H	J1,C1	0	H
549	EAST DOVER	DOVER	C1860	CHIE	UN	H	U	0	M1	H
550	EAST DOVER	DOVER		AGX	EUS,MD	M	H	J1,N1	0	H
551	EAST DOVER	DOVER	P1868	AGX	EUS	H	U	M1,R1,I1,L3	CH1,FN1	H
552	EAST DOVER	DOVER	C1900	AGX	UN	H	U	R1,N1,C1	M1	H
553	EAST DOVER	DOVER	C1853	SDI	UN	H	U	R1,J1,D1,L2,I1	0	H
554	EAST DOVER	DOVER		AGX	UN	H	H	J1,L3	M1	H
555	EAST DOVER	DOVER	P1868	AGX	UN,SA	H	U	M1,C3,AB,K2,D1,R1	M2,OD1	H
556	KENTON	DOVER		AGX	UN,DET	H	H	L2	0	H
557	KENTON	KENTON	C1920-30	SDI	UN	H	U	FR1,L1	0	H
558	KENTON	DOVER	C1920-30	AGX	UN	H	L	0	0	M
559	KENTON	DOVER	P1868	AGX	UN,DET	H	H	L3,J1,C1	0	H
560	KENTON	DOVER	C1900	AGX	UN,DET	H	M	L4,FR1	0	M
561	KENTON	DOVER	P1868	AGX	UN	H	H	J1,L1	0	H
562	EAST DOVER	DOVER	19 C	DRM	MD,F	M	M	0	D1	M
563	EAST DOVER	DOVER	L19 C	AGX	UN	H	U	C1,J1,R1,N1	M1	H
564	EAST DOVER	DOVER	L19 C	AGX	UN,MD	H	U	01,M1,F1	M2,FN2	H
565	EAST DOVER	DOVER	L19 C	AGX	UN	H	U	J1,R1,L4,D1	UN1	H
566	KENTON	KENTON	19TH	SDI	EUS,TP	M	U	0	0	U

The primarily agricultural focus of northern Kent County is well represented in the Hughes Crossing area. Two previously unrecorded mid-nineteenth century agricultural complex sites (K-6317, K-6319) are particularly well preserved and offer the potential for the recovery of significant historical and material cultural information. Both sites have been associated with visible archaeological features. Later agricultural complexes are also represented in the area. Four standing structures in particular (K-1035, K-1048, K-1049, K-4332) are both structurally intact and associated with visible archaeological features.

One group of sites given a high overall cultural resource potential are three industrial tenant residences (706, 707, K-1042). Two of these locations are archeological sites, with one (706) associated with visible features. Industrial tenant residences in this area represent an important, but poorly documented shift in the focus of primarily agricultural communities towards other economic opportunities in the nineteenth century. These locations present an opportunity to examine the archaeological evidence of industrial tenancy and would provide a foundation for future work in Delaware and surrounding states. The potential for the recovery of valuable data from these three locations is enhanced by the range and overall integrity of the majority of the sites in the study area.

#### **Chestnut Grove Study Area**

Table 24 gives a summary description of the historic sites surveyed in the Chestnut Grove area. Figure 47 shows the location of the standing structures in the area and Figure 48 shows the location of the historical archaeological sites. The Chestnut Grove Study Area is located in East Dover Hundred (Figure 3). Preservation is fair to good with only one standing structure (K-1052) removed since inclusion in the BAHF files. All of the archaeological sites, however, have been mechanically disturbed.

Only one group of site types in this area was given a high overall cultural resource potential. Five mid-nineteenth to early twentieth century agricultural complexes along the Calhoun Branch have been identified as significant. Two of the locations (713, K-1054) have associated visible archaeological features in undisturbed contexts. The other three sites (K-1024, K-1065, K-1081) are undisturbed, but have no visible archaeological features.

One additional location given a high cultural resource potential deserves special mention. Standing structure #709 is a well-preserved, pre-1868 school. As such, this site is representative of Delaware's public education system in the mid-nineteenth to early twentieth centuries. The area around the school is undisturbed and offers the opportunity for the recovery of significant material cultural information. Schools represent an important aspect of community life and are associated with

TABLE 24

## CHESTNUT GROVE STUDY AREA HISTORIC SITES - SUMMARY DESCRIPTION

SITE NUMBER	HUNDRED	USGS QUAD	DATE	FUNCTION	DISTURB.	ARCHAEOL. POTENTIAL	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEOL. FEATURES	TOTAL RESOURCE POTENTIAL
200	EAST DOVER	DOVER	F1868	INDTEN	EDS,ND	H	H	0	0	H
209	EAST DOVER	DOVER	F1868	SCH	UN	H	H	L1,PR1	0	H
210	EAST DOVER	DOVER	F1868	HOUSE	EDS,ND	H	H	AR,N1,C1,L1	0	H
211	EAST DOVER	DOVER	F1868	HOUSE	EDS,TF	H	H	0	0	H
212	EAST DOVER	DOVER	F1868	HOUSE	EDS,ND	H	H	0	0	H
213	EAST DOVER	DOVER	F1868	HOUSE	UN,ND	H	H	N1	M1	H
214	EAST DOVER	DOVER	F1868	HOUSE	EDS,ND,L	L	H	0	0	H
215	EAST DOVER	DOVER	F1868	HOUSE	EDS,TF	H	H	0	0	H
216	EAST DOVER	DOVER	F1868	STEPC	EDS,TF	H	H	0	0	H
217	EAST DOVER	DOVER	F1868	HOUSE	EDS,TF	H	H	0	0	H
221	EAST DOVER	DOVER	F1868	HOUSE	EDS,ND	H	H	N1	0	H
E1024	EAST DOVER	DOVER		HOUSE	UN,ND	L	H	J1,R1,N1	0	H
E1052	EAST DOVER	DOVER	1886	HOUSE	EDS	H	H	L3,PR1,N1	0	H
E1054	EAST DOVER	DOVER	1890-20	HOUSE	UN	H	H	J1,PR1,L2	0D1	H
E1065	EAST DOVER	DOVER	1895	HOUSE	UN	H	H	N1,R1,N1	0	H
E1067	EAST DOVER	DOVER		STEPC	EDS,ND	H	H	0	0	U
E1077	EAST DOVER	DOVER	L12-1	HOUSE	UN	H	H	L2,T1,D1	0D1	H
E1091	EAST DOVER	DOVER	C1850	HOUSE	UN,T	H	H	R1,J1,01	0	H

events that have made a significant contribution to the broad patterns of state and local history.

### **Little River/Pipe Elm Branch Study Area**

Table 25 provides a summary description of the historic archaeological and standing structure locations in the Little River/Pipe Elm Branch area. Figure 49 shows the location of the standing structures in the area and Figure 50 shows the location of the historical archaeological sites. The Little River/Pipe Elm Branch Study Area is within East Dover Hundred (Figure 3).

The primarily agricultural focus of northern Kent County is well represented in this area. The majority (28) of the 31 standing structures and historic archaeological sites in this area can be directly associated with intensive agricultural production. Preservation, however is only fair to poor--most of the historic sites in this area have been disturbed by recent plowing and/or house construction.

Two groups of sites were given a high overall cultural resource potential. The first, and best preserved, are six farm complex locations, including one previously unrecorded site (K-6313). Only two of these sites (656, 684), however, can be associated with visible archaeological features.

The second group of high cultural resource potential are four agricultural tenant house locations. Only one site (647) is intact and none can be associated with visible archaeological features. Location 647, however, is an excellent example of pre-1868 agricultural tenant residence sites and offers significant archaeological potential for information on the material culture of agricultural tenancy, still an important part of Delaware agriculture. Few tenant houses have been excavated in Kent County and each of these four sites would provide an important contribution to the available data base.

### **Wyoming Lake Study Area**

Table 26 provides a summary of historical archaeological and standing structure sites in the Wyoming area. Figure 51 shows the location of the standing structures in the area and Figure 52 shows the location of the historical archaeological sites. The Wyoming Lake Study Area includes portions of East Dover, North Murderkill, and West Dover Hundreds (Figure 3). Preservation is good to excellent; all of the standing structures identified in by the BAHP are intact.

Three groups of site types were given a high overall cultural resource potential. Each of the types relates directly to the development of large-scale agricultural production in Delaware.

The first group includes five agricultural complex sites. Although none of these locations have associated archaeological

TABLE 15

## LITTLE RIVER/PIPE FUM BROWN STUDY AREA HISTORIC SITES SUMMARY DESCRIPTION

SITE NUMBER	OWNER	USGS QUAD	DATE	FUNCTION	DISTANCE	DEVELOP. POTENTIAL	HISTORIC SIGNIFIC.	OUTBUILDINGS	ARCHAEOL. FEATURES	RESOURCE POTENTIAL	TOTAL
686	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,ND	H	H	0	0	H	
687	LITTLE CREEK	LITTLE CREEK	1966	WATER	ON	H	H	01,N1,R2,U1	0	H	
688	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
689	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
690	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
691	LITTLE CREEK	LITTLE CREEK	1966	WATER	ON,T	H	H	01,L2,U5	M1	H	
692	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
693	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
694	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
695	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
696	LITTLE CREEK	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
697	HUNT DOWER	LITTLE CREEK	1966	WATER	ON,R	H	H	01,N3,M1	0	H	
698	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
699	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	H	H	0	0	H	
700	HUNT DOWER	LITTLE CREEK	1966	WATER	ND	L	H	U1	0	H	
701	HUNT DOWER	LITTLE CREEK	1966	WATER	ON	H	H	M1,R1	0	H	
702	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
703	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	L	H	0	0	H	
704	HUNT DOWER	LITTLE CREEK	1966	WATER	ON	H	H	01,N2,R1	0	H	
705	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	L	H	0	0	H	
706	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	H	H	R1	0	H	
707	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND,U	L	H	U1,N1,H2,R1,R1,M1	0	H	
708	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
709	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
710	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
711	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	L	H	0	0	L	
712	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	L	H	0	0	L	
713	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,ND	L	H	0	0	L	
714	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
715	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	
716	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP,ND	L	L	M1,C1,R2,N1	0	H	
717	HUNT DOWER	LITTLE CREEK	1966	WATER	ON	H	H	01,N1,U3,C4,I3,R4,R2	0	H	
718	HUNT DOWER	LITTLE CREEK	1966	WATER	EDS,LP	H	H	0	0	H	

TABLE 26

## WYOMING LIGHT STEEL BEER HISTORIC SITES - SUMMARY DESCRIPTION

SITE NUMBER	HUNDELD	USGS QUAD	DATE	FUNCTION	DESTROYED	ARCHAEOL. EVIDENCE	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEOL. FEATURES	TOTAL RESOURCE POTENTIAL
204	EAST DOVER	DOVER	E 1868	BOTTEN	FPS, TP	H	H	0	0	H
205	EAST DOVER	DOVER	E 1868	BAR	DN	H	H	02, A3, L3, N1, L1, U1	0	H
250	NORTH MURDERHILL	WYOMING	E 1867	BAR	FPS	H	H	0	0	H
251	NORTH MURDERHILL	WYOMING	E 1867	BAR	FPS	H	H	0	0	H
252	NORTH MURDERHILL	WYOMING	E 1868	STEAM	FPS, TP	H	H	0	0	H
253	NORTH MURDERHILL	WYOMING	E 1868	BAR	FPS, TP	H	H	0	0	H
254	NORTH MURDERHILL	WYOMING	E 1868	BAR	FPS, TP	H	H	0	0	H
E 1298	WEST DOVER	DOVER	E 1850	BAR	DN	H	H	L1	0	H
E 1299	WEST DOVER	DOVER	E 1850	BAR	FPS	H	H	I1, L4, H1	0	H
E 2242	NORTH MURDERHILL	WYOMING	E 2010/EN	BAR	DN	H	H	L4, J2, A2, C1, M1	M1	H
E 2244	NORTH MURDERHILL	WYOMING	E 1868	BAR	DN, DET	H	H	L2, N1, H1	0	H
E 2245	NORTH MURDERHILL	WYOMING	E 1910	BAR	DN, SA	H	H	J1	0	H
E 2246	NORTH MURDERHILL	WYOMING	E 2010	BOTTEN	DN	H	H	L4	0	H
E 2247	NORTH MURDERHILL	WYOMING	E 2010	BOTTEN	DN	H	H	N1	0	H
E 2249	NORTH MURDERHILL	WYOMING	E 1868	BAR	DN, SA, CLIPPER	H	H	0	0	H
E 2250	EAST DOVER	DOVER	E 1868	BAR	DN, SA, MD	0	H	N2	0	H



features, disturbance in each case is minimal. Three of the sites in particular (729, K-1198, K-3749) offer the potential for the recovery of material cultural data from undisturbed contexts. Site K-3749, a ca. 1860 agricultural complex and currently the headquarters of Fifer Orchards, is particularly significant. This standing structure represents the "peach boom" in Kent County and the importance of orchard crops in Delaware history.

Also given a high overall cultural resource potential are three mill sites along the Isaac and Almhouse Branches. Two of the locations (730, 731) have been identified as pre-1802 grist mill complexes. The archaeological potential for both sites is high. Heavy vegetation at the time of this survey, however, prevented the location of specific features.

The third mill dates from the early twentieth century and is associated with a range of outbuildings, including two agricultural implement sheds, a corncrib, and a pumphouse. This range of outbuildings is assumed to reflect intensive and varied use of the site. One archaeological feature, a well, was also located. The potential for other undisturbed features is high.

The third and final set of sites given a high overall cultural resource potential are three mid-nineteenth century agricultural tenant residences. Two of the locations include standing structures (K-3746, K-3747). The archaeological potential for each of these three tenant sites is excellent, although no features were located by the survey. Given the number of large agricultural complexes and mills in this area, data recovered from these agricultural tenant residences would provide significant material culture information.

### Derby Pond Study Area

Table 27 provides a summary description of the historic sites. Figure 53 shows the location of the standing structure sites in the area and Figure 54 shows the location of the historical archaeological sites. The Derby Pond Study Area is located in North Murderkill Hundred (Figure 3). Preservation is excellent in this area, although four standing structures have been removed since inclusion in the BAHP files.

As with all of the other areas surveyed, most of the historic sites in the Derby Pond area are primarily associated with large-scale agricultural production. One series of sites given a high overall cultural resource potential in this area are four mid to late nineteenth century agricultural complexes, only one of which (K-3567) is a standing structure. Each of these sites is intact and has associated archaeological features. Another 10 agricultural complex locations within the area are relatively undisturbed and offer a high potential for intact archaeological features.

Two early twentieth century dwelling complexes were also given a high overall cultural potential. One site, K-3794, dates

TABLE 22

## BERDY POND STUDY AREA HISTORIC SITES - SUMMARY DESCRIPTION

SITE NUMBER	UNIFIED	USGS QUAD	DATE	FUNCTION	DESTRUCT.	ARCHAEOL. POTENTIAL	HISTORIC SIGNIF.	OUTBUILDINGS	ARCHAEOL.	TOTAL RESOURCE POTENTIAL
201	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	POSS. ADJ.	L	H	0	H
202	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	KIDS	H	H	PP1, J2, R1, L2	CH1, DD1
203	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	FOOT, AD	H	H	0	H
204	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	L1	H
205	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON, AD	H	H	L1	H
206	NORTH	BERDEKFIELD	WYOMING	1860-1900	GRASS	ON	H	H	L1, C1	M1
207	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON, DEPT	H	H	L1	H
208	NORTH	BERDEKFIELD	WYOMING	1860-1900	GRASS	ON, AD	H	L	0	L
209	NORTH	BERDEKFIELD	WYOMING	1860-1900	GRASS	ON, DEPT	H	H	0	H
210	NORTH	BERDEKFIELD	WYOMING	1860-1900	GRASS	ON	H	H	L1	H
211	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	L	0	H
212	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	L1, M1, J1, R3, H6	0
213	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	T1, R2, L2, H1	0
214	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	L1	M1
215	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON, DEPT	H	H	0	H
216	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	FOOT	H	H	0	H
217	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	M1	0
218	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	J1, L2	M2
219	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON	H	H	M1	0
220	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	FOOT	H	H	R3	0
221	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	FOOT, AD	L	H	R1	0
222	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON, AD	H	H	R1	M1
223	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	ON, L	H	L	M1, L1	0
224	NORTH	BERDEKFIELD	WYOMING	1860	GRASS	FOOT, AD	H	H	0	0

from ca. 1900 and is both undisturbed and associated with visible archaeological features. The other standing structure, K-3817, dates from 1935 and has associated archaeological features. Both of these dwelling complexes, as well as other such early twentieth century sites, reflect the influences of urbanization and industrialization since 1900, due particularly to changes in transportation.

One additional standing structure in the Derby Pond area deserves particular attention. This site, K-3733, is a late nineteenth century railroad station and represents an aspect of Delaware history not well represented in any of the study areas. Although the structure itself has deteriorated, the potential for archaeological features in good context is high.

### **Double Run/Spring Creek Study Area**

Table 28 provides a summary description of the historical archaeological and standing structure sites in the Double Run/Spring Creek area. Figure 55 shows the location of the standing structures in the area and Figure 56 shows the location of the historic archaeological sites. The Double Run/Spring Creek Study Area is located in South Murderkill Hundred (Figure 3). In general, the sites in this area are unevenly preserved. All of the standing structures study are intact. Historic archaeological sites, however, are less well preserved. This area is intensively cultivated and a number of pre-1868 agricultural complex archaeological sites have been disturbed.

Three standing structures in this area (K-1689, K-2746, K-2742) are of particular interest. Sites K-1689 and K-2746 have been identified as agricultural complexes and are undisturbed and associated with visible features. Site K-2742 is a remarkably well preserved agricultural tenant house, one of the few such tenant houses still standing in the Route 13 Corridor (see Plate 21). Another four such undisturbed structures have been located although no features were observed. As previously noted, historic archaeological sites of agricultural sites are less well preserved with only one site (776) not plowed or mechanically disturbed.

Two mill sites (K-759, K-760) have been identified in this area along Double Run. Both sites appear in Beers' 1868 atlas and were confirmed by pedestrian survey. The potential for intact archaeological features at both sites is excellent. Pedestrian survey of K-759 showed the remains of 6-8 large posts driven into the streambed, portions of two large brown salt-glazed stoneware crocks, and a 5-7 feet high and approximately 325 feet long earth embankment along Double Run.

Two previously unrecorded historic sites were located during this survey. Both sites (K-6091, K-6086) are small, mid to late nineteenth century family cemeteries. The families represented in both cemeteries are identified by Beers and relatives may still live in the area.



PLATE 21

Standing Structure K-2742, Looking South from Kent 371

