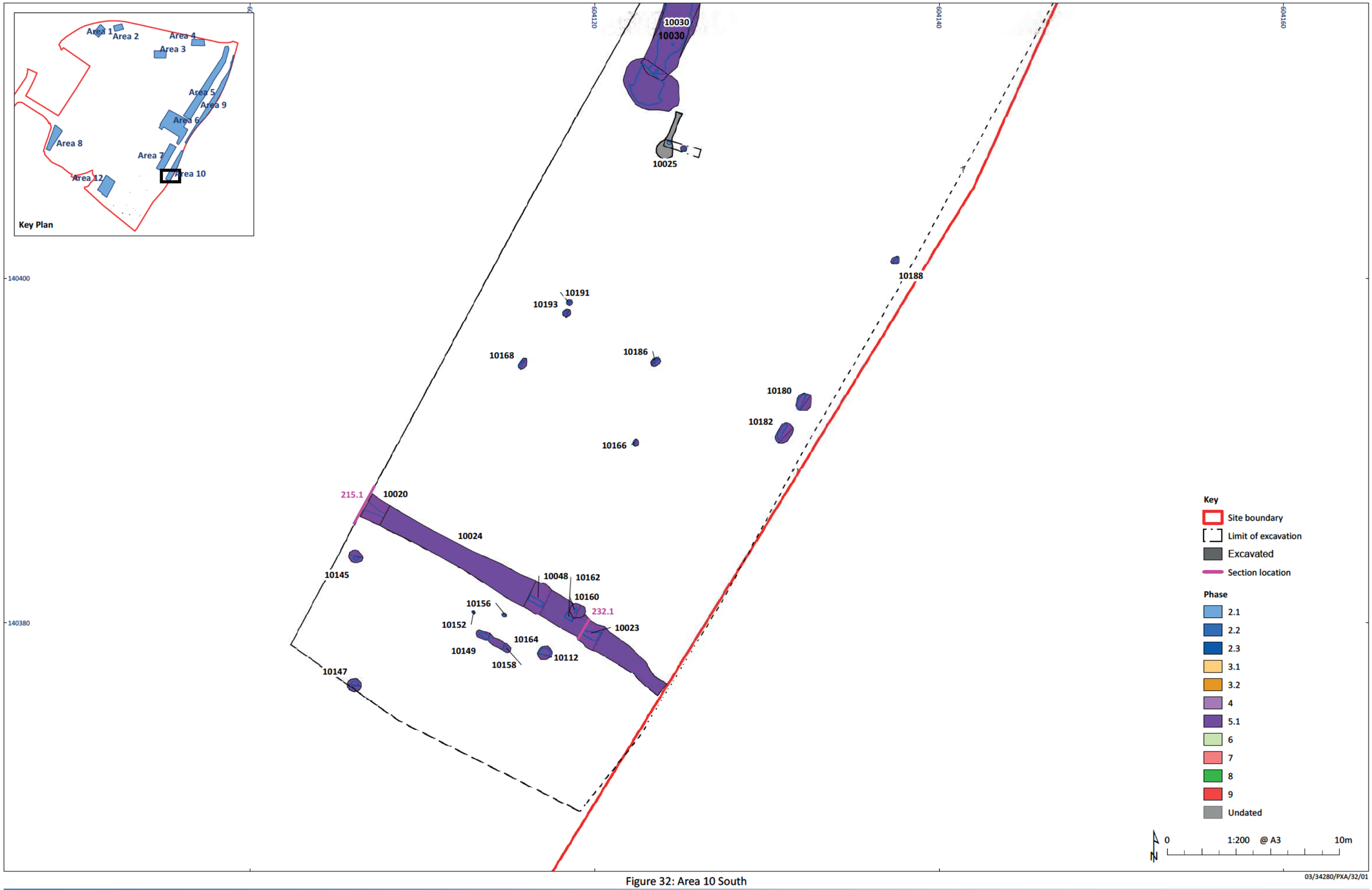
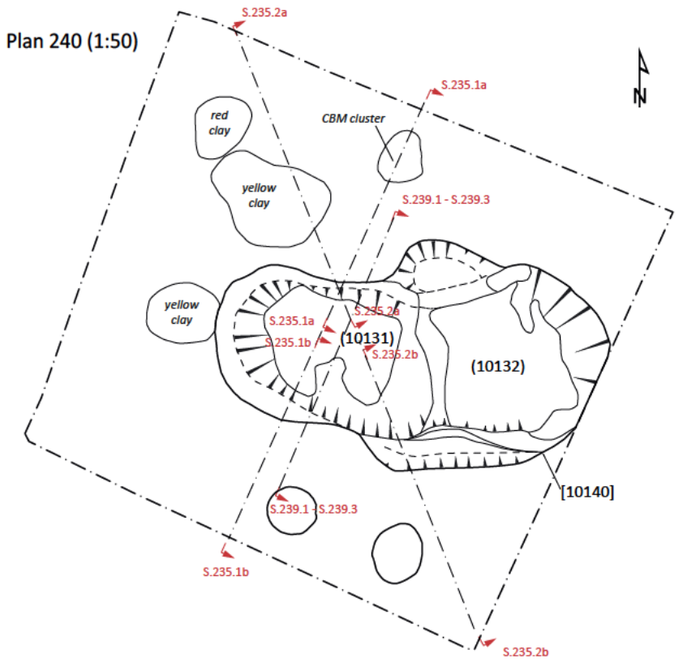
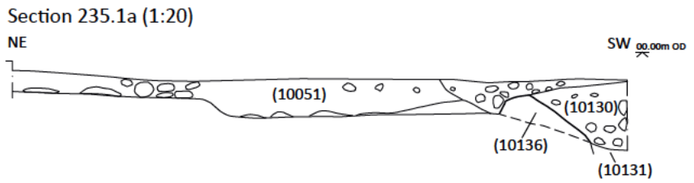
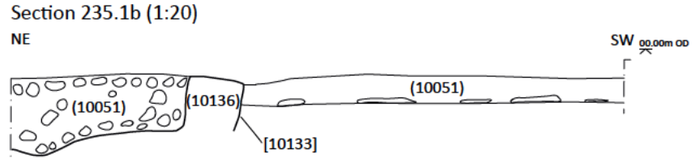
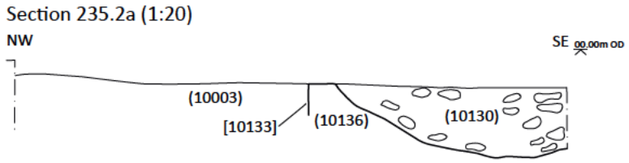


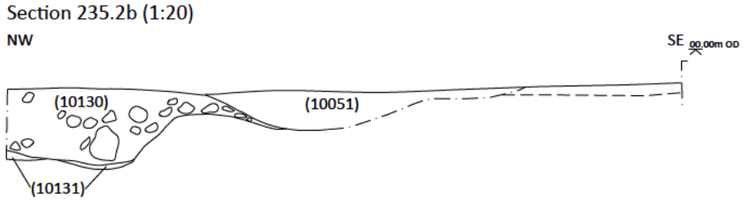
Figure 32: Area 10 South

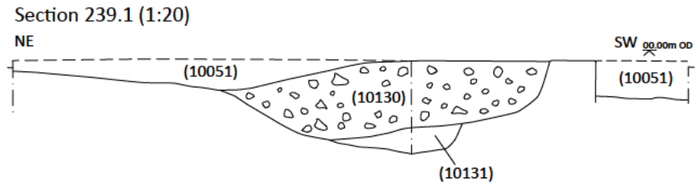


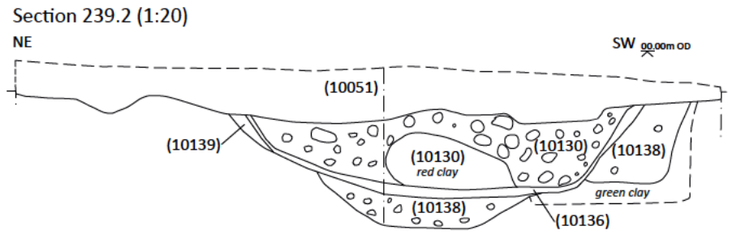


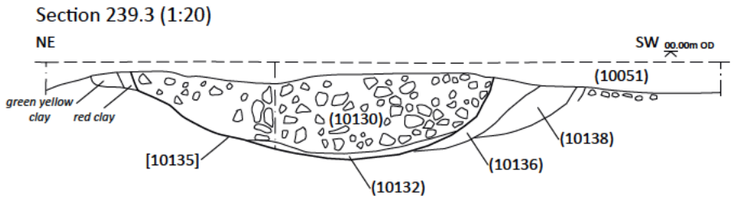


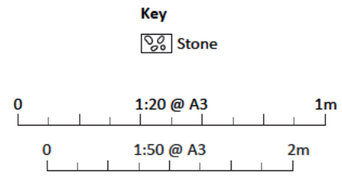








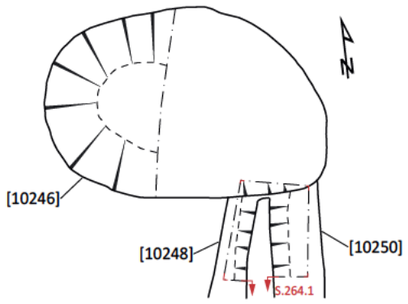




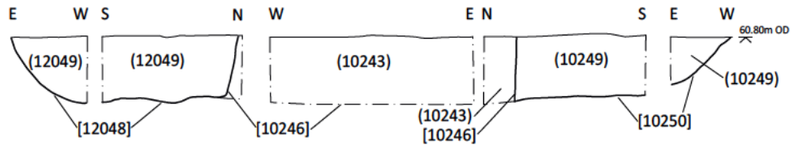
03/34280/PXA/33/01

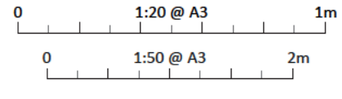
Figure 33: Detailed plan and sections through Kiln 1

Plan 264.2 (1:50)



Section 264.1 (1:20)





03/34280/PXA/34/01

Figure 34: Detailed plan and sections through Kiln 2

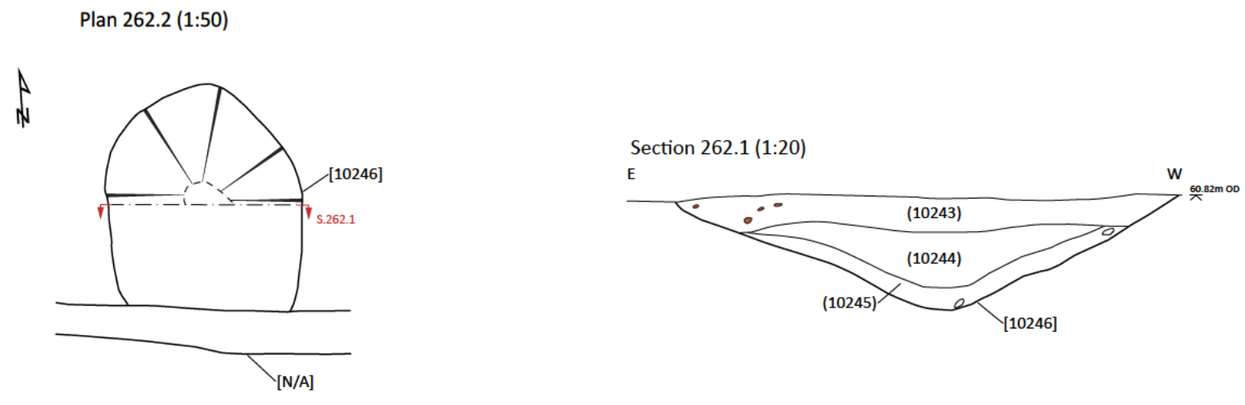
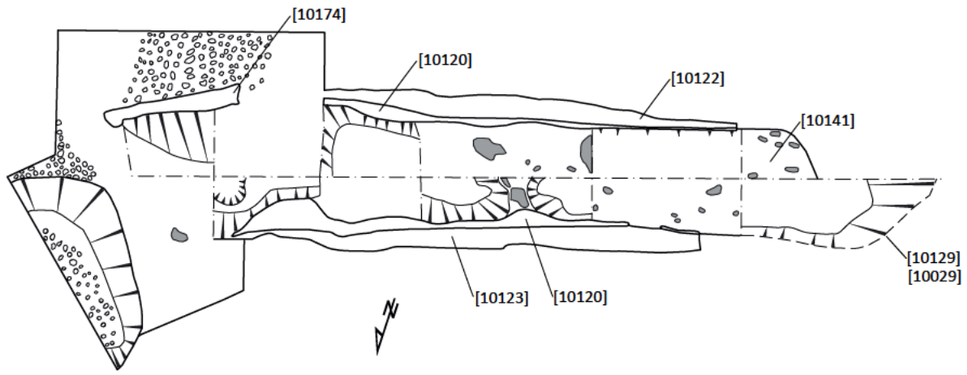
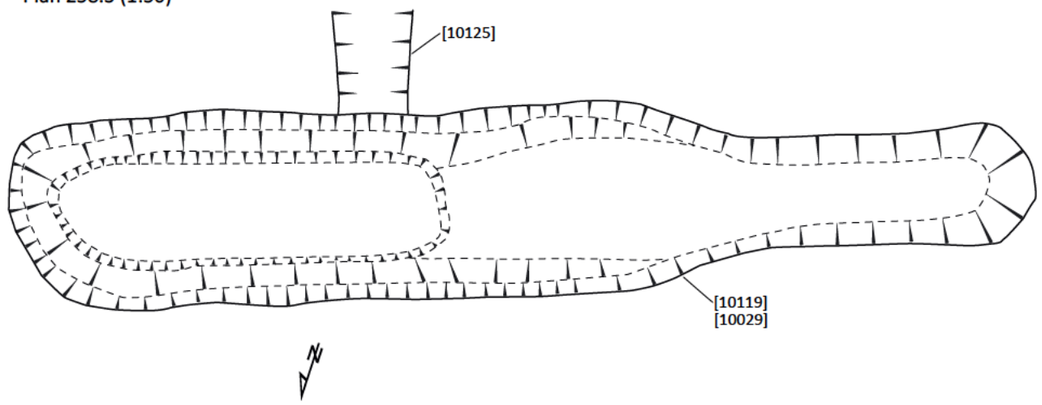


Figure 35: Detailed plan and sections through Kiln 3

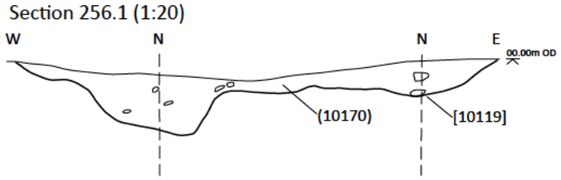
Plan 250 (1:50)



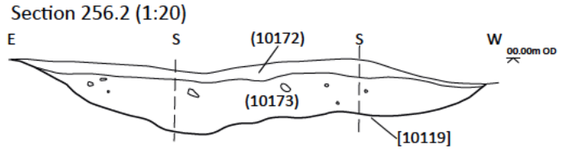
Plan 258.3 (1:50)



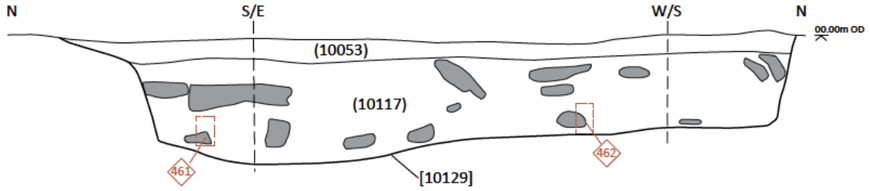
Section 256.1 (1:20)



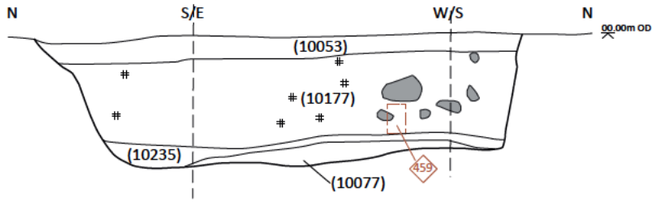
Section 256.2 (1:20)



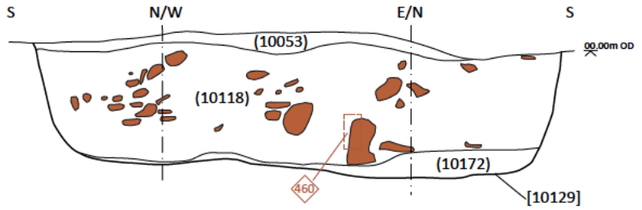
Section 257.1 - Quad 3 (1:20)



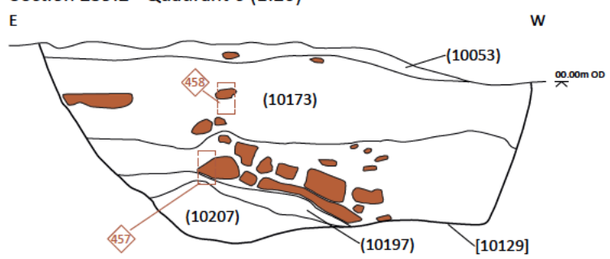
Section 257.2 - Quad 5 (1:20)



Section 259.1 - Quadrant 4 (1:20)



Section 259.2 - Quadrant 6 (1:20)



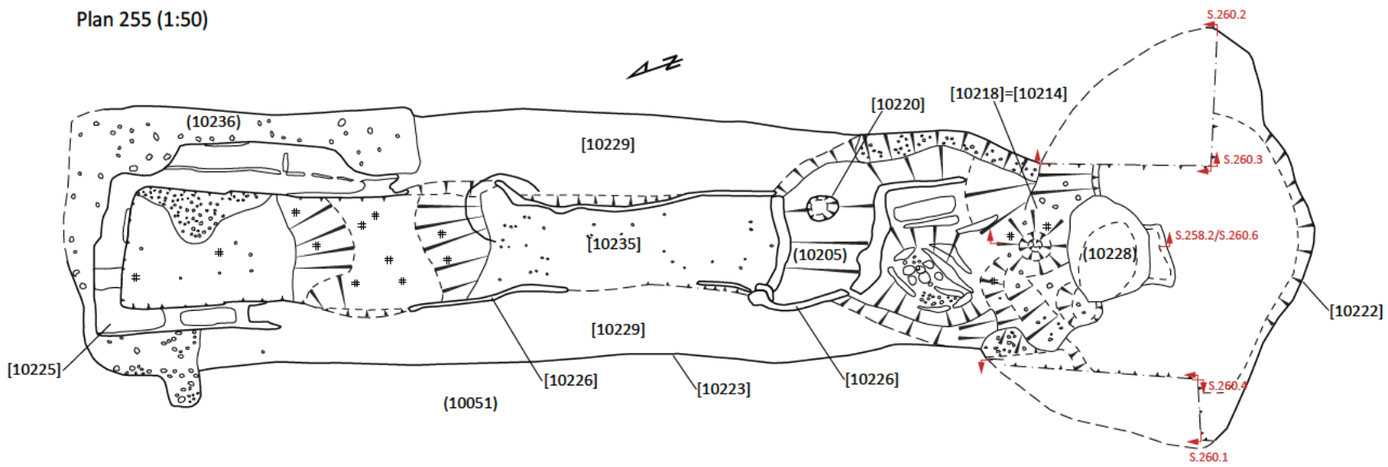
Burnt stones
Ceramic Building Material (CBM)
Charcoal
Environmental Sample

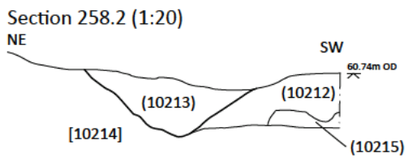
0 1:20 @ A3 1m

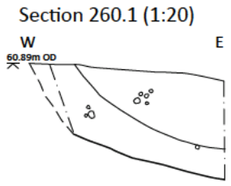
0 1:50 @ A3 2m

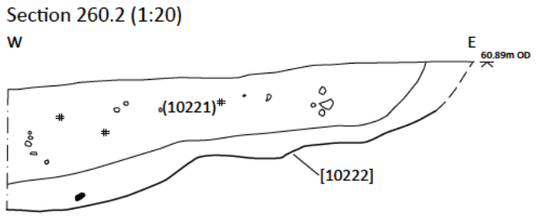
03/34280/PXA/36/01

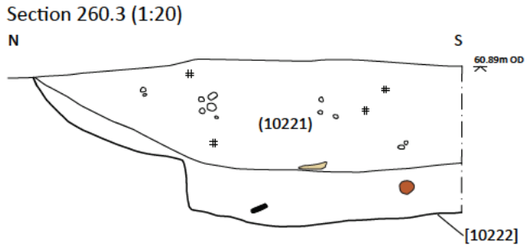
Figure 36: Detailed plan and sections through Kiln 3

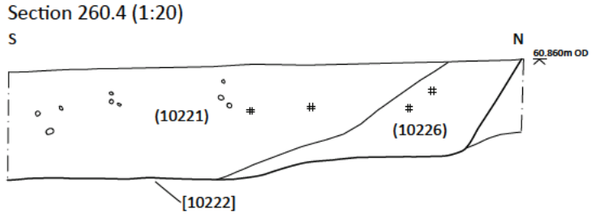


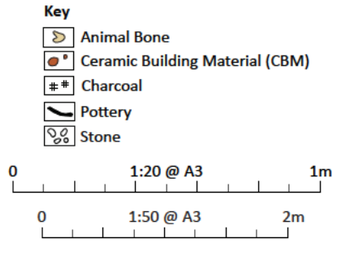












03/34280/PXA/00/01

Figure 37: Detailed plan and sections through Kiln 5

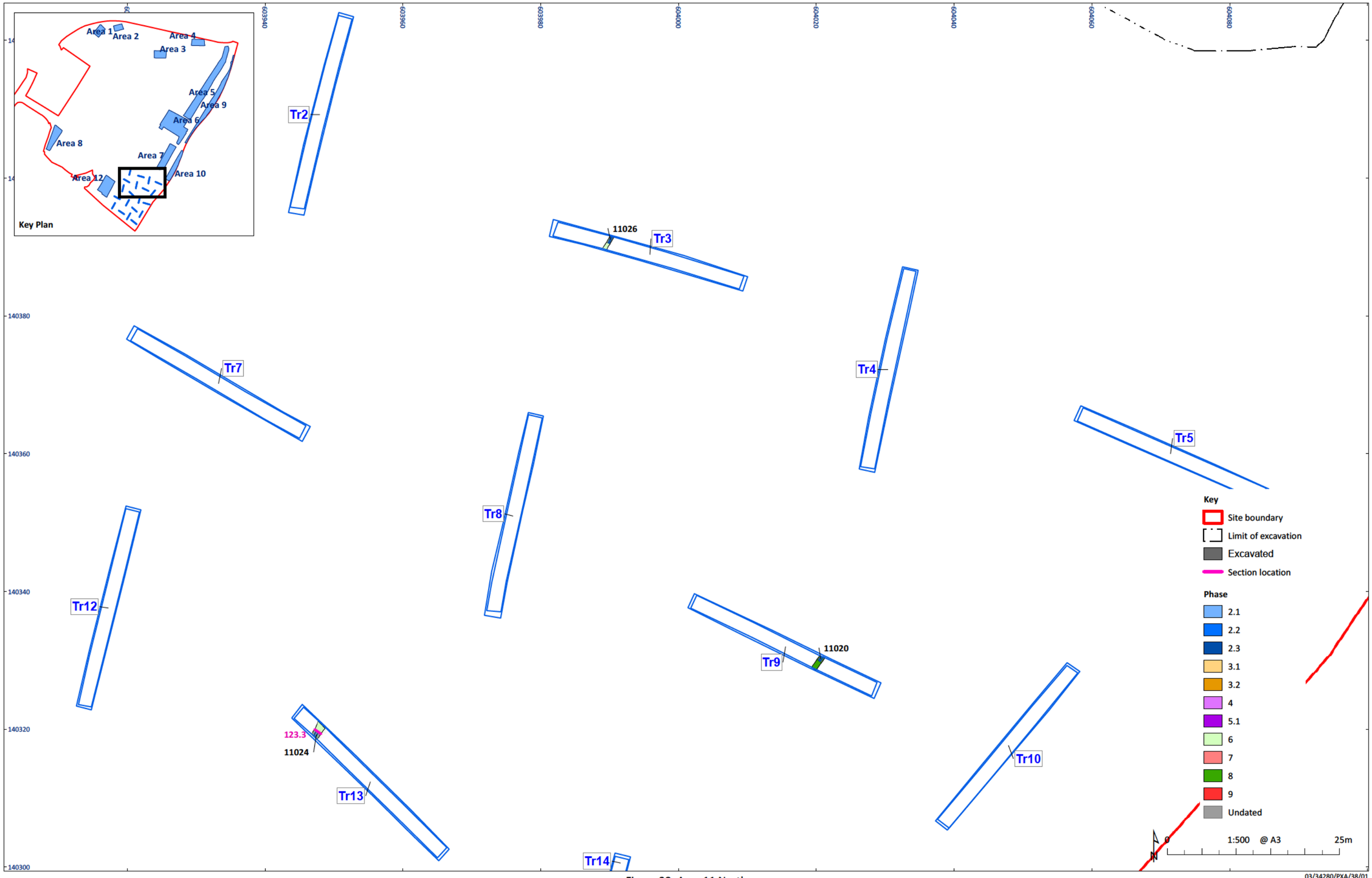


Figure 38: Area 11 North

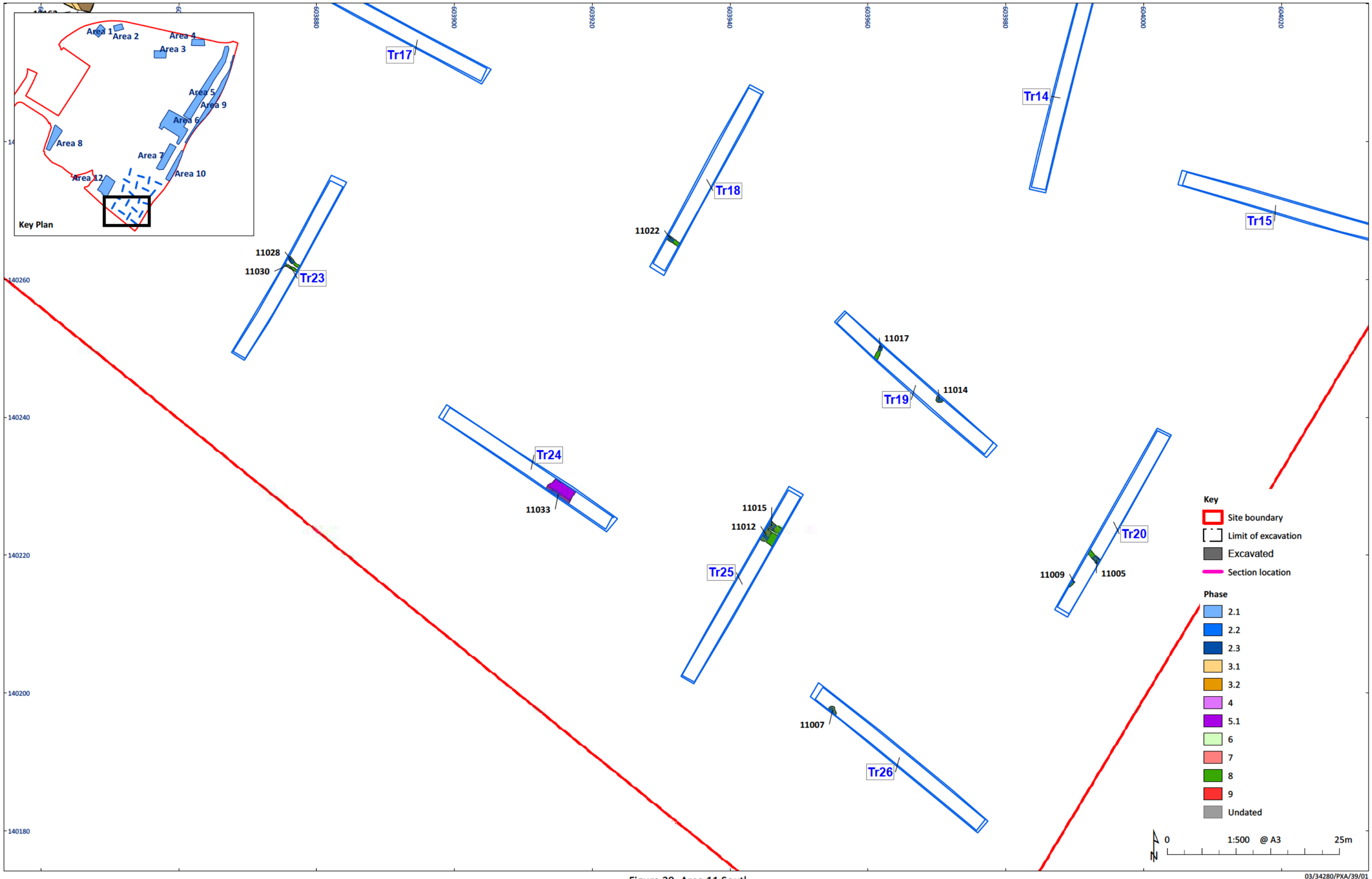
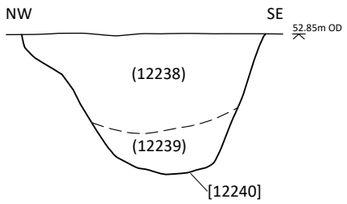


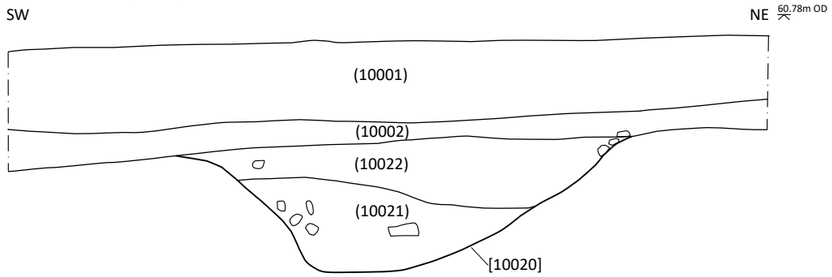
Figure 39: Area 11 South

Area 10

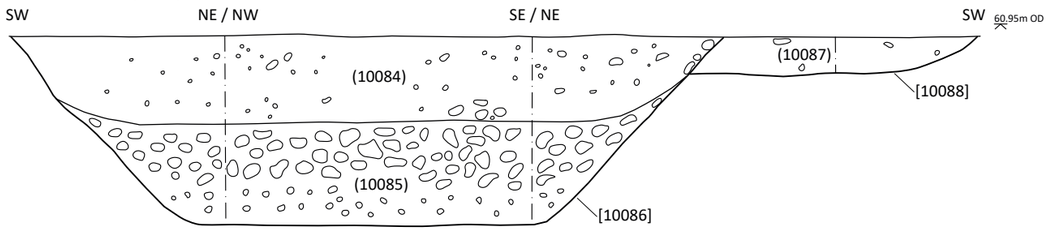
Section 204.3 (1:20)



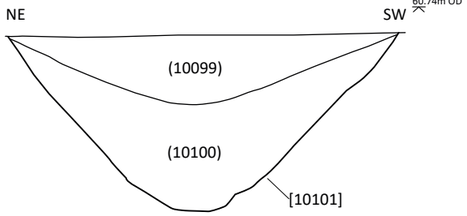
Section 215.1 (1:20)



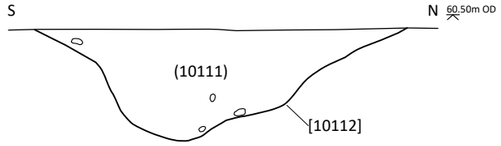
Section 215.2 (1:20)



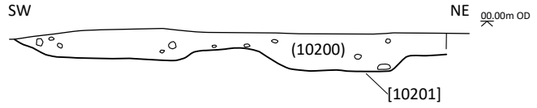
Section 231.1 (1:20)



Section 232.1 (1:20)

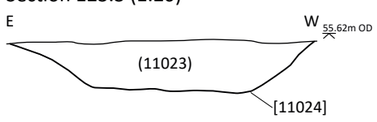


Section 249.1 (1:20)



Area 11

Section 123.3 (1:20)



Key

Stone

0 1:20 @ A3 1m

03/34280/PXA/40/01

Figure 40: Areas 10 and 11 - Sections

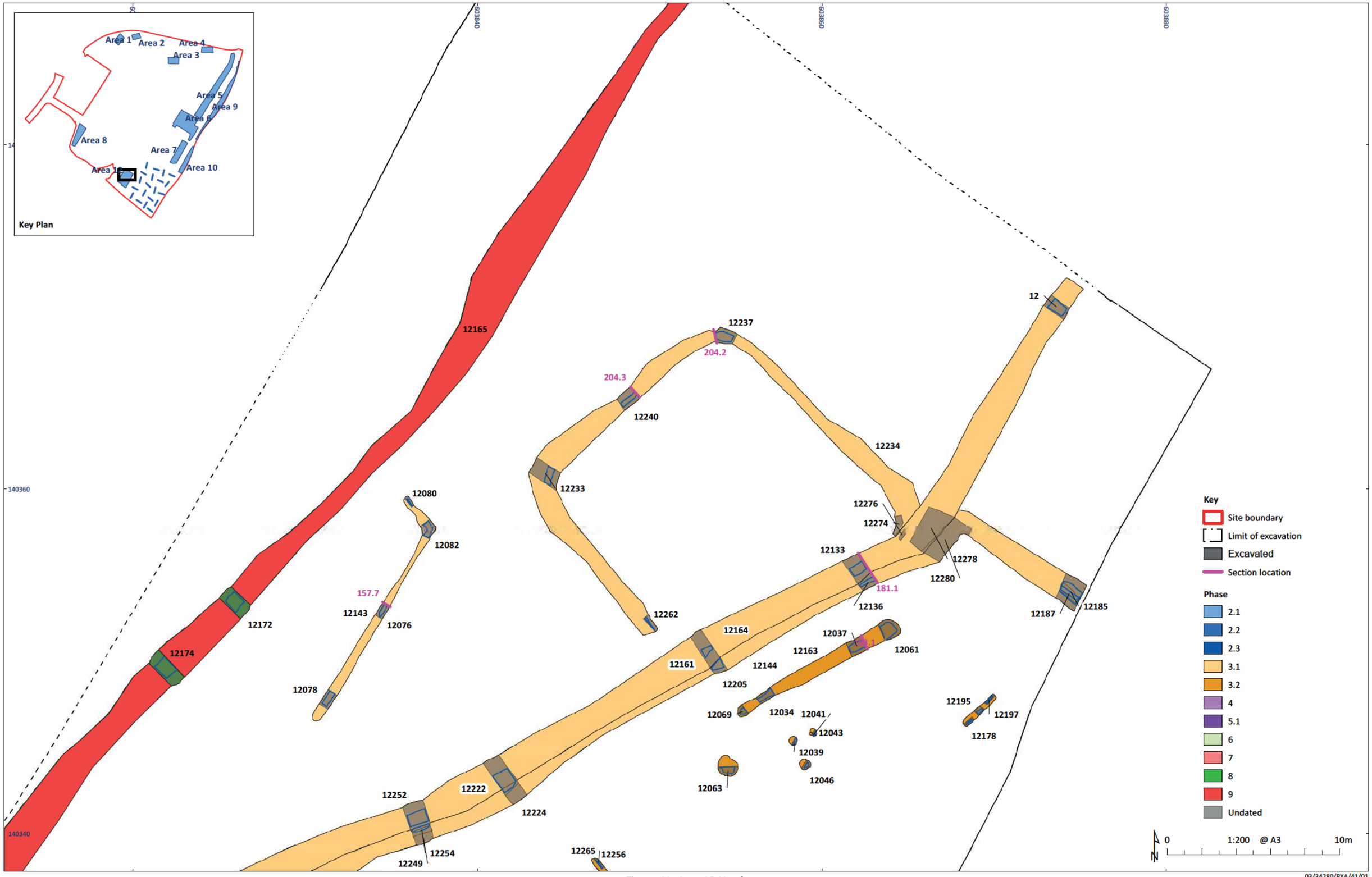
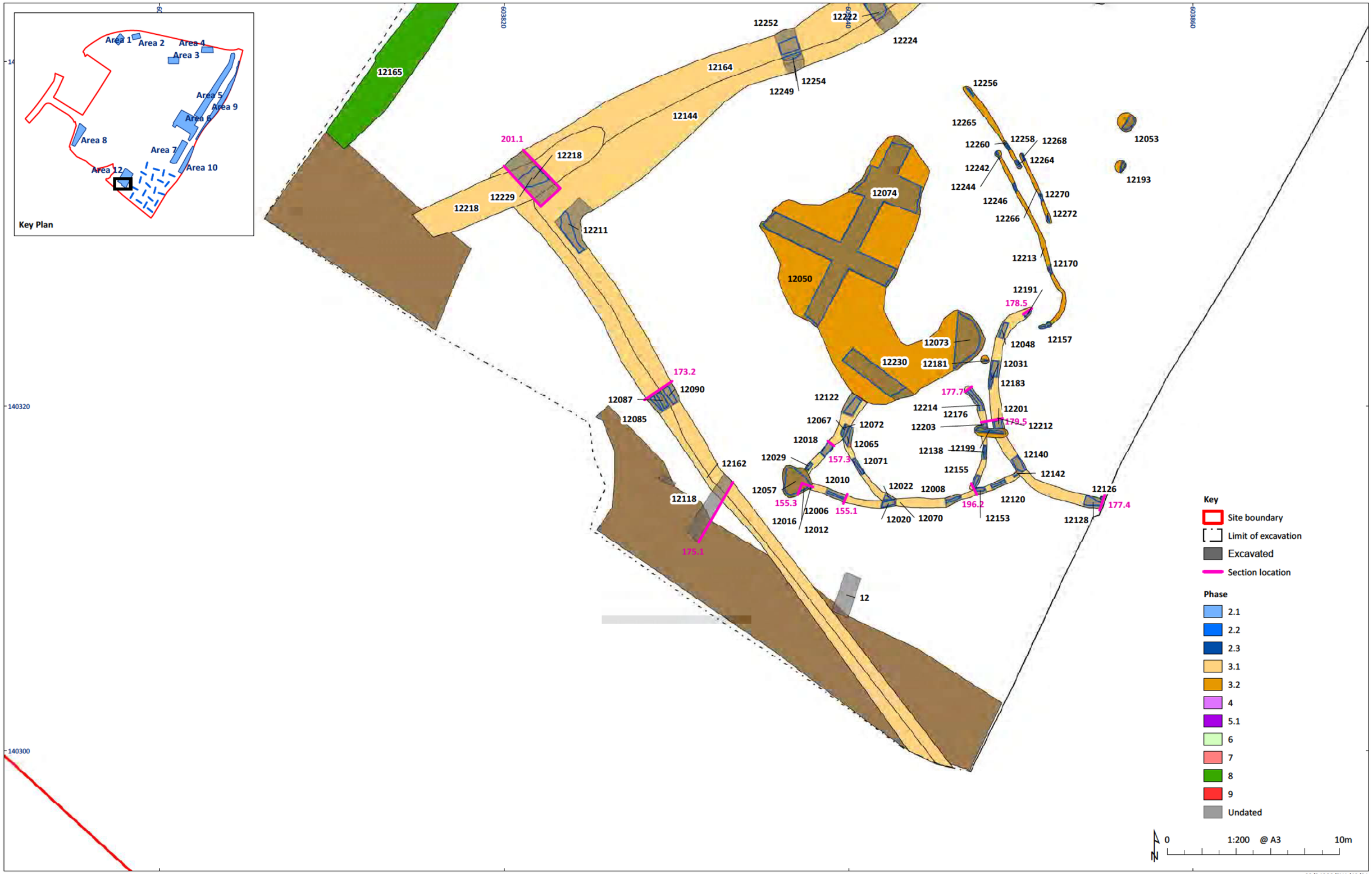


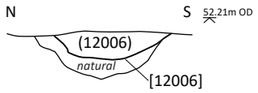
Figure 41: Area 12 North



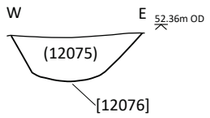
03/34280/PXA/42/01

Figure 42: Area 12 South

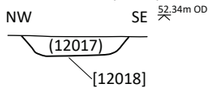
Section 155.1(1:20)



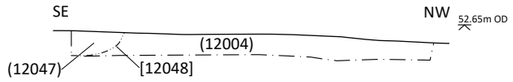
Section 157.7 (1:20)



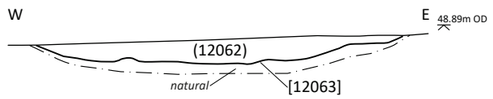
Section 157.3 (1:20)



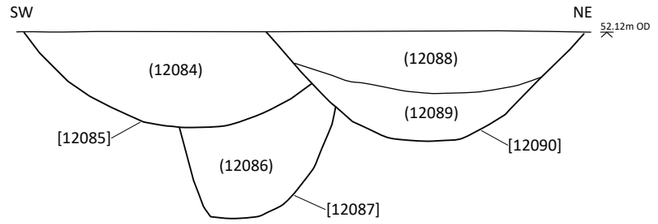
Section 164.1 (1:20)



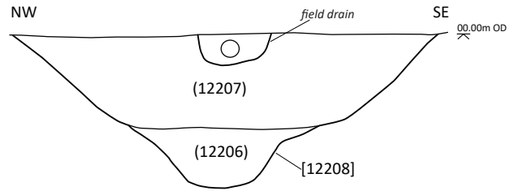
Section 164.3 (1:20)



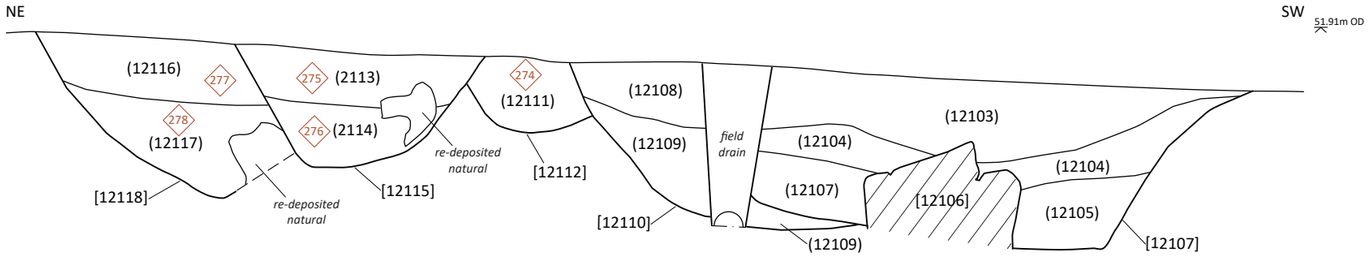
Section 173.2 (1:20)



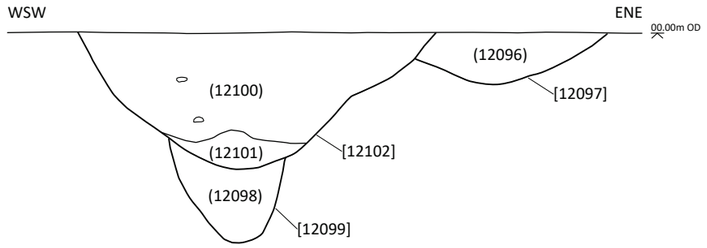
Section 173.4 (1:20)



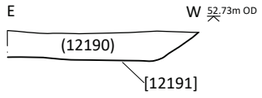
Section 175.1 (1:20)



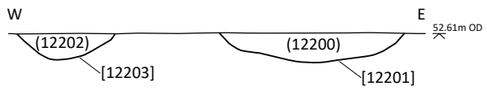
Section 177.1 (1:20)



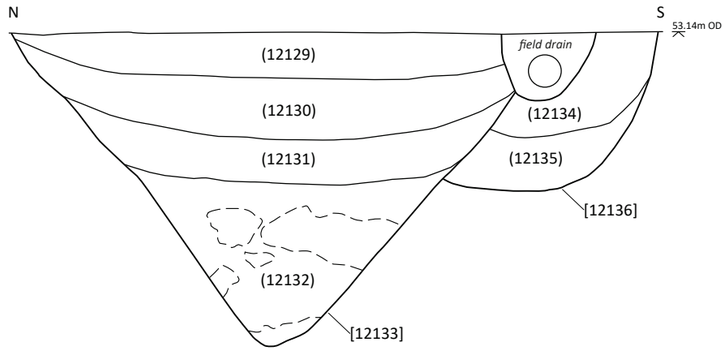
Section 178.5 (1:20)



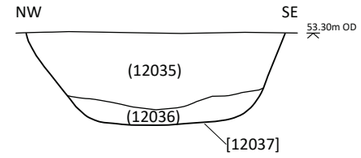
Section 179.5 (1:20)



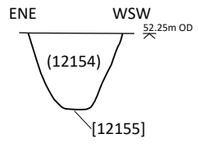
Section 181.1 (1:20)



Section 183.1 (1:20)

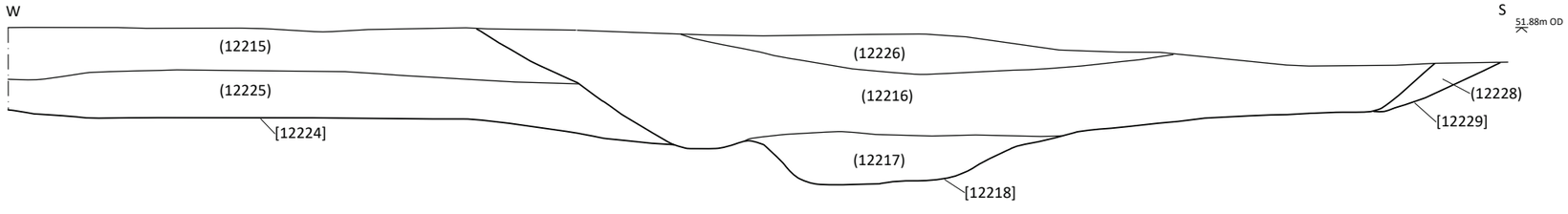


Section 196.2 (1:20)



Section 201.1a (1:20)

Section 201.1b (1:20)



Key

Environmental Sample

0 1:20 @ A3 1m

03/34280/PXA/43/01

Figure 43: Area 12 - Sections

APPENDICES

APPENDIX A: CONTEXT REGISTER

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
2000		DEPO	Topsoil	0.17		
2001		DEPO	Subsoil	0.25-0.67		
2002		DEPO	Natural	NFE		
2003	2004	FILL	Fill of Ditch slot	0.23	1.00	0.58
2004		CUT	Ditch slot	0.23	1.00	0.58
2005	2006	FILL	Fill of Ditch slot	0.23	1.00	0.40
2006		CUT	Ditch slot	0.23	1.00	0.40
2007	2008	FILL	Fill of Ditch slot	0.26	1.00	0.69
2008		CUT	Ditch slot	0.26	1.00	0.69
2009	2010	FILL	Fill of Ditch slot	0.23	1.00	0.56
2010		CUT	Ditch slot	0.23	1.00	0.56
2011	2012	FILL	Fill of Ditch slot	0.04	1.00	0.20
2012		CUT	Ditch slot	0.04	1.00	0.20
2013	2014	FILL	Fill of Ditch slot	0.20	1.00	1.00
2014		CUT	Skeletal recovery - possible cremation	0.20	1.00	1.00
2015	2016	FILL	Fill of posthole	0.07	0.36	0.29
2016		CUT	Posthole	0.07	0.36	0.29
2017	2018	FILL	Fill of Ditch slot	0.28	1.00	0.65
2018		CUT	Ditch slot	0.28	1.00	0.65
2019	2020	FILL	Fill of pit	0.28	3.80	1.40
2020		CUT	Pit	0.28	3.80	1.40
2021	2022	FILL	Fill of pit	0.09	0.76	0.78
2022		CUT	Pit	0.09	0.76	0.78
2023	2024	FILL	Fill of solution channel	0.15	1.40	0.69
2024		CUT	Solution channel	0.15	1.40	0.69
2025	2026	FILL	Fill of tree bole	0.44	1.44	0.93
2026		CUT	Tree bole	0.44	1.44	0.93
2027	2028	FILL	Fill of tree bole	0.36	1.20	1.06
2028		CUT	Tree bole	0.36	1.20	1.06
2029		GROUP	Ditch	0.23	25.50	0.56-1.00
2030		GROUP	Ditch	0.28	25.50	0.69
3000		DEPO	Topsoil	0.26		
3001		DEPO	Subsoil	0.29		
3002		DEPO	Natural	NFE		
3003	3004	FILL	Fill of pit	0.22	0.74	0.56
3004		CUT	Cut of pit	0.22	0.74	0.56
3005	3006	FILL	Natural feature	0.14	1.20	1.00
3006		CUT	Natural feature	0.14	1.20	1.00
3007	3008	FILL	Possible posthole or rooting	0.22	0.90	0.62
3008		CUT	Possible posthole or rooting	0.22	0.90	0.62
3009	3010	FILL	Likely natural feature	0.14	0.65	0.56
3010		CUT	Likely natural feature	0.14	0.65	0.56
3011	3012	FILL	Fill of large pit	0.95	3.70	

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
3012		CUT	Cut of large pit	0.95	3.70	
3013	3014	FILL	Fill of possible natural pit	0.87	4.76	3.55
3014		CUT	Cut of possible natural pit	0.87	4.76	3.55
3015	3016	FILL	Fill of small pit	0.25	1.18	1.10
3016		CUT	Cut of small pit	0.25	1.18	1.10
3017	3018	FILL	Fill of possible natural pit	0.56	3.20	2.00
3018		CUT	Cut of possible natural pit	0.56	3.20	2.00
4000		DEPO	Topsoil	0.30		
4001		DEPO	Subsoil	0.29		
4002		DEPO	Natural	NFE		
4003	4004	FILL	Fill of ditch	0.33	1.10	0.85
4004		CUT	Ditch	0.33	1.10	0.85
4005	4004, 4011, 4022	GROUP	Gully / Ditch	0.23-33	31.30	0.70-85
4006	4009, 4024, 4026	GROUP	Ditch	0.53	28.50	0.60
4007	4009	FILL	Fill of ditch	0.45	1.0+	0.50
4008	4009	FILL	Fill of ditch	0.18	1.0+	0.47
4009		CUT	Ditch	0.53	1.0+	0.57
4010	4011	FILL	Fill of ditch	0.26	1.0+	0.70
4011		CUT	Ditch	0.26	1.0+	0.70
4012	4013	FILL	Fill of gully	0.14	1.0+	0.37
4013		CUT	Gully	0.14	1.0+	0.37
4014	4015	FILL	Fill of gully	0.08	0.50+	0.32
4015		CUT	Gully	0.08	0.50+	0.32
4016	4017	FILL	Fill of gully	0.08	1.23	0.40
4017		CUT	Gully	0.08	1.23	0.40
4018	4019	FILL	Fill of gully	0.06	1.10	0.38
4019		CUT	Gully	0.06	1.10	0.38
4020	4015, 4017, 4019	GROUP	Gully		15.00+	
4021	4022	FILL	Fill of ditch	0.23	1.10	0.75
4022		CUT	Ditch	0.23	1.10	0.75
4023	4024	FILL	Fill of ditch	0.20		0.60
4024		CUT	Ditch	0.20		0.60
4025	4026	FILL	Fill of gully	0.12	1.0+	0.47
4026		CUT	Gully	0.12	1.0+	0.47
4027	4028	FILL	Fill of possible natural circular feature	0.28	0.38	0.38
4028		CUT	Cut of possible natural circular feature	0.28	0.38	0.38
4029	4030	FILL	Fill of posthole	0.16	0.32	0.24
4030		CUT	Posthole	0.16	0.32	0.24
4031	4032	FILL	Fill of posthole	0.14	0.20	0.20
4032		CUT	Posthole	0.14	0.20	0.20
4033	4034	FILL	Fill of pit	0.12	0.90	0.76
4034		CUT	Pit	0.12	0.90	0.76
4035	4036	FILL	Fill of possible stake hole	0.12	0.12	0.08

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
4036		CUT	Possible stake hole	0.12	0.12	0.08
4037	4038	FILL	Fill of possible stake hole	0.12	0.12	0.12
4038		CUT	Possible stake hole	0.12	0.12	0.12
5000		DEPO	Topsoil	0.80		
5001		DEPO	Subsoil	0.80		
5002		DEPO	Natural	NFE		
5003	5004	FILL	Fill of 5004	0.80		
5004		CUT	Modern truncation	0.80		
5005		DEPO	Colluvium			
5006	5008	SKEL	Skeleton			
5007	5008	FILL	Grave fill	0.12	0.70	0.65
5008		CUT	Grave cut	0.12	0.70	0.65
6000		DEPO	Topsoil	0.26		
6001		DEPO	Subsoil	0.29		
6002		DEPO	Natural	NFE		
6003	6004	FILL	Fill of ditch	0.25	7.5	1.12
6004		CUT	Ditch	0.25	7.5	1.12
6005	6006	FILL	Fill of ditch	0.23	7.5	1
6006		CUT	Ditch terminus	0.23	7.5	1
6007	6008	FILL	Fill of ditch	0.15	0.68	0.48
6008		CUT	Ditch terminus	0.15	0.68	0.48
6009	6010	FILL	Fill of ditch	0.33	1.0+	1.15
6010		CUT	Ditch	0.33	1.0+	1.15
6011	6012	FILL	Fill of gully	0.08	1.0+	0.48
6012		CUT	Gully terminus	0.08	1.0+	0.48
6013	6014	FILL	Fill of ditch	0.15	1.0+	0.37
6014		CUT	Ditch terminus	0.15	1.0+	0.37
6015	6017	FILL	Fill of ditch	0.14	1.0+	0.9
6016	6017	FILL	Fill of ditch	0.14	1.0+	0.8
6017		CUT	Ditch	0.28	1.0+	0.9
6018	6019	FILL	Fill of ditch	0.18	?	0.85
6019		CUT	Ditch	0.18	?	0.85
6020	6021	FILL	Fill of ditch	0.25	1.0+	1.27
6021		CUT	Ditch	0.25	1.0+	1.27
6022	6024	FILL	Fill of ditch	0.2	4.90 ?	0.78
6023	6024	FILL	Fill of ditch	0.3	1.0+	1.35
6024		CUT	Ditch	0.34	?	1.35
6025	6026	FILL	Fill of ditch	0.43	1.0+	1.11
6026		CUT	Ditch	0.43	1.0+	1.11
6027	6029	FILL	Fill of pit	0.06	1.8	1.4
6028	6029	FILL	Fill of pit	0.2	1.34	0.5
6029		CUT	Pit	0.26	2.1	1.4
6030	6031	FILL	Fill of ditch	0.18	1.07	0.35
6031		CUT	Ditch	0.18	1.07	0.35

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
6032	6033	FILL	Fill of ditch	0.23	1.07	0.91
6033		CUT	Ditch	0.23	1.07	0.91
6034	6035	FILL	Fill of ditch	0.11	1.0+	0.64
6035		CUT	Ditch terminus	0.11	1.0+	0.64
6036		GROUP	Ditch			
6037	6038	FILL	Fill of ditch	0.24	1	0.84
6038		CUT	Ditch	0.24	1	0.84
6039	6040	FILL	Fill of ditch	0.19	0.76	0.6
6040		CUT	Ditch	0.19	0.76	0.6
6041	6042	FILL	Fill of ditch	0.24	1	0.82
6042		CUT	Ditch	0.24	1	0.82
6043	6044	FILL	Fill of ditch	0.18	1.0+	0.8
6044		CUT	Ditch	0.18	1.0+	0.8
6045	6046	FILL	Fill of tree throw?	0.07	1.2	0.55
6046		CUT	Tree throw?	0.07	1.2	0.55
6047	6048	FILL	Fill of ditch	0.14	1.0+	0.9
6048		CUT	Ditch	0.14	1.0+	0.9
6049	6050	FILL	Fill of ditch / gully terminus	0.1	5	0.24
6050		CUT	Ditch / gully terminus	0.1	5	0.24
6051	6052	FILL	Fill of ditch	0.06	1.0+	0.46
6052		CUT	Ditch	0.06	1.0+	0.46
6053	6054	FILL	Fill of ditch / gully terminus	0.09		
6054		CUT	Ditch / gully terminus	0.09		
6055	6056	FILL	Fill of ditch	0.28	1.04	0.9
6056		CUT	Ditch	0.28	1.04	0.9
6057	6058	FILL	Fill of ditch	0.06	1.0+	0.63
6058		CUT	Ditch terminus	0.06	1.0+	0.63
6059	6060	FILL	Fill of ditch	0.08	1.0+	0.5
6060		CUT	Ditch terminus	0.08	1.0+	0.5
6061		GROUP	Ditch	0.06-0.27	16	0.55-0.66
6062	6063	FILL	Fill of ditch	0.27	1.0+	0.6
6063		CUT	Ditch	0.27	1.0+	0.6
6064	6065	FILL	Fill of pit	0.17	1.0+	1.85
6065		CUT	Pit	0.17	1.0+	1.85
6066	6067	FILL	Fill of ditch	0.45	1.7	1.4
6067		CUT	Ditch	0.45	1.7	1.4
6068	6069	FILL	Fill of pit	0.45	1.45	1.1
6069		CUT	Pit. Possible natural?	0.45	1.45	1.1
6070	6072	FILL	Secondary fill of ditch	0.25	1.0+	?
6071	6072	FILL	Primary fill of ditch	0.08	0.6	?
6072		CUT	Ditch	0.25	1.0+	0.9
6073	6075	FILL	Secondary fill of pit	0.11	1.25	0.4

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
6074	6075	FILL	Primary fill of pit	0.11	1.27	0.4
6075		CUT	Pit	0.2	1.25	0.8
6076	6077	FILL	Fill of posthole	0.23	0.31	0.31
6077		CUT	Posthole	0.23	0.31	0.31
6078		GROUP	Ditch	0.1	4.7	0.23-0.3
6079	6080	FILL	Fill of gully	0.07	0.54	0.23
6080		CUT	Gully	0.07	0.54	0.23
6081	6082	FILL	Fill of ditch	0.22	0.8	0.55
6082		CUT	Ditch	0.22	0.8	0.55
6083	6084	FILL	Fill of pit	0.78	3.0+	3.0+
6084		CUT	Pit	0.78	3.0+	3.0+
6085		GROUP	Ditch	0.12-0.24	93.4	0.35-0.98
6086	6087	FILL	Fill of ditch	0.17	1.0+	0.63
6087		CUT	Ditch	0.17	1.0+	0.63
6088	6089	FILL	Fill of ditch terminus	0.13	1.2	0.66
6089		CUT	Ditch terminus	0.13	1.2	0.66
6090		GROUP	Ditch	0.08-0.17	18.3	0.50-0.74
6091	6093	SKEL	Skeleton			
6092	6093	FILL	Grave fill		2.05	
6093		CUT	Grave cut		2.05	
6094	6095	FILL	Fill of gully	0.1	0.52?	0.3
6095		CUT	Gully	0.1	0.52?	0.3
6096	6097	FILL	Fill of ditch	0.12	0.7	0.5
6097		CUT	Ditch	0.12	0.7	0.5
6098	6100	FILL	Grave fill	0.2	2.05	0.7
6099	6100	SKEL	Skeleton			
6100		CUT	Grave cut		2.05	0.7
6101	6102	FILL	Geological fill	0.04	4.8	3.4
6102		CUT	Geological cut	0.04	4.8	3.4
6103	6104	FILL	Fill of ditch	0.25	1.07	1.36
6104		CUT	Ditch	0.25	1.07	1.36
6105	6106	FILL	Fill of ditch	0.17	0.6	1.38
6106		CUT	Ditch	0.17	0.6	1.38
6107	6108	FILL	Fill of ditch terminus	0.12	1.1	0.74
6108		CUT	Ditch terminus	0.12	1.1	0.74
6109		VOID				
6110	6111	FILL	Fill of possible natural pit	0.23	0.28	0.28
6111		CUT	Natural Pit?	0.23	0.28	0.28
6112	6113	FILL	Fill of possible natural pit	0.07	0.58	0.37
6113		CUT	Natural Pit?	0.07	0.58	0.37
6114	6115	FILL	Fill of possible pit	0.16	0.5	0.4
6115		CUT	Possible pit	0.16	0.5	0.4
6116	6117	FILL	Fill of possible pit	0.07	0.62	0.37
6117		CUT	Possible pit	0.07	0.62	0.37

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
6118	6119	FILL	Fill of ditch terminus	0.11	0.53	1.4
6119		CUT	Ditch terminus	0.11	0.53	1.4
6120		GROUP	Ditch	0.31	23.5	0.53-1.38
6121	6122	FILL	Fill of ditch	0.09	1.12+	0.42
6122		CUT	Ditch	0.09	1.12+	0.42
6123	6124	FILL	Fill of pit	0.24	2.06	0.8
6124		CUT	Pit	0.24	2.06	0.8
6125	6126	FILL	Fill of ditch terminus	0.24	1.0+	0.8
6126		CUT	Ditch terminus	0.24	1.0+	0.8
6127	6128	FILL	Fill of ditch	0.13	1.04+	0.44
6128		CUT	Ditch	0.13	1.04+	0.44
6129	6130	FILL	Fill of possible pit	0.12	0.94	0.4
6130		CUT	Possible pit	0.12	0.94	0.4
6131	6132	FILL	Fill of plantation pit	0.17	0.85	0.89
6132		CUT	Plantation pit	0.17	0.85	0.89
6133	6134	FILL	Fill of plantation pit	0.17	0.22	0.22
6134		CUT	Plantation pit	0.17	0.22	0.22
6135		CUT	Plantation pit			
6136		CUT	Plantation pit			
6137		CUT	Plantation pit			
6138		CUT	Plantation pit			
6139		CUT	Plantation pit			
6140	6141	FILL	Fill of ditch	0.12	1.10+	0.98
6141		CUT	Ditch	0.12	1.10+	0.98
6142	6143	FILL	Fill of ditch terminus	0.36	1.74+	0.63
6143		CUT	Ditch terminus	0.36	1.74+	0.63
6144	6145	FILL	Fill of curvelinear ditch	0.31	1.10+	1.38
6145		CUT	Curvelinear ditch	0.31	1.10+	1.38
6146	6147	FILL	Fill of ditch recut	0.31	1.10+	1.11
6147		CUT	Ditch recut	0.31	1.10+	1.11
6148	6149	FILL	Spread	0.25	8	5.35
6149		CUT	Cut of spread	0.25	8	5.35
6150		DEPO	Bank of ditch [6120] ?	0.26	?	1.6
6151		DEPO	Bank of ditch [6141]	0.23	?	2.1
6152	6153	FILL	Spread	0.03	1.0+	0.24
6153		CUT	Cut of spread	0.03	1.0+	0.24
6154		GROUP	?			
6155	6157	FILL	Grave fill	?	1.9	0.8
6156	6157	SKEL	Skeleton			
6157		CUT	Grave cut	?	1.9	0.8
6158	6160	FILL	Grave fill	0.04	1.8	0.6
6159	6160	SKEL	Skeleton			
6160		CUT	Grave cut	0.07	1.8	0.6
6161	6163	FILL	Grave fill	0.14	2.36	0.86
6162	6163	SKEL	Skeleton			
6163		CUT	Grave cut	0.14	2.36	0.86
6164	6166	FILL	Grave fill	0.39	2.04	0.52

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
6165	6166	SKEL	Skeleton			
6166		CUT	Grave cut	0.39	2.04	0.52
6167	6169	SKEL	Skeleton			
6168	6169	FILL	Grave fill	0.1	2.5	1.15
6169		CUT	Grave cut	0.1	2.5	1.15
6170	6172	FILL	Grave fill	0.2	1.8	0.56
6171	6172	SKEL	Skeleton			
6172		CUT	Grave cut	0.2	1.8	0.56
6173	6175	SKEL	Skeleton			
6174	6175	FILL	Grave fill	0.18	2.84	1.13
6175		CUT	Grave cut	0.18	2.84	1.13
6176	6178	SKEL	Skeleton			
6177	6178	FILL	Grave fill	0.14	2	0.67
6178		CUT	Grave cut	0.14	2	0.67
6179	6180	FILL	Fill of ditch slot	0.18	0.5	0.73
6180		CUT	Ditch	0.18	0.5	0.73
6181	6182	FILL	Fill of ditch slot	0.27	0.53	0.92
6182		CUT	Ditch	0.27	0.53	0.92
6183			Trackway			6.3
6184	6185	FILL	Fill of linear	0.4		1.5
6185		CUT	Linear	0.4		1.5
6186	6187	FILL	Fill of ditch slot	0.5	1	1.7
6187		CUT	Ditch	0.5	1	1.7
6188		DEPO	Overburden on pebbled trackway	0.05-0.15		3.8
6189		DEPO	Pebble surface of trackway	0.05		3.8
6190	6191	FILL	Fill of ditch	0.2		0.8
6191		CUT	Ditch	0.2		0.8
6192	6193	FILL	Fill of linear	0.2		0.4
6193		CUT	Linear	0.2		0.4
6194	6195	FILL	Fill of ditch	0.2	1.8	0.7
6195		CUT	Ditch	0.2	1.8	0.7
6196		GROUP	Ditch / Rooting/ Burrowing ?	0.18-0.36	7.5	0.63-0.92
6197		GROUP	Ditch	0.2-0.5	5.5	0.7-1.00
6198	6200	SKEL	Skeleton		1.68	
6199	6200	FILL	Fill of burial cut	0.13	1.97	0.67
6200		CUT	Burial	0.13	1.97	0.67
6201	6203	SKEL	Skeleton			
6202	6203	FILL	Fill of burial cut	0.15	1.93	0.63
6203		CUT	Burial	0.15	1.93	0.63
6204	6206	SKEL	Skeleton			

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
6205	6206	FILL	Fill of burial cut	0.15	1.71	0.49
6206		CUT	Burial	0.15	1.71	0.49
7000		DEPO	Topsoil	0.27		
7001		DEPO	Subsoil	0.28		
7002		DEPO	Natural	NFE		
7003		CUT	Posthole	0.09	0.40	0.34
7004	7005	FILL	Fill of posthole	0.16	0.37	0.26
7005		CUT	Posthole	0.16	0.37	0.26
7006	7007	FILL	Fill of posthole	0.18	0.30	0.24
7007		CUT	Posthole	0.18	0.30	0.24
7008	7009	FILL	Fill of posthole?	0.28	1.20	0.50
7009		CUT	Posthole?	0.28	1.20	0.50
7010	7011	FILL	Fill of posthole?	0.13	0.30	0.30
7011		CUT	Posthole?	0.13	0.30	0.30
7012	7013	FILL	Fill of posthole?	0.11	0.35	0.35
7013		CUT	Posthole?	0.11	0.35	0.35
7014	7015	FILL	Fill of posthole	0.18	0.30	0.29
7015		CUT	Posthole	0.18	0.30	0.29
7016	7017	FILL	Fill of posthole	0.18	0.40	0.34
7017		CUT	Posthole	0.18	0.40	0.34
7018	7019	FILL	Fill of posthole	0.13	0.28	0.20
7019		CUT	Posthole	0.13	0.28	0.20
7020	7021	FILL	Fill of posthole	0.20	0.25	0.21
7021		CUT	Posthole	0.20	0.25	0.21
7022	7023	FILL	Fill of posthole	0.12	0.27	0.26
7023		CUT	Posthole	0.12	0.27	0.26
7024	7025	FILL	Fill of pit	0.46	1.24	0.90+
7025		CUT	Pit	0.46	1.24	0.90+
7026	7027	FILL	Fill of cremation or posthole	0.11	0.45	0.45
7027		CUT	Cremation or posthole	0.11	0.45	0.45
7028	7029	FILL	Fill of posthole	0.14	0.35	0.28
7029		CUT	Posthole	0.14	0.35	0.28
7030	7031	FILL	Fill of posthole	0.15	0.25	0.24
7031		CUT	Posthole	0.15	0.25	0.24
7032	7033	FILL	Fill of posthole	0.09	0.25	0.22
7033		CUT	Posthole	0.09	0.25	0.22
7034	7035	FILL	Fill of pit	0.12	0.73	0.68
7035		CUT	Pit	0.12	0.73	0.68
7036	7037	FILL	Fill of cremation or posthole	0.05	0.38	0.38
7037		CUT	Cremation or posthole	0.05	0.38	0.38
7038	7039	FILL	Fill of posthole	0.11	0.60	0.56
7039		CUT	Posthole	0.11	0.60	0.56
7040	7043	FILL	Fill of pit	0.40	2.50	2.20
7041	7061	FILL	Fill of pit	0.25	0.48	0.35

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
7042	7063	FILL	Secondary fill of pit	0.21	0.50	0.48
7043		CUT	Pit	0.40	2.50	2.20
7044	7045	FILL	Fill of posthole	0.14	0.33	0.32
7045		CUT	Posthole	0.14	0.33	0.32
7046	7047	FILL	Fill of posthole	0.14	0.36	0.34
7047		CUT	Posthole	0.14	0.36	0.34
7048	7049	FILL	Fill of posthole	0.13	0.3	0.29
7049		CUT	Posthole	0.13	0.3	0.29
7050	7051	FILL	Fill of posthole	0.12	0.28	0.23
7051		CUT	Posthole	0.12	0.28	0.23
7052	7053	FILL	Fill of pit	0.29	1.72	1.32
7053		CUT	Pit	0.29	1.72	1.32
7054	7055	FILL	Fill of possible natural pit	0.24	8.7	7.30
7055		CUT	Natural Pit?	0.24	8.7	7.30
7056	7057	FILL	Animal burial	0.06	0.87	0.42
7057		CUT	Cut for animal burial	0.06	0.87	0.42
7058	7003	FILL	Fill of posthole	0.09	0.40	0.34
7059	7060	FILL	Fill of pit	0.25	1.00	0.60
7060		CUT	Pit	0.25	1.00	0.60
7061		CUT	Pit	0.25	0.48+	0.35
7062	7063	FILL	Primary fill of pit	0.25	1.20	0.87+
7063		CUT	Pit	0.36	1.4	1.2+
7064	7065	FILL	Fill of posthole	0.16	0.23	0.21
7065		CUT	Posthole	0.16	0.23	0.21
7066	7067	FILL	Fill of feature	0.14	1.95+	1.95+
7067		CUT	Feature	0.14	1.95+	1.95+
7068	7069	FILL	Fill of posthole	0.24	0.53	0.53
7069		CUT	Posthole	0.24	0.53	0.53
7070	7071	FILL	Fill of posthole	0.05	0.37	0.37
7071		CUT	Posthole	0.05	0.37	0.37
7072	7073	FILL	Fill of posthole	0.24	0.2	0.19
7073		CUT	Posthole	0.24	0.2	0.19
7074	7075	FILL	Fill of posthole	0.16	0.34	0.12
7075		CUT	Posthole	0.16	0.34	0.12
8000		DEPO	Topsoil	0.3		
8001		DEPO	Subsoil	0.5		
8002		DEPO	Subsoil			

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8003		GROUP	Ditch	0.3	18.5	1.4
8004	8005	FILL	Fill of slot	0.32	0.65	1.2
8005		CUT	Ditch slot	0.32	0.65	1.2
8006		GROUP	Ditch	0.3	22.00	0.8
8007	8008	FILL	Fill of slot	0.15	1.00	0.86
8008		CUT	Ditch slot	0.15	1.00	0.86
8009		MASO	Drainage or field boundary	0.04-0.12	15.3	0.45
8010	8011	FILL	Fill of slot	0.25	1.00	0.8
8011		CUT	Ditch slot	0.25	1.00	0.8
8012	8013	FILL	Fill of slot	0.36	1	1.4
8013		CUT	Ditch slot	0.36	1	1.4
8014	8015	FILL	Fill of pit	0.7	0.55	0.55
8015		CUT	Pit	0.7	0.55	0.55
8016		DEPO	Earlier subsoil	0.3		
8017		VOID				
8018	8019	FILL	Fill of slot	0.25	1.1	0.35
8019		CUT	Ditch slot	0.25	1.1	0.35
8020	8021	FILL	Fill of slot	0.75	2.35	0.83
8021		CUT	Ditch slot	0.75	2.35	0.83
8022	8023	FILL	Fill of slot	0.18	1.95	0.8
8023		CUT	Ditch slot	0.18	1.95	0.8
8024	8025	FILL	Fill of slot	0.28	1.45	0.55
8025		CUT	Ditch slot	0.28	1.45	0.55
8026	8029	FILL	Tertiary fill of pit	0.29	2.25+	1.50+
8027	8029	FILL	Secondary fill of pit	0.12	0.85+	1.45+
8028	8029	FILL	Primary fill of pit	0.21	0.85+	1.42+
8029		CUT	Pit	0.53	2.25+	1.50+
8030	8031	FILL	Fill of terminus slot	0.12	0.63	0.25
8031		CUT	Ditch terminus slot	0.12	0.63	0.25
8032	8033	FILL	Fill of slot	0.23	1.07	0.57
8033		CUT	Ditch slot	0.23	1.07	0.57
8034	8036	FILL	Secondary fill of pit	0.2		0.75
8035	8036	FILL	Primary fill of pit	0.4		1.15
8036		CUT	Pit	0.61	1.8	1.35
8037		MASO	Stone linear	0.25	5	0.3
8038		MASO	Stone linear / Field drain?	0.25	4	0.3

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8039		MASO	Stone linear / Field drain?	0.25	4	0.3
8040		MASO	Stone linear / Field drain?			
8041		DEPO	Peat	0.56	0.46 - 6.00	2.5
8042		CUT	Possible pond			
8043		GROUP	Drainage or field boundary ditch	0.35	50	0.3-1.8
8044		GROUP	Drainage or field boundary ditch	0.4	16	1.4
8045		GROUP	Drainage or field boundary ditch	0.3	9	1.8
8046		GROUP	Field boundary ditch	0.2-0.6	50	1.5
8047		GROUP	Drainage ditch	0.2	15	0.45
8048	8049	FILL	Fill of slot	0.27	1	0.3
8049		CUT	Ditch slot	0.27	1	0.3
8050	8051	FILL	Fill of slot	0.22	1	0.65
8051		CUT	Ditch slot	0.22	1	0.65
8052	8053	FILL	Fill of slot	0..31	1	1.8
8053		CUT	Ditch slot	0..31	1	1.8
8054	8055	FILL	Fill of tree bole	0.33	1.95	1.2
8055		CUT	Tree bole	0.33	1.95	1.2
8056	8057	FILL	Fill of slot	0.32	1	1.35
8057		CUT	Ditch slot	0.32	1	1.35
8058	8059	FILL	Fill of slot around <8039>	0.23	1.1	0.55
8059		CUT	Cut for drain <8039>	0.23	1.1	0.55
8060		GROUP	Drainage / field boundary	0.3	12.5+	1.2
8061		GROUP	Drainage ditch	0.1	4	0.7
8062		GROUP	Drainage ditch or natural	0.03	4	0.4-0.6
8063		GROUP	Drainage ditch	0.25	32	0.45
8064	8065	FILL	Fill of slot	0.07	0.74	0.3
8065		CUT	Ditch slot	0.07	0.74	0.3
8066	8067	FILL	Fill of slot	0.22	0.6	0.41
8067		CUT	Ditch slot	0.22	0.6	0.41
8068	8069	FILL	Fill of slot	0.2	0.9	0.45
8069		CUT	Ditch slot	0.2	0.9	0.45

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8070	8071	FILL	Fill of slot	0.26	0.96	1.04
8071		CUT	Ditch slot	0.26	0.96	1.04
8072	8073	FILL	Fill of slot	1.1	1.6	1.2
8073		CUT	Ditch slot	0.7	1.6	1.2
8074	8075	FILL	Fill of slot	1.1	1.6	0.7
8075		CUT	Ditch slot	1.1	1.6	0.7
8076	8077	FILL	Fill of slot	0.38	3.2	0.3
8077		CUT	Ditch slot	0.38	3.2	0.3
8078		FILL	Fill of tree bole		2.07+	1.39+
8079	8080	FILL	Fill of slot	0.16	1.2	0.76
8080		CUT	Ditch slot	0.16	1.2	0.76
8081	8082	FILL	Fill of slot	0.3		1.9
8082		CUT	Ditch slot	0.3		1.9
8083		DEPO	Natural deposit	0.06	0.5+	0.55
8084		DEPO	Natural deposit	0.07	0.5+	0.4
8085	8086	FILL	Fill of slot	0.16	0.7	0.3
8086		CUT	Ditch slot	0.16	0.7	0.3
8087	8088	FILL	Fill of slot	0.12	1.62	0.24
8088		CUT	Ditch slot	0.12	1.62	0.24
8089	8090	FILL	Fill of slot	0.46	1.6	1.52
8090		CUT	Ditch slot	0.46	1.6	1.52
8091	8092	FILL	Fill of natural pit	0.16	1.14	0.64
8092		CUT	Natural Pit?	0.16	1.14	0.64
8093	8094	FILL	Fill of slot	0.32	1.5	1.2
8094		CUT	Ditch slot	0.35	1.5	1.2
8095	8096	FILL	Fill of slot	0.3	2.4	1.3
8096		CUT	Ditch slot	0.3	2.4	1.3
8097	8098	FILL	Fill of slot	0.3	1	1.1
8098		CUT	Ditch slot	0.3	1	1.1
8099	8100	FILL	Fill of slot	0.25	1.1	0.5
8100		CUT	Ditch slot	0.25	1.1	0.5
8101		GROUP	Ditch	0.15-0.20	12.5	0.5
8102		DEPO	Linear natural deposition	?	3.5	0.5
8103	8105	FILL	Secondary fill of pit	0.25	0.89	0.61
8104	8105	FILL	Primary fill of pit	0.46	0.89	0.5
8105		CUT	Pit	0.49	0.89	0.61

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8106	8107	FILL	Fill of slot	0.62	1	1.4
8107		CUT	Ditch slot	0.62	1	1.4
8108	8109	FILL	Fill of slot	0.24	1.09	1.6
8109		CUT	Ditch slot	0.24	1.09	1.6
8110		GROUP	Field drains			
8111	8112	FILL	Fill of slot	0.18	1.15	0.45
8112		CUT	Ditch slot	0.18	1.15	0.45
8113	8114	FILL	Fill of slot	0.27	0.75	0.35
8114		CUT	Ditch slot	0.27	0.75	0.35
8115	8116	FILL	Fill of slot	0.15	1	0.3
8116		CUT	Ditch slot	0.15	1	0.3
8117	8118	FILL	Fill of slot	0.1	0.48	0.25
8118		CUT	Ditch slot	0.1	0.48	0.25
8119	8120	FILL	Fill of slot	0.26	0.82	0.43
8120		CUT	Ditch slot	0.26	0.82	0.43
8121	8122	FILL	Fill of pit	0.14	0.75	0.4
8122		CUT	Pit	0.14	0.75	0.4
8123	8124	FILL	Fill of terminus slot	0.13	1	0.66
8124		CUT	Ditch terminus slot	0.13	1	0.66
8125	8126	FILL	Fill of slot	0.07	1	0.56
8126		CUT	Ditch slot	0.07	1	0.56
8127		GROUP	Linear feature	0.15-0.2	4.8	0.4
8128	8129	FILL	Fill of slot	0.22	0.75	0.5
8129		CUT	Ditch slot	0.22	0.75	0.5
8130	8131	FILL	Fill of slot	0.6	1.03	0.5
8131		CUT	Ditch slot	0.6	1.03	0.5
8132	8133	FILL	Fill of slot	0.46	0.72	1.02
8133		CUT	Ditch slot	0.46	0.72	1.02
8134	8136	FILL	Secondary fill of pit	0.37	2.06	0.83
8135	8136	FILL	Primary fill of pit	0.27	2.06	0.83
8136		CUT	Pit	0.65	2.06	0.83
8137	8138	FILL	Fill of pit	0.12	0.35+	0.25
8138		CUT	Pit	0.12	0.35+	0.25
8139	8140	FILL	Fill of slot	0.17	0.6+	0.28+
8140		CUT	Ditch slot	0.17	0.6+	0.28+
8141	8142	FILL	Fill of gully slot	0.1	0.5	0.43
8142		CUT	Gully slot	0.1	0.5	0.43
8143	8144	FILL	Fill of slot	0.17	1	0.48
8144		CUT	Ditch slot	0.17	1	0.48
8145	8146	FILL	Fill of pit	0.53	1.2	1
8146		CUT	Pit	0.53	1.2	1
8147	8148	FILL	Fill of construction cut	0.02	?	1.8
8148		CUT	Construction cut	0.02	?	1.8
8149	8151	FILL	Secondary fill of slot	0.1-0.2	1	?
8150	8151	FILL	Primary fill of slot	0.2	1	0.4
8151		CUT	Ditch slot	0.2	1	0.4

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8152		GROUP	Ditch and fence			
8153	8152	FILL	Fill of group			
8154	8155	FILL	Fill of terminus slot	0.2	0.65	0.2
8155		CUT	Ditch terminus slot	0.2	0.6	0.2
8156	8157	FILL	Fill of slot	0.3	0.9	0.4
8157		CUT	Ditch slot	0.3	0.9	0.4
8158	8159	FILL	Fill of slot	0.18	0.95	0.2
8159		CUT	Ditch slot	0.18	0.95	0.2
8160	8162	FILL	Secondary fill of pit	0.15	1.65	1.04
8161	8162	FILL	Primary fill of pit	0.45	1.65	1.04
8162		CUT	Pit	0.55	1.65	1.04
8163	8165	FILL	Secondary fill of slot	0.18	0.5	1.06
8164	8165	FILL	Primary fill of slot	0.19	0.5	0.68
8165		CUT	Ditch slot	0.37	0.5	1.6
8166	8167	FILL	Fill of slot	0.21	0.77+	0.18+
8167		CUT	Ditch slot	0.21	0.77+	0.18+
8168	8169	FILL	Fill of slot	0.27	0.8+	0.37+
8169		CUT	Ditch slot	0.27	0.8+	0.37+
8170		GROUP	Ditch	0.3	8.7	1.5
8171	8172	FILL	Fill of slot	0.72	0.9	1.33
8172		CUT	Ditch slot	0.72	0.9	1.33
8173		MASO		1.1	2.2	0.05
8174		DEPO	Mixed horizon	0.11	6	4
8175	8176	FILL	Fill of ditch slot	0.28	1	1.24
8176		CUT	Ditch slot	0.28	1	1.24
8177	8178	FILL	Secondary fill of ditch slot	0.1	0.9	0.9
8178		CUT	Ditch slot	0.2	0.9	0.9
8179	8180	FILL	Fill of slot	0.25	0.8	0.9
8180		CUT	Ditch slot	0.25	0.8	0.9
8181	8178	FILL	Primary fill of ditch slot	0.1	0.9	0.9
8182	8183	FILL	Fill of pit	0.05	0.6	0.7
8183		CUT	Pit	0.05	0.6	0.7
8184	8185	FILL	Fill of pit	0.55	0.6	0.55
8185		CUT	Pit	0.55	0.6	0.55

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8186	8188	FILL	Secondary fill of pit	0.26	2.16	0.86
8187	8188	FILL	Primary fill of pit	0.65	2.16	0.86
8188		CUT	Pit	0.91	2.16	0.86
8189	8190	FILL	Fill of slot	0.27	1	2
8190		CUT	Ditch slot	0.27	1	2
8191	8192	FILL	Fill of slot	0.4	1.1	1.8
8192		CUT	Ditch slot	0.4	1.1	1.8
8193	8194	FILL	Fill of slot	0.3	1.04	0.8
8194		CUT	Ditch slot	0.3	1.04	0.8
8195	8196	FILL	Fill of slot	0.3	0.8	0.25
8196		CUT	Ditch slot	0.3	0.8	0.25
8197		VOID				
8198		VOID				
8199	8201	FILL	Upper fill around wooden fence/ ditch	0.05-0.1		
8200	8263	TIMBER	Fence or lining of ditch			
8201		OTHER	Fence or wood lined ditch	0.15	Area 8	0.35
8202		GROUP	Pit or Ditch	0.25	6	1
8203		GROUP	Postholes			
8204	8209	FILL	Tertiary fill of terminus slot	0.5	3.5	1.7
8205	8206	FILL	Fill of terminus slot	0.3	1	0.7
8206		CUT	Ditch terminus slot	0.3	1	0.7
8207	8209	FILL	Secondary fill of terminus slot	0.3	3.5	1
8208	8209	FILL	Primary fill of slot	0.2	0.9	0.4
8209		CUT	Terminus ditch slot	1.4	3.5	1.7
8210		VOID				
8211		GROUP	Ditch			
8212		GROUP	Ditch			

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8213		GROUP	Ditch			
8214	8216	FILL	Secondary fill of terminus slot	0.34	1	3
8215	8216	FILL	Primary fill of terminus slot	0.73	1	3.1
8216		CUT	Ditch terminus slot	0.73	1	3.4
8217		GROUP	Masonry and postholes			
8218	8219	FILL	Fill of ditch slot	0.4	1	1.1
8219		CUT	Ditch slot	0.4	1	1.2
8220	8221	FILL	Fill of ditch slot	0.24	1.04	1.3
8221		CUT	Ditch slot	0.66	1.04	2
8222	8223	FILL	Fill of ditch slot	0.5	4.3	
8223		CUT	Ditch slot	0.5	4.3	
8224	8226	FILL	Fill of slot around stones	0.3	1.22	4.4
8225	8226	MASO	Ragstone	0.39	0.5	
8226		CUT	Ditch slot	0.3	1.24	2
8227	8228	FILL	Fill of posthole	0.2+	0.1	0.1
8228		CUT	Cut of posthole	0.2+	0.1	0.1
8229	8230	FILL	Fill of posthole	0.2+	0.09	0.09
8230		CUT	Cut of posthole	0.2+	0.09	0.09
8231	8232	FILL	Fill of posthole	0.2+	0.09	0.09
8232		CUT	Cut of posthole	0.2+	0.09	0.09
8233	8235	FILL	Secondary fill of ditch terminus slot	0.29	0.87	
8234	8235	FILL	Primary fill of ditch terminus slot	0.12	0.47	
8235		CUT	Ditch terminus slot	0.39	0.87	
8236	8209	FILL	Quaternary fill of ditch slot	0.4	4.5	2.7+
8237	8263	FILL	Base fill of fence ditch [8201] in slot [8263]	0.05	1	0.55
8238		DEPO	Lining of man made pond	0.08	2.5	0.45
8239	8240	FILL	Secondary fill ditch slot	0.52	1.7	?
8240		CUT	Ditch slot	0.72		2.66
8241	8242	FILL	Primary fill of ditch slot	0.34	?	2.58
8242		CUT	Ditch slot	0.7	?	2.6
8243	8245	TIMBER				
8244	8245	FILL	Fill containing (8243)	0.3	0.35	?
8245		CUT	Ditch slot	0.3	0.35	?
8246	8250	FILL	Quaternary fill of ditch slot	0.25	5	?
8247	8250	FILL	Tertiary fill of ditch slot	0.23	0.88	2.49
8248	8250	FILL	Secondary fill of ditch slot	0.4	3.5	?

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
8249	8250	FILL	Primary fill of ditch slot	? 1.02		2.22
8250		CUT	Ditch slot	0.7	2.4	?
8251	8252	FILL	Fill of ditch slot	0.35	2.3+	2.2
8252		CUT	Ditch slot	0.66	2.3+	2
8253	8255	FILL	Secondary fill of ditch slot	0.29	?	0.7?
8254	8255	FILL	Primary fill of ditch slot	0.22	?	0.7?
8255		CUT	Ditch slot	0.44	?	1.12
8256	8258	FILL	Fill of ditch slot	0.26	?	?
8257	8258	TIMBER				
8258		CUT	Ditch slot	0.32	?	0.36
8259	8262	FILL	Tertiary fill of ditch slot	0.4		
8260	8262	FILL	Secondary fill of ditch slot	0.2		
8261	8262	Fill	Primary fill of ditch slot	0.4		
8262		CUT	Ditch slot	1.14	2.3	3.1
8263		CUT	Fence / Ditch slot	0.15	1	0.6
8264	8240	FILL	Primary fill ditch slot	0.68		2.78
9001		DEPO	Topsoil	0.4		
9002		DEPO	Subsoil	0.4		
9003		DEPO	Natural	0.1+		
9004	9007	FILL	Secondary fill of ditch	0.25	7	2.5
9005	9007	FILL	Primary fill of ditch	0.4	7	2.5
9006	9007	FILL	Natral slumping at base of ditch	0.1	7	1
9007		CUT	Ditch	0.7	7	2.5
9008	9009	FILL	Fill of animal burrow	0.68	1.50+	0.3
9009		CUT	Animal burrow	0.68	1.50+	0.3
9010		GROUP	Ditch	0.2-0.3	65	0.9-1.4
9011		GROUP	Ditch	0.05-0.3	28.3	0.5-0.7
9012	9013	FILL	Fill of ditch slot	0.21	2.21	2.23
9013		CUT	Ditch slot	0.21	2.21	2.23
9014	9015	FILL	Fill of ditch slot	0.17	1.55+	0.53
9015		CUT	Ditch slot	0.17	1.55+	0.53
9016	9017	FILL	Fill of ditch slot	0.25	1+	0.75
9017		CUT	Ditch slot	0.25	1+	0.75
9018	9019	FILL	Fill of ditch slot	0.24	1.36	0.96
9019		CUT	Ditch slot	0.24	1.36	0.96

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
9020	9021	FILL	Fill of tree bole	0.19	1.2	0.37
9021		CUT	Tree bole	0.19	1.2	0.37
9022	9023	FILL	Fill of natural cut	0.21		0.96
9023		CUT	Natural cut	0.21		0.96
9024	9025	FILL	Fill of ditch slot	0.2	1.2	1.23
9025		CUT	Ditch slot	0.2	1.2	1.23
9026	9027	FILL	Fill of ditch slot	0.15	1.3	1.15
9027		CUT	Ditch slot	0.15	1.3	1.15
9028	9029	FILL	Fill of ditch slot	0.15	1.55	2
9029		CUT	Ditch slot	0.15	1.55	2
9030	9031	FILL	Fill of ditch slot	0.19	1	1.58
9031		CUT	Ditch slot	0.19	1	1.58
9032	9033	FILL	Fill of ditch slot	0.31	1.8	0.75
9033		CUT	Ditch slot	0.31	1.8	0.75
9034		DEPO	Spread	0.05-0.15	26	5.6
9035	9036	FILL	Fill of ditch slot	0.4		1.7
9036		CUT	Ditch slot	0.4		1.7
9037	9038	FILL	Fill of ditch slot	0.2		0.6
9038		CUT	Ditch slot	0.2		0.6
9039	9040	FILL	Fill of ditch slot	0.3	1	2.1
9040		CUT	Ditch slot	0.3	1	1.4
9041		DEPO	Spread	0.18	15	5.6
9042		OTHER	Trackway		10.4	
9043	9044	FILL	Fill of pit / cremation	0.26	0.6	0.5
9044		CUT	Pit/ cremation	0.26	0.6	0.5
9045	9046	FILL	Fill of pit / cremation	0.38	1	0.95
9046		CUT	Pit/ cremation	0.38	1	0.95
9047	9048	FILL	Fill of pit / cremation	0.2	0.6	0.6
9048		CUT	Pit/ cremation	0.2	0.6	0.6
9049	9050	FILL	Fill of pit / cremation	0.2	0.5	0.4
9050		CUT	Pit/ cremation	0.2	0.5	0.4
9051	9052	FILL	Fill of pit	0.2	0.7	0.6
9052		CUT	Pit	0.2	0.7	0.6
9053	9054	FILL	Fill of pit / cremation	0.2	0.25	0.2
9054		CUT	Pit/ cremation	0.2	0.25	0.2
9055	9056	FILL	Fill of pit / cremation	0.32	0.3	0.22
9056		CUT	Pit/ cremation	0.32	0.3	0.22
9057	9058	FILL	Fill of pit / cremation	0.27	0.35	0.27
9058		CUT	Pit/ cremation	0.27	0.35	0.27
9059	9060	FILL	Fill of pit / cremation	0.2	0.24	0.25
9060		CUT	Pit/ cremation	0.2	0.24	0.25
9061	9062	FILL	Fill of posthole	0.15	0.25	0.22

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
9062		CUT	Posthole	0.15	0.25	0.22
9063	9064	FILL	Fill of posthole	0.2	0.27	0.22
9064		CUT	Posthole	0.2	0.27	0.22
9065	9066	FILL	Fill of pit / cremation	0.17	0.15	0.18
9066		CUT	Pit/ cremation	0.17	0.15	0.18
9067	9068	FILL	Fill of posthole	0.11	0.22	0.22
9068		CUT	Posthole	0.11	0.22	0.22
9069	9071	FILL	Fill of pit	0.3	0.9	0.76
9070	9072	FILL	Fill of pit	0.3	1.77	1.08
9071		CUT	Pit	0.3	0.9	0.76
9072		CUT	Pit	0.3	1.77	1.08
9073		DEPO	Cobbled trackway	0.05		
9074		GROUP	Pit Cluster			
10001		DEPO	Topsoil	0.1		
10002		DEPO	Subsoil	0.1-0.25		
10003		DEPO	Natural	NFE		
10004	10005	FILL	Fill of tree bole	0.36	1.45	1
10005		CUT	Tree bole	0.36	1.45	1
10006	10007	FILL	Fill of shallow pit	0.08	0.56	0.45
10007		CUT	Shallow pit	0.08	0.56	0.45
10008	10009	FILL	Fill of posthole	0.16	0.42	0.4
10009		CUT	Posthole	0.16	0.42	0.4
10010	10011	FILL	Fill of tree bole	0.25	1.23	1.23
10011		CUT	Tree bole	0.25	1.23	1.23
10012		GROUP	Natural features/trees fill	0.16		
10013		CUT	Subsoil (slot)	0.25-0.3		
10014		CUT	Subsoil (slot)	0.24		7.37
10015		DEPO	Roman Topsoil	0.1-0.25		
10016		DEPO	Subsoil (slot)	0.1		
10017		DEPO	Subsoil (slot)	0.06	1.6	7.03
10018		CUT	Cut of pit	0.34	0.82	0.49
10019	10018	FILL	Pit	0.34	0.82	0.49
10020		CUT	Ditch slot	0.44	1.24	1.4

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10021	10020	FILL	Lower fill of ditch	0.32	1.24	0.95
10022	10020	FILL	Upper / tertiatry fill of ditch	0.23	1.24	
10023		GROUP	Roman E-W Ditch southend	0.35-0.44	20.2	1.2
10024		GROUP	Group of pits and postholes near NW LOE central part of the site			
10025		CUT	Posthole	0.33	0.4	0.28
10026	10025	FILL	Fill of posthole	0.43	0.4	
10027		GROUP	Kiln	0.5	3.2	1.4
10028		GROUP	ditched enclosure	0.15	3.4	2.4
10029		GROUP	Kiln/ Corndrier	0.8	1.5	8.4
10030		GROUP	Kiln	0.30-0.80	8.5	2.2
10031	10032	FILL	Fill of pit	0.07	0.82	1.78
10032		CUT	Pit	0.07	0.82	1.78
10033	10034	FILL	Fill of pit / posthole	0.28	0.52	0.51
10034		CUT	Pit / posthole	0.28	0.52	0.51
10035	10036	FILL	Fill of posthole	0.17	0.3	0.26
10036		CUT	Posthole	0.17	0.3	0.26
10037	10038	FILL	Fill of posthole	0.38	0.45	0.36
10038		CUT	Posthole	0.38	0.45	0.36
10039	10040	FILL	Fill of posthole	0.15	0.36	0.36
10040		CUT	Posthole	0.15	0.36	0.36

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10041	10042	FILL	Fill of posthole	0.37	0.44	0.38
10042		CUT	Posthole	0.37	0.44	0.38
10043	10044	FILL	Fill of posthole	0.19	0.4	0.41
10044		CUT	Posthole	0.19	0.4	0.41
10045	10046	FILL	Fill of posthole	0.36	0.3	0.38
10046		CUT	Posthole	0.36	0.3	0.38
10047	10048	FILL	Fill of Ditch slot	0.46	1	1.6
10048		CUT	Ditch slot	0.46	1	1.6
10049		DEPO	Spread over 10027 10028	0.05-0.10		
10050		DEPO	Over eastside 10027 10028	0.20-.30		
10051		DEPO	Spread over 10029 10030			
10052		DEPO	Spread southside over 10030	0.30-0.40		
10053	10029	FILL	backfill of kiln 10029	0.07-0.10	8	0.50-0.90
10054	10029	FILL	Upper fill of Kiln 10029 quadrant 1	0.15-0.20	1	0.5
10055	10226	FILL	Upper Fill of Kiln ([10030]?)	0.15	2	1
10056	10030	FILL	Upper Fill of Kiln 10030	0.05	?	0.8
10057	10030	FILL	Fill of Kiln 10030	0.07	1.7	1
10058	10059	FILL	Fill of pit	0.12	0.4	0.5
10059		CUT	Pit	0.12	0.4	0.5
10060	10061	FILL	Fill of pit / posthole	0.08	0.22	0.22
10061		CUT	Pit / posthole	0.08	0.22	0.22
10062	10063	FILL	Fill of posthole	0.2	0.32	0.3
10063		CUT	Posthole	0.2	0.32	0.3
10064	10065	FILL	Fill of pit / posthole	0.18	0.48+	0.52

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10065		CUT	Pit / posthole	0.18	0.48+	0.52
10066	10067	FILL	Fill of posthole	0.22	0.23	0.21
10067		CUT	Posthole	0.22	0.23	0.21
10068	10069	FILL	Fill of posthole	0.21	0.2	0.17
10069		CUT	Posthole	0.21	0.2	0.17
10070	10071	FILL	Fill of posthole	0.12	0.14+	0.2
10071		CUT	Posthole	0.12	0.14+	0.2
10072	10073	FILL	Fill of pit	0.13	0.22+	0.53
10073		CUT	Pit	0.13	0.22+	0.53
10074	10030	FILL	Fill of kiln 10030	0.07	0.2	0.2
10075	10030	FILL	Fill of kiln 10030	0.05	1.2	1
10076	10030	FILL	Fill of kiln 10030	0.11	2.67	0.93
10077	10030	FILL	Fill of kiln 10030	0.08	1.5	0.35
10078		GROUP	Roman E-W Ditch northend	0.32-0.62	14	0.6-1.2
10079		GROUP	Roman N-S Gully	0.13	4.2	0.65
10080	10081	FILL	Fill of gully terminus	0.11	1.44	0.62
10081		CUT	Gully terminus	0.11	1.44	0.62
10082	10083	FILL	Fill of ditch slot	0.32	1	0.9
10083		CUT	Ditch slot	0.32	1	0.9
10084	10086	FILL	Upper fill of ditch slot	0.28	1	0.7
10085	10086	FILL	Lower fill of ditch slot	0.33	1	0.55
10086		CUT	Ditch slot	0.62	1	0.7+
10087	10088	FILL	Fill of ditch slot	0.13	0.5	0.45
10088		CUT	Ditch slot	0.13	0.5	0.45
10089	10091	FILL	Upper fill of ditch slot	0.32	1	1.22
10090	10091	FILL	Lower fill of ditch slot	0.24	1	0.68
10091		CUT	Ditch slot	0.56	1	1.22
10092		GROUP	Curved linear ditched enclosure	0.43-0.57	40	1.36
10093	10095	FILL	Upper fill of ditch slot	0.18	1.2	1
10094	10095	FILL	Lower fill of ditch slot	0.26	1.2	0.62
10095		CUT	Ditch slot	0.47	1.2	1
10096	10098	FILL	Upper fill of ditch slot	0.2	1.4	1.1
10097	10098	CUT	Lower fill of ditch slot	0.23	1.4	1.1
10098		CUT	Ditch slot	0.43	1.4	1.1
10099	10101	FILL	Upper fill of ditch slot	0.57	1	1.28
10100	10101	FILL	Lower fill of ditch slot	0.35	1	1.28
10101		CUT	Ditch slot	0.57	1	1.28

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10102		GROUP	Group of postholes aligment	0.2	0.3	0.3
10103	10104	FILL	Fill of posthole	0.04	0.29	0.29
10104		CUT	Posthole	0.04	0.29	0.29
10105	10105	FILL	Fill of posthole	0.07	0.3	0.29
10106		CUT	Posthole	0.07	0.3	0.29
10107	10108	FILL	Fill of posthole	0.04	0.28	0.25
10108		CUT	Posthole	0.04	0.28	0.25
10109	10110	FILL	Fill of posthole	0.1	0.21	0.21
10110		CUT	Posthole	0.1	0.21	0.21
10111	10112	FILL	Fill of ditch	0.35	1.23	1.65
10112		CUT	Ditch	0.35	1.23	1.65
10113	10027	MASO	Kiln structure	0.3	3.2	0.3
10114	10029	FILL	Fill containing collapse of flue	0.25	0.55	0.35
10115	10029	FILL	Fill containing collapse of flue	0.24		
10116	10029	FILL	Fill containing collapse of flue	0.08	0.86	
10117	10029	FILL	2nd fill of kiln 10029 Q3	0.26		
10118	10119	FILL	2nd fill of kiln 10029 Q4	0.23		
10119	10029	CUT	Construction Cut of Kiln 10029	0.8	8.4	1.5
10120	10029	MASO	Kiln flue			
10121	10030	FILL	Collapse of kiln [10030]	0.25	4.4	1
10122		MASO	Kiln structure			
10123		MASO	Kiln structure			
10124		MASO	Kiln structure			
10125		GROUP	Ditch for path or foundation or flooring			
10126	10127	FILL	Fill of slot	0.07	0.6	0.57
10127		CUT	slot	0.07	0.6	0.57
10128	10129	FILL	Fill of slot	0.15	0.84	0.7
10129		CUT	slot	0.15	0.84	0.7
10130	10027	FILL	Upper rubble fill in 10133 10134 10135	0.3	3.2	1.4
10131	10027	FILL	Charcoal fill in 10133	0.05-0.15	1.4	0.8
10132	10027	FILL	Charcoal fill in 10135	0.05	1.2	1.1
10133		CUT	Construction Cut of firing chamber Kiln 10027	0.4-0.5	1.6	1.2

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10134		CUT	construction cut of flue of kiln 10027	0.5	1.4	1.4
10135		CUT	construction cut of stoke pit of kiln 10027	0.5	1.4	1.4
10136	10027	FILL	fired clay lining of kiln 10027	0.3	3.2	0.3
10137	10133	FILL	unfired clay lining of kiln 10027	0.3-0.5	3,2	1.0-1.4
10138	10027	FILL	backfill of cons cut southside	0.35		
10139	10027	FILL	backfill of const cut northside	0.35		0.08-0.2
10140	10027	CUT	Construction cut of Kiln 10027	0.5	3.2	1.4
10141	10029	MASO	Kiln structure 10029			
10142	10029	FILL	Fill of kiln 10029	0.05-0.15	3.4	2.4
10143	10029	CUT	Construction Cut of kiln 10029	0.15	3.4	2.4
10144	10145	FILL	Fill of pit	0.1	0.84	0.72
10145		CUT	Pit	0.1	0.84	0.72
10146	10147	FILL	Fill of pit	0.2	0.8	0.7
10147		CUT	Pit	0.2	0.8	0.7
10148	10148	FILL	Fill of gully terminus	0.13	0.72	0.35
10149		CUT	Ditch	0.13	0.72	0.35
10150		GROUP	Group of pits southend			
10151	10152	FILL	Fill of posthole	0.1	0.22	0.22
10152		CUT	Posthole	0.1	0.22	0.22
10153	10154	FILL	Fill of ditch slot	0.28	1.24	1.05
10154		CUT	Ditch slot	0.28	1.24	1.05
10155	10156	FILL	Fill of posthole or pit	0.07	0.29	0.22
10156		CUT	Posthole or pit	0.07	0.29	0.22
10157	10158	FILL	Fill of ditch terminus	0.16	0.32	
10158		CUT	Ditch terminus	0.16		
10159	10160	FILL	Fill of Pit			
10160		CUT	Pit			
10161	10162	FILL	Fill of ditch			
10162		CUT	Ditch			
10163	10164	FILL	Fill of Pit	0.2	0.8	0.8
10164		CUT	Pit	0.2	0.8	0.8
10165	10166	FILL	Fill of posthole	0.07	0.3	0.35
10166		CUT	Posthole	0.07	0.3	0.35
10167	10168	FILL	Fill of posthole	0.09	0.7	0.4
10168		CUT	Posthole	0.09	0.7	0.4
10169	10119	FILL	Fill of Kiln 10029 q6	0.19	0.64	
10170	10119	FILL	4th fill of kiln 10029 Q5	0.11	0.64	
10171	10119	MASO	Kiln structure 10029 q6		1	2.2
10172	10119	FILL	Upper Fill of Kiln 10029 q5	0.1	0.75	

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10173	10119	FILL	4th fill of kiln 10029 Q6	0.29	1.62	
10174	10119	MASO	Kiln structure 10029 q5			
10175	10030	FILL	Collapse of kiln 10030	0.1	1.62	0.3
10176	10030	FILL	Collapse of kiln 10030	0.05	0.95	0.3
10177	10030	FILL	Collapse of kiln 10030	0.2	1.5	0.8
10178	10030	FILL	Fill under 10176 kiln 10030	0.05	1.6	0.4
10179	10180	FILL	Fill of Pit	0.35	1.04	0.84
10180		CUT	Pit	0.35	1.05	0.85
10181	10182	FILL	Fill of Pit	0.5	1.3	0.8
10182		CUT	Pit	0.5	1.3	0.8
10183	10030	FILL	Fill under 10175 kiln 10030	0.04	0.72	0.59
10184		GROUP	Pits grouped south part of the area		30	10
10185	10186	FILL	Fill of posthole	0.14	0.47	0.43
10186		CUT	Posthole	0.14	0.47	0.43
10187	10188	FILL	Fill of pit	0.08	0.6	0.6
10188		CUT	Pit	0.08	0.6	0.6
10189	10030	FILL	Fill of kiln 10030	0.3	2.6	1.7
10190	10191	FILL	Fill of posthole	0.07	0.4	0.36
10191		CUT	Posthole	0.07	0.4	0.36
10192	10193	FILL	Fill of posthole	0.14	0.44	0.36
10193		CUT	Posthole	0.14	0.44	0.36
10194	10029	FILL	Fill of Kiln 10029 q5	0.07-0.15	0.9	0.35
10195	VOID	VOID	VOID	VOID	VOID	VOID
10196	10029	FILL	Fill of Kiln 10029 q6	0.31	1.5	
10197	10029	FILL	Fill of Kiln 10029 q6	0.05	0.73	
10198	VOID	VOID	VOID	VOID	VOID	VOID
10199	10029	FILL	Fill of Kiln 10029 q6	0.05	0.9	0.35
10200	10201	FILL	Fill of Ditch terminus	0.12	1.4	0.85
10201		CUT	Ditch terminus	0.12	1.4	0.85
10202	10030	FILL	Fill of kiln 10030	0.02	0.6	0.3
10203	10030	FILL	Fill of kiln 10030	0.02	0.5	0.3
10204	10030	FILL	Fill of kiln 10030	0.06	1.5	0.8
10205	10030	FILL	Fill of kiln 10030	0.4	2.6	1.6
10206	10030	FILL	Fill of kiln 10030		1.52	1.34
10207	10029	FILL	Fill of Kiln 10029 q6	0.19	0.52	
10208	10029	FILL	Fill of Kiln 10029 q5	0.1	0.9	0.35
10209	10210	FILL	Fill of ditch	0.46	1.36	1
10210		CUT	Ditch	0.46	1.36	1
10211	10222	FILL	Fill of pit cutting kiln 10030	0.15-0.2	3.6	2.6
10212	10029	FILL	Fill of Kiln 10029			
10213	10214	FILL	Fill of pit	0.39		1.2?
10214		CUT	Pit cutting kiln 10029	0.39		1.13?

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10215	10214	FILL	Animals buried	0.1		0.46
10216		FILL	Fill of kiln 10030	0.15	0.4	0.2
10217	10218	FILL	Fill of posthole in kiln 10030	0.3	0.5	0.5
10218		CUT	Cut of posthole in kiln 10030	0.3	0.5	0.5
10219	10220	FILL	Fill of posthole in kiln 10030	0.08	0.2	0.2
10220		CUT	Cut of posthole in kiln 10030	0.08	0.2	0.2
10221	10222	FILL	Fill of pit	0.4	3.66	2.6
10222		CUT	Pit cutting kiln 10030	0.5	3.66	2.6
10223	10030	CUT	Construction cut of kiln 10030	0.8	8.5	2.2
10224			void			
10225	10030	MASO	Bricks side kiln 10030		1.2-1.8	0.3
10226	10030	MASO	Clay lining kiln 10030	0.05-0.1	7.5	0.3-0.7
10227	10030	FILL	Fill of kiln 10030	0.1	6	0.8
10228	10030	MASO	Anvil stone	0.3	0.9	0.6
10229	10030	MASO	Yellow lining	0.8	7.5	0.3
10230		GROUP	Animal burial in pit	0.6	1.5	1.5
10231	10214	FILL	Animal buried			
10232	10214	FILL	Animal buried			
10233	10029	FILL	Fill of kiln 10029	0.05-0.1	1	1
10234	10029	MASO	Kiln structure 10029	0.2	1.4	1.2
10235	10029	MASO	Base Kiln structure 10029		1.5	1.4
10236	10030	FILL	Crushed cbm in kiln 10030	0.25	1.7	1.4
10237	10029	FILL	fill of kiln 10029	0.2	1.4	1.2
10238	10029	GROUP	Masonry in kiln [10029]	0.8	8	1.5
10239	10240	FILL	Fill of Ditch terminus	0.2	0.7	0.55
10240		CUT	Cut of ditch terminus	0.2	0.7	0.55
10241	10242	FILL	Fill of Ditch terminus	0.15-0.2	0.65	0.35
10242		CUT	Cut of ditch terminus	0.2	0.65	0.35
10243	10246	FILL	Fill of pit	0.15	1.7	1.7
10244	10246	FILL	Fill of pit	0.2	1.1	1.1
10245	10246	FILL	Fill of pit	0.1	1.2	1.2
10246		CUT	Pit	0.4	2	2
10247	10248	FILL	Fill of ditch	0.2	0.6	0.3
10248		CUT	Ditch	0.2	4.35	0.5
10249	10250	FILL	Fill of ditch	0.2	0.6	0.4
10250		CUT	Ditch	0.2	0.6	0.4
10251	10251	FILL	Fill of ditch	0.2	0.8	0.4
10252		CUT	Ditch	0.2	0.8	0.6
10253	10259	FILL	1st top Fill of rubbish pit	0.2-0.25	3.5	1.5
10254	10259	FILL	2nd Fill of rubbish pit	0.35-0.4	3	1.5
10255	10259	FILL	1rd Fill of rubbish pit	0.2	2.7	1.5
10256	10259	FILL	4th Fill of rubbish pit	0.08	1.5	1.2

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
10257	10259	FILL	5th Fill of rubbish pit	0.1	1.7	1.5
10258	10259	FILL	6th lowest Fill of rubbish pit	0.08-0.25	2	1.5
10259		CUT	Rubbish pit	0.8	3.5	1.5
10260		GROUP	ditched enclosure related to 10028 10125	0.2	4.5	0.5
10261		GROUP	Early gully	0.2	2.3	0.6
11001		DEPO	Topsoil	0.3	30	2.1
11002		DEPO	Subsoil	0.25-0.30	30	2.1
11003		DEPO	Natural	NFE	30	2.1
11004	11005	FILL	Fill of ditch	0.15	2.2+	0.75
11005		CUT	Ditch	0.15	2.2+	0.75
11006	11007	FILL	Fill of tree bole	0.2	1.36	0.9
11007		CUT	Tree bole	0.2	1.36	0.9
11008	11009	FILL	Fill of possible tree bole	0.09	1.1	0.5
11009		CUT	Possible tree bole	0.09	1.1	0.5
11010	11012	FILL	Secondary fill of ditch	0.25	0.8	1
11011	11012	FILL	Primary fill of ditch	0.05	2.9	1
11012		CUT	Ditch	0.25	2	1
11013	11014	FILL	Fill of possible tree bole	0.21	0.95	0.7
11014		CUT	Possible tree bole	0.21	0.95	0.7
11015		CUT	Ditch	0.55	2	1.85
11016	11017	FILL	Fill of ditch	0.13	2.2	0.38
11017		CUT	Ditch	0.13	2.2	0.38
11018	11020	FILL	Secondary fill of pit	0.45	1.1	
11019	11020	FILL	Primary fill of pit	0.1	0.25	
11020		CUT	Test pit?	0.7	1.1	
11021	11022	FILL	Fill of ditch	0.07	2.2+	0.62
11022		CUT	Ditch	0.07	2.2+	0.62
11023	11024	FILL	Fill of ditch slot	0.2	1	1
11024		CUT	Ditch slot	0.2	1	1
11025	11026	FILL	Fill of ditch slot	0.08	2.12+	0.4
11026		CUT	Ditch slot	0.08	2.12+	0.4
11027	11028	FILL	Fill of ditch	0.3	2.0+	0.51
11028		CUT	Ditch	0.3	2.0+	0.51
11029	11030	FILL	Fill of ditch slot ?	0.19	2.0+	0.45
11030		CUT	Ditch slot ?	0.19	2.0+	0.45
11031	11033	FILL	Primary fill of ditch	0.3	2.12+	2.86
11032	11033	FILL	Redeposited natural	0.46	?	3.04
11033		CUT	Ditch		2.12+	3.84
11034	11033	FILL	Upper fill of ditch	0.3	2.12+	3.84
12001		DEPO	Topsoil			
12002		DEPO	Subsoil			

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12003		DEPO	Natural			
12004		DEPO	Deposit	0.08	5	3
12005	12206	FILL	Fill of ditch slot	0.08	1.2	0.33
12006		CUT	Ditch slot	0.08	1.2	0.33
12007	12008	FILL	Fill of ditch slot	0.35	1.0+	0.35
12008		CUT	Ditch slot	0.35	1.0+	0.35
12009	12010	FILL	Fill of ditch	0.16	1.1+	0.28
12010		CUT	Ditch	0.16	1.1+	0.28
12011	12012	FILL	Fill of ditch			
12012		CUT	Ditch			
12013	2016	FILL	Tertiary fill of pit	0.19	2.05	1.75
12014	2016	FILL	Secondary fill of pit	0.28	2.05	1.75
12015	2016	FILL	Primary fill of pit	0.39	2.05	1.75
12016		CUT	Pit	0.73	2.05	1.75
12017	12018	FILL	Fill of ditch	0.07	0.82+	0.35
12018		CUT	Ditch	0.07	0.82+	0.35
12019	12020	FILL	Fill of ditch	0.15	0.44+	0.27
12020		CUT	Ditch	0.15	0.44+	0.27
12021	12022	FILL	Fill of ditch slot	0.17	0.27	0.37
12022		CUT	Ditch slot	0.17	0.27	0.37
12023		DEPO	Slot in spread	0.17	4.4	1.80+
12024		VOID				
12025		VOID				
12026		VOID				
12027		VOID				
12028	12029	FILL	Fill of ditch			
12029		CUT	Ditch			
12030	12031	FILL	Fill of ditch slot	0.04	1.0+	0.25
12031		CUT	Ditch slot	0.04	1.0+	0.25
12032	12034	FILL	Secondary fill of ditch slot	0.25	1.0+	0.55
12033	12034	FILL	Primary fill of ditch slot	0.1	1.0+	0.55
12034		CUT	Ditch slot	0.35	1.0+	0.55
12035	12037	FILL	Secondary fill of ditch slot	0.25	1.0+	0.84
12036	12037	FILL	Primary fill of ditch slot	0.09	1.0+	0.62
12037		CUT	Ditch slot	0.31	1.0+	0.84
12038	12039	FILL	Fill of posthole	0.18	0.53	0.51

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12039		CUT	Posthole	0.18	0.53	0.51
12040	12041	FILL	Fill of posthole	0.19	0.37	0.28
12041		CUT	Posthole	0.19	0.37	0.28
12042	12043	FILL	Fill of posthole	0.1	0.35	0.15+
12043		CUT	Posthole	0.1	0.35	0.15+
12044	12046	FILL	Secondary fill of posthole	0.23	0.58	0.56
12045	12046	FILL	Primary fill of posthole	0.18	0.58	0.47
12046		CUT	Posthole	0.4	0.58	0.56
12047	12048	FILL	Fill of ditch	0.08	0.88+	0.09
12048		CUT	Ditch	0.08	0.88+	0.09
12049		VOID				
12050		DEPO	Spread? Or fill?	0.14	12.1	8.23
12051	12053	FILL	Secondary fill of pit	0.42	0.96	0.85
12052	12053	FILL	Primary fill of pit	0.15	0.96	0.46
12053		CUT	Pit	0.58	0.96	0.85
12054	12057	FILL	Tertiary fill of pit	0.19	2.05	1.75
12055	12057	FILL	Secondary fill of pit	0.28	2.05	1.75
12056	12057	FILL	Primary fill of pit	0.39	2.05	1.75
12057		CUT	Pit	0.73	2.05	1.75
12058	12061	FILL	Tertiary fill of ditch terminus slot	0.14	1.0+	0.9
12059	12061	FILL	Secondary fill of ditch terminus slot	0.32	1.0+	0.98
12060	12061	FILL	Primary fill of ditch terminus slot	0.52	1.0+	0.97
12061		CUT	Ditch terminus	0.52	8.0+	1.06
12062	12063	FILL	Fill of pit	0.08	1.24	1.22
12063		CUT	Pit	0.08	1.24	1.22
12064	12065	FILL	Fill of ditch	0.13	1.19	0.36
12065		CUT	Ditch	0.13	1.19	0.36
12066	12067	FILL	Fill of ditch	0.15	0.8	0.3
12067		CUT	Ditch	0.15	0.8	0.3
12068	12069	FILL	Fill of ditch terminus	0.12	0.46+	0.65
12069		CUT	Ditch terminus	0.12	0.46+	0.65
12070		GROUP	Ditch	0.35	12.5	0.35
12071		GROUP	Ditch	0.17	4.5	0.3
12072		GROUP	Ditch	0.04-0.15	5.3	0.45-1

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12073		DEPO	Occupational deposit	0.1	4.7	3.6
12074		DEPO	Spread?	0.16?	12.1	1.15
12075	12076	FILL	Fill of ditch slot	0.15	1.2+?	0.43
12076		CUT	Ditch slot	0.15	1.2+?	0.43
12077		FILL	Fill of ditch slot	0.17	1.0+?	0.6
12078		CUT	Ditch slot	0.17	1.0+?	0.6
12079	12080	FILL	Fill of ditch terminus	0.19	0.6+?	0.26
12080		CUT	Ditch terminus	0.19	0.6+?	0.26
12081	12082	FILL	Fill of ditch slot	0.27	1.2+	0.46-0.71
12082		CUT	Ditch slot	0.27	1.2+	0.46-0.71
12083		GROUP	Same as 12163			
12084	12085	FILL	Fill of ditch slot	0.31	1.2+	0.94
12085		CUT	Ditch slot	0.31	1.2+	0.94
12086	12087	FILL	Fill of ditch slot	0.44	1.2+	0.5
12087		CUT	Ditch slot	0.44	1.2+	0.5
12088	12090	FILL	Secondary fill of ditch slot	0.2	1.2+	1.02
12089	12090	FILL	Primary fill of ditch slot	0.17	1.2+	0.81
12090		CUT	Ditch slot			
12091	12092	FILL	Fill of ditch slot	0.28	1.0+	0.45
12092		CUT	Ditch slot	0.28	1.0+	0.22+
12093	12095	FILL	Fill of ditch slot	0.38	1.0+	0.99
12094	12095	OTHER	Drain	0.28	1.0+	0.52
12095		CUT	Ditch slot	0.38	1.0+	0.99
12096	12097	FILL	Fill of ditch slot	0.17	1.0+	0.62+
12097		CUT	Ditch slot	0.17	1.0+	0.62+
12098	12099	FILL	Fill of ditch slot	0.34	1.0+	0.4
12099		CUT	Ditch slot	0.34	1.0+	0.4
12100	12102	FILL	Secondary fill of ditch slot	0.37	1.1+	1.15
12101	12102	FILL	Primary fill of ditch slot	0.13	1.1+	0.46
12102		CUT	Ditch slot	0.37	1.1+	1.15
12103	12107	FILL	Tertiary fill of ditch slot	0.28	1.00+	1.55
12104	12107	FILL	Secondary fill of ditch slot	0.17	1.00+	1.3
12105	12107	FILL	Primary fill of ditch slot	0.23	1.00+	1.25
12106	12107	OTHER	Drain	0.32		0.5
12107		CUT	Ditch slot	0.55	1.00+	1.55+
12108	12110	FILL	Secondary fill of ditch slot	0.21	1.00+	0.43
12109	12110	FILL	Primary fill of ditch slot	0.29	1.00+	0.54
12110		CUT	Ditch slot	0.52	1.00+	0.43+

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12111	12112	FILL	Fill of ditch slot	0.24	1.00+	0.35
12112		CUT	Ditch slot	0.24	1.00+	0.35
12113	12115	FILL	Secondary fill of ditch slot	0.19	1.00+	0.81
12114	12115	FILL	Primary fill of ditch slot	0.21	1.00+	0.56
12115		CUT	Ditch slot	0.38	1.00+	0.81
12116	12118	FILL	Secondary fill of ditch slot	0.2	1.00+	0.62
12117	12118	FILL	Primary fill of ditch slot	0.29	1.00+	0.63
12118		CUT	Ditch slot	0.5	1.00+	0.65+
12119	12120	FILL	Fill of ditch slot	0.24	0.9+	0.45
12120		CUT	Ditch slot	0.24	0.9+	0.45
12121	12122	FILL	Fill of ditch slot	0.04	1.16+	0.7
12122		CUT	Ditch slot	0.04	1.16+	0.7
12123		VOID				
12124		VOID				
12125	12126	FILL	Fill of pit	0.07		0.55
12126		CUT	Pit	0.13	0.18	0.36
12127	12128	FILL	Fill of ditch slot	0.16	1.0+	0.66+
12128		CUT	Ditch slot	0.16	1.0+	0.66+
12129	12133	FILL	Quaternary fill of ditch slot	0.15	1.0+	1.6
12130	12133	FILL	Tertiary fill of ditch slot	0.2	1.0+	1.7
12131	12133	FILL	Secondary fill of ditch slot	0.16	1.0+	1.45
12132	12133	FILL	Primary fill of ditch slot	0.53	1.0+	1.07
12133		CUT	Ditch slot	1.02	1.0+	1.7
12134	12136	FILL	Secondary fill of ditch slot	0.35	1.0+	0.54
12135	12136	FILL	Primary fill of ditch slot	0.16	1.0+	0.7
12136		CUT	Ditch slot	0.51	1.0+	0.7
12137	12138	FILL	Fill of drainage ditch	0.09	0.82?	0.26
12138		CUT	Ditch	0.09	0.82?	0.26
12139	12140	FILL	Fill of ditch slot	0.17	1.0+	0.59
12140		CUT	Ditch slot	0.17	1.0+	0.59
12141	12142	FILL	Fill of ditch terminus	0.24	0.68+	0.23+
12142		CUT	Ditch terminus	0.24	0.68+	0.23+
12143		GROUP	Modern Drainage ditch	0.27	13	0.71
12144		GROUP	Boundary Ditch		94+	
12145		GROUP				
12146	12148	FILL	Fill of ditch			
12147	12148	OTHER	Chalk rubble drain			
12148		CUT	Ditch			
12149	12151	FILL	Secondary fill of ditch slot			
12150	12151	FILL	Primary fill of ditch slot			
12151		CUT	Ditch slot			
12152	12153	FILL	Fill of ditch slot	0.29	0.6+	0.32
12153		CUT	Ditch slot	0.29	0.6+	0.32
12154	12155	FILL	Fill of ditch slot	0.31	0.6+	0.25

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12155		CUT	Ditch slot	0.31	0.6+	0.25
12156	12157	FILL	Fill of ditch terminus	0.06	0.75	0.34
12157		CUT	Ditch terminus	0.06	0.75	0.34
12158	12161 / 12205	FILL	Spread	0.19	2.73	
12159	12161	FILL	Secondary fill of ditch slot	0.2		1.9
12160	12161	FILL	Primary fill of ditch slot	0.66		1
12161		CUT	Ditch slot	1.07	?	1.3
12162		GROUP	Roman Boundary Ditch			
12163		GROUP	Ditch		10.7	0.85
12164		GROUP	Roman Boundary Ditch	0.3-1.0	69.5	1.3-3.2
12165		GROUP	Modern Boundary Ditch		1.75-2.2	68.5
12166		VOID				
12167		VOID				
12168		VOID				
12169	12170	FILL	Fill of ditch slot	0.1	0.5	0.2
12170		CUT	Ditch slot	0.1	0.5	0.2
12171	12172	FILL	Fill of ditch slot			
12172		CUT	Modern drainage ditch slot			
12173	12174	FILL	Fill of ditch slot			
12174		CUT	Modern drainage ditch slot			
12175	12176	FILL	Fill of ditch slot	0.08	1.6+	0.33
12176		CUT	Ditch slot	0.08	1.6+	0.33
12177	12178	FILL	Fill of pit terminus	0.24	2	0.21
12178		CUT	Pit	0.24	2	0.21
12179	12181	FILL	Fill of posthole	0.23	?	0.5
12180	12181	FILL	Fill of post pipe	0.27	?	0.2
12181		CUT	Cut of posthole	0.27	0.43	0.5
12182	12183	FILL	Fill of ditch slot	0.12	1.0+	0.57
12183		CUT	Ditch slot	0.12	1.0+	0.57
12184	12185	FILL	Fill of ditch slot	0.3	1.4+	1.6
12185		CUT	Ditch slot	0.3	1.4+	1.6
12186	12187	FILL	Fill of ditch slot	0.2	1.4+	0.4
12187		CUT	Ditch slot	0.2	1.4+	0.4
12188		VOID				
12189		VOID				
12190	12189	FILL	Fill of ditch terminus	0.08	0.62	0.26
12191		CUT	Ditch terminus	0.08	0.62	0.26
12192	12193	FILL	Fill of posthole	0.54	0.68	0.66
12193		CUT	Cut of posthole	0.54	0.68	0.66
12194	12195	FILL	Fill of ditch terminus / pit?	0.19	0.72	0.22
12195		CUT	Ditch terminus / pit?	0.19	0.72	0.22
12196	12197	FILL	Fill of ditch terminus / pit?	0.11	2+	0.45
12197		CUT	Ditch terminus / pit?	0.11	2+	0.45
12198	12199	FILL	Fill of ditch slot	0.11	1.8?	0.52

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12199		CUT	Ditch slot	0.11	1.8?	0.52
12200	12201	FILL	Fill of ditch slot	0.12	0.8	0.57
12201		CUT	Ditch slot	0.09	0.8	0.57
12202	12203	FILL	Fill of ditch slot	0.09	0.6+	0.31
12203		CUT	Ditch slot	0.09	0.6+	0.31
12204	12205	FILL	Fill of ditch slot	0.6		0.6
12205		CUT	Ditch slot	0.8		1.3
12206	12208	FILL	Primary fill of ditch slot	0.2	1.0+	0.58
12207	12208	FILL	Secondary fill of ditch slot	0.3	1.0+	1.37
12208		CUT	Ditch slot	0.5	1.0+	1.37
12209	12211	FILL	Secondary fill of ditch slot	0.25	2.46	1.26
12210	12211	FILL	Primary fill of ditch slot	0.34	2.46	1.24
12211		CUT	Ditch slot	0.5	2.46	1.24
12212		GROUP	Ditch	0.04-0.12	0.25-0.59	15.8
12213		GROUP	Gully	0.1	10.3	0.14-0.34
12214		GROUP	Ditch	0.25	0.33	6.5
12215	12229	FILL	Secondary fill of ditch slot	0.15	0.35+	1.4+
12216	12218	FILL	Secondary fill of ditch slot	0.49		2.85
12217	12218	FILL	Primary fill of ditch slot	0.18		1.02
12218		CUT	Ditch slot	0.49		3.24
12219		DEPO	Spread	0.16		3.2
12220	12222	FILL	Secondary fill of ditch slot	0.4		2.03
12221	12222	FILL	Primary fill of ditch slot	0.5		1.44
12222		CUT	Ditch slot	0.7		3.2
12223	12224	FILL	Fill of ditch slot	0.5	0.7?	0.7?
12224		CUT	Ditch slot	0.7	0.7?	3.2
12225	12229	FILL	Primary fill of ditch slot	0.16	0.55	1.4
12226	12218	FILL	Tertiary fill of ditch slot	0.16		1.65
12227		VOID				
12228	12229	FILL	Fill of ditch slot	0.2		0.88
12229		CUT	Ditch slot	0.21		3.49
12230		DEPO	Spread	0.14	4.5+	1.03+
12231	12233	FILL	Secondary fill of ditch slot	0.38	1.0+	1.6
12232	12233	FILL	Primary fill of ditch slot	0.17	1.0+	0.75
12233		CUT	Ditch slot			

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12234		GROUP	Ditch Enclosure	0.48	29+	0.7
12235	12237	FILL	Secondary fill of ditch slot	0.25	1.0+	0.7
12236	12237	FILL	Primary fill of ditch slot	0.2	1.0+	0.7
12237		CUT	Ditch slot	0.45	1.0+	0.7
12238	12240	FILL	Secondary fill of ditch slot	0.25	1.12+	0.79+
12239	12240	FILL	Primary fill of ditch slot	0.2	1.12+	
12240		CUT	Ditch slot	0.45	1.12+	0.79
12241	12242	FILL	Fill of posthole	0.13	0.31	0.3
12242		CUT	Cut of posthole	0.13	0.31	0.3
12243	12244	FILL	Fill of gully slot	0.04	0.18+	0.14
12244		CUT	Gully slot	0.04	0.18+	0.14
12245	12246	FILL	Fill of gully slot	0.08	0.52+	0.18
12246		CUT	Gully slot	0.08	0.52+	0.18
12247	12249	DEPO	Spread /fill of ditch ?	0.1		0.6
12248	12249	FILL	Fill of ditch	0.3	1.2	0.6
12249		CUT	Ditch	0.4	1.2	0.6
12250	12252 / 12254	DEPO	Spread /fill of ditch ?	0.3		1.7?
12251	12252	FILL	Fill of ditch	0.5		1.4
12252		CUT	Ditch	0.8	1.4	1.5
12253	12254	FILL	Fill of posthole ?	0.7	0.3	0.3
12254		CUT	Cut of posthole ?	0.8	1.4	0.3
12255	12256	FILL	Fill of gully terminus	0.11	0.8	0.34
12256		CUT	Gully terminus slot	0.11	0.8	0.34
12257	12258	FILL	Fill of gully slot	0.07	0.4+	0.19
12258		CUT	Gully slot	0.07	0.4+	0.19
12259	12260	FILL	Fill of posthole	0.22	0.26	0.21
12260		CUT	Cut of posthole	0.26	0.26	0.21
12261	12262	FILL	Fill of ditch terminus slot	0.25	1.06+	0.44
12262		CUT	Ditch terminus slot	0.25	1.06+	0.44
12263	12264	FILL	Fill of gully terminus	0.09	0.51+	0.3
12264		CUT	Gully terminus slot	0.09	0.51+	0.3
12265		GROUP	Gully	0.07-0.11	5.75	0.3
12266		GROUP	Gully	0.03-0.07	4.43	0.3
12267	12268	FILL	Fill of gully terminus	0.03	0.55+	0.24
12268		CUT	Gully terminus slot	0.03	0.55+	0.24
12269	12270	FILL	Fill of gully slot	0.05	0.5+	0.18
12270		CUT	Gully slot	0.05	0.5+	0.18
12271	12272	FILL	Fill of gully terminus	0.07	0.5	0.24
12272		CUT	Gully terminus slot	0.07	0.5	0.24
12273	12274	FILL	Primary/ secondary fill of ditch slot	0.19		0.9
12274		CUT	Ditch slot	0.19		0.9
12275	12276	FILL	Primary/ secondary fill of ditch slot	0.08+		0.26+
12276		CUT	Ditch slot	0.08+		0.26+
12277	12278	FILL	Fill of ditch	NFE	2	2.2

Context	Cut No.	Context Description	Context Interpretation	Depth (m)	Length (m)	Width (m)
12278		CUT	Cut of ditch	NFE	2	2.2
12279	12780	FILL	Fill of ditch	1	2	2
12280		CUT	Cut of boundary dtich	1	2	1

APPENDIX B: SPECIALIST REPORTS

Prehistoric and Roman Pottery

Anna Doherty, Archaeology South-East

Introduction

A large assemblage of prehistoric and Roman pottery was recovered from the site, totalling 4109 sherds, weighing 34.58 kg. The pottery belongs predominantly to two discrete phases: the Early Iron Age and Late Iron Age/early Roman periods. Having said this, the assemblage potentially spans a longer period, including some tentatively-dated context groups and poorly-stratified individual sherds of Middle Bronze Age, Late Bronze Age, Middle/Late Iron Age and mid/later Roman date.

Method

The pottery was recorded and reported on following guidance in the *Standard for Pottery Studies in Archaeology* (PCRG et al 2016) and CIfA (2020) *Toolkit for Specialist Reporting.* It was examined using a x 20 binocular microscope and quantified by sherd count, weight, estimated number of vessels (ENV) and, for the Late Iron Age and Roman assemblage, by estimated vessel equivalent (EVE) on *pro forma* records and in an Excel spreadsheet. Some fabric definitions for later Iron Age/early Roman pottery were adopted from the nearby Brisley Farm excavations (Thompson 2013, Fabrics FLIN1, FLIN2, FLIN3, GROG1, GROG1A, GLAUC1, IO2, SAND1, SAND2). Additional fabrics were defined according to a site-specific fabric type-series, in accordance with the guidelines of the Prehistoric Ceramics Research Group (PCRG 2010; Table B1). In the absence of a published fabric type-series in Kent, Late Iron Age and Roman fabrics have been recorded using an adapted version of the London/Southwark typology (MoLA 2019); where possible, suggested concordances to the unpublished Canterbury fabric type-series (Macpherson-Grant *et al* 1995) are provided below in Table B3. Late Iron Age and Roman forms have also been recorded using general codes from the Southwark/London typology, with additional concordance to appropriate typologies, including Thompson (1982) for 'Belgic' forms and Monaghan (1987) for material from the Kent/Thameside industry.

A large number of sherds were recovered from the residues of environmental samples. It is generally difficult to define fabric types for very small sherds (less than *c.* 8 mm or *c.* 1g in weight) since they are often too small to provide a representative sample of the inclusions present. Although all of the material from samples was scanned, sherds from smaller fractions were only recorded where they were considered diagnostic/confidently identifiable or where very small sherds constituted the only pottery from the context.

Fabric	Description
FLGR1	Sparse/moderate ill-sorted flint of 2-5mm in a dense matrix with rare/sparse grog of 1-3mm; rare coarse quartz grains of up to 0.7mm can occur
FLGR2	Moderate flint of 0.5-3mm and moderate grog of 0.5-3mm; sparse quartz of 0.4-0.6mm can occur
FLIN4	Sparse/moderate ill-sorted flint mostly of 0.5-3mm with rare examples up to 5mm in a slightly silty matrix
FLIN5	Sparse flint of 0.5-2mm in a silty matrix
FLIN6	Moderate/common v. well-sorted flint of 0.5-1mm in a silty matrix
FLIN7	Moderate ill-sorted flint of 0.5-9mm in a dense inclusionless matrix
FLIN8	Common flint of 0.5-3mm in a silty matrix

Fabric	Description
FLQG1	Sparse/moderate flint 1-3mm; moderate quartz of 0.4-0.7mm; sparse/moderate glauconite of 0.3-0.4mm
FLQG2	Moderate very ill-sorted flint of 1-7mm in a silty to fine sand matric with rare/sparse larger quartz grains up to 0.5mm and rare/sparse glauconite of 0.2-0.4mm
FLQU1	Sparse/moderate, moderately-sorted flint of 0.2-2mm in a silty matrix with sparse coarse quartz to 0.5mm
FLQU2	Sparse ill-sorted flint, mostly of 0.2-2mm with rare coarse examples up to 5mm; a silty matrix with moderate coarse quartz of 0.5-0.7mm
FLQU3	Sparse flint of 0.5-3.5mm with moderate coarse quartz of 0.5-0.8mm
GLQF1	Common/abundant glauconite; rare quartz of up to 1mm; and rare/spa
GRFL1	Moderate grog of 1-3mm; rare/sparse flint of 0.5-2mm; rare quartz grains up to 0.7mm can occur
GROG4	Moderate grog of 1-3mm in a silty matrix
GRQU1	Moderate ill-sorted grog 1-3mm and moderate quartz of 0.4-0.5mm
QUAR1	Common coarse ill-sorted quartz of 0.5-1mm
QUAR2	A silty matrix with sparse larger quartz grains up to 0.5mm; rare fine linear organic inclusions can occur
QUFL1	Common coarse ill-sorted quartz of 0.5-1mm and sparse/moderate flint of 0.5-3mm
QUGG1	Moderate/common quartz of 0.5-0.8mm; sparse/moderate glauconite of 0.4-0.5mm; rare/sparse grog of up to 2mm
QUGL1	Moderate/common quartz of 0.5-0.8mm; sparse/moderate glauconite of 0.4-0.5mm
QUGR1	A silty matrix with sparse larger quartz grains of 0.5-1mm; sparse grog of 1-3mm
QUGR2	Common quartz of 0.4-0.7mm and sparse grog of 1-3mm

Table B1: Site-specific fabric definitions for prehistoric pottery

Prehistoric pottery

Stratigraphic context

The Early Iron Age material comes predominantly from Areas 7 and 9 and was mostly recovered from pits, including a single, very large group of over 400 sherds from fill (7040) of pit [7043], a large group of over 100 sherds from fill (7052) of pit [7053] and other moderate sized groups from deposit (9034) and fill (9045) of pit [9046]. The former includes sherds from a jar (RF<12>) which is fragmented but *c.* 1/3 complete, found with broken mixed sherds from other vessels. The material from Area 7 was notably less fragmented than that in Area 9. Excluding sherds recovered from samples, the average sherd weight in the former was just over 14g *vs* just under 7g in the latter.

Range of datable prehistoric material

A very small number of thick-walled sherds were recovered in coarse or very coarse flint-tempered fabrics (FLIN4 and FLIN7). Although no diagnostic features were recorded, these characteristics may be suggestive of the Middle Bronze Age Deverel-Rimbury (DR) tradition. In one case, fragmentary base and lower wall sherds of a probable DR vessel were recovered as unstratified material in Area 7 and the remainder of the sherds of possible Middle Bronze Age date were clearly residual in later pottery groups in Areas 2, 3, 7 and 12.

A small group of 10 sherds, weighing 134g, from fill (7054) of pit [7055] is entirely made up by non-sandy flint-tempered fabrics, including a few thick-walled fragments of coarse fabric FLIN7 which may represent Middle Bronze Age DR pottery, however it largely comprises thinner walled sherds in coarse to moderately coarse fabrics (FLIN4 and FLIN8) with a single thin-walled fine ware (FLIN6). Although

this represents a very small and undiagnostic group, the lack of diversity in fabric types is quite distinct from the rest of the prehistoric assemblage and seems likely to indicate Late Bronze Age dating. An associated partial rim appears to be of plain profile and may be in keeping with Late Bronze Age post-Deverel-Rimbury plain ware jars. A number of other context groups contained one or two fragments in similar flint-tempered wares and it possible that some of this material also predates the major Early Iron Age element of the prehistoric assemblage, although it very difficult to date isolated flint-tempered sherds with much certainty.

Where diagnostic prehistoric material is present, it is almost uniformly of Early Iron Age date. On balance the range of forms is considered likely to post-date *c.* 600 BC although, in the absence of radiocarbon dating evidence, the possibility of a slightly earlier date is not entirely excluded at present. It is also perhaps possible that the assemblage extends into the Early/Middle Age transition (*c*. 400/300 BC), although again, an independent dating framework would help to refine the chronology of this assemblage. Only a minority of prehistoric context groups contained datable feature sherds and it is possible that some of the more poorly-dated contexts tentatively assigned to this range encompass a wider range of Iron Age dating. Nevertheless the diverse range of prehistoric fabrics from the assemblage as a whole largely mirrors that in the diagnostic Early Iron Age groups and it appears likely that it is predominantly contemporary.

For the most part, the assemblage lacks clear evidence for more developed Middle or Middle/Late Iron Age pottery. However, two very small groups from fill (9051) of pit [9052] and fill (9061) of posthole [9062] are notably more dominated by glauconitic fabrics than other prehistoric contexts. The former contains a small, weak-shouldered cup like vessel of probable Middle Iron Age type. Both contexts also contain probable Late Iron Age grog-tempered fabrics, suggesting that these represent transitional Middle/Late Iron Age assemblages probably dating to around the early/mid 1st century BC and analogous to material from Period 3 at Brisley Farm (Thompson 2013, 275-277).

Fabrics

As shown in Table B2, the prehistoric assemblage is characterised by a wide range of fabrics, often with mixed inclusions, including flint, grog, quartz and glauconite. Many of the individual fabrics represent a spectrum of attributes like size, frequency and sorting of inclusions rather than completely discrete fabric types. Nevertheless, the assemblage can be split into a number of broader fabric categories.

Non-sandy flint-tempered fabrics together account for around 12% of prehistoric sherds. As noted above, it is likely that at least some of the coarser examples of non-sandy flint-tempered wares (FLIN4, FLIN7) represent Middle Bronze Age pottery, although this material is generally poorly-stratified. The most common group of non-sandy flint-tempered wares contain moderately coarse flint temper with maximum inclusion size of 2-3mm (fabrics FLIN1, FLIN5 and FLIN8) and there are also a few non-sandy fine flint-tempered wares (FLIN6). With the exception of the single partial rim sherd described above in the possible Late Bronze Age group from fill (7054) of pit [7055], none of these fabrics are associated with diagnostic feature sherds and many were recovered in very small, poorly-dated context assemblages. It is therefore difficult to determine the extent to which they might represent residual or very small undiagnostic stratified groups of Late Bronze Age/earliest Iron Age pottery. Moderately coarse and fine flint-tempered wares do appear in some of the larger Early Iron Age pit groups, although it is notable that they appear to be less common than in the assemblage as a whole; for example, they make up less than 5% of sherds in fill (7040) of pit [7043] vs 9% in the assemblage more generally.

Fabric group	Code	Sherds	Weight (g)	ENV
Flint-tempered wares (unassigned)	FLIN	10	7	7
Very coarse non sandy flint-tempered wares	FLIN7	24	392	9
Coarse non sandy flint-tempered wares	FLIN4	8	95	8
Moderately coarse non sandy flint-tempered wares	FLIN1	2	4	2
	FLIN5	73	261	70
	FLIN8	22	258	18
Fine non sandy flint-tempered wares	FLIN6	10	26	9
Moderately coarse sandy flint-tempered wares	FLQU1	84	435	70
	FLQU2	17	257	15
	FLQU3	17	200	17
	QUFL1	60	524	41
Grog-tempered wares	GROG	7	4	4
	GROG1	6	4	6
	GROG3	5	28	1
	GROG4	272	1475	171
	QUGR1	43	310	41
	QUGR2	24	316	21
Flint-and-grog-tempered wares	FLGR1	50	903	27
	FLGR2	189	2262	122
	GRFL1	121	1082	92
Flint and glauconite	FLQG1	26	415	14
	FLQG2	8	555	3
	GLQF1	20	45	6
Glauconite	GLAUC1	19	98	8
	GLQU1	36	106	3
	QUGL1	11	65	7
Grog and glauconite	QUGG1	5	62	5
Handmade sandy ware	QUAR1	15	58	10
	QUAR2	19	36	18
	SAND1	25	57	23
	SAND2	1	2	1
Total		1229	10342	849

Table B2: Quantification of prehistoric pottery fabrics

A larger proportion of the assemblage – *c.*15% of sherds – is made up by moderately coarse flint-tempered wares containing coarse quartz sand (FLQU1, FLQU2, FLQU3 and QUFL1). These fabrics are more clearly contemporary in well-dated Early Iron Age groups and are associated with a number of diagnostic feature sherds of this period.

Perhaps the most notable element of fabric composition is the dominance of grog- and grog- and-flint-tempered fabrics, which each account for about 29% of sherds. The former group (GROG4, QUGR1 and QUGR2) includes both sandy and non-sandy variants while the latter (FLGR1, FLGR2 and GRFL1) encompasses quite a lot of variability in the size and frequency of flint and grog inclusions.

Other fabric grouping include wares containing flint, quartz sand and glauconite (FLQG1, FLQG2 and GLQF1), fabrics containing quartz and glauconite without flint (GLAUC1, GLQU1 and QUGL1) and

hand-made quartz-rich fabrics (QUAR1, QUAR2, SAND1 and SAND2). These groups constitute more minor elements of the assemblage, each making up around 4-5% of sherds. Five sherds of fabrics containing quartz sand, grog and glauconite were identified (QUGG1).

Forms

Just 35 vessels could be assigned to form type and this figure includes a number of partial rim sherds. Nevertheless, it is notable that the assemblage features quite a restricted range of vessels. Overall, just over half of recorded forms are jars with long upright or flaring rims, often with squared or flattened rim profiles. These typically feature well-defined shoulder profiles, which are carinated in some cases. Another major form category, accounting for c. 37% of ENV, is made up by plain, neckless jars, including examples with open and strongly recurving profiles. It is quite notable that assemblage almost entirely lacks fine ware bowl forms. Just one bowl was recorded with a carinated shoulder and short flaring rim.

Decoration and surface treatment

Few examples of decoration were noted: just three examples of fingertip/fingernail decoration are present: all vessels with fingertipping on shoulders, one of which also features fingernail impressions on the rim; however, these vessels account for about 6% of diagnostic rims. Surface treatments are also fairly uncommon. About 6% of estimated vessels feature smoothed surfaces although highly burnished finishes are much more uncommon, accounting for less than 1% of ENV. Combing was noted on three vessel but, perhaps notably, rustication which is common in contemporary assemblages from coastal east Kent, is only present on a single vessel.

Late Iron Age/Roman pottery

Stratigraphic context and deposition

The Late Iron Age/early Roman assemblage was mostly found in Area 12. Smaller quantities of similar material was recovered in Areas 2, 3, 6, 7, 8 and 10. Two very large groups were recorded: over 600 sherds from occupation deposit (12073) and over 300 sherds from three fills of pit [12057], the latter containing a higher proportion of fine/table wares than the assemblage as a whole. A large group of over 100 sherds was also present in deposit 12004. A number of moderate sized groups of *c*. 30-100 sherds were also recovered from other deposits, pits and ditches. The condition of the assemblage is somewhat fragmentary with an average sherd weight of just under 10g (discounting sherds from environmental samples). A few examples of partially-complete vessels were noted but these are generally fragmented and less than half complete and occur in larger pottery groups with other broken mixed sherds, suggesting that they are less likely to represent deliberately placed vessels or episodes of structured deposition, and more likely to indicate mixing of some freshly broken vessels with more highly fragmented midden material.

Dating

Although a number of contexts were spot-dated as Late Iron Age/early Roman, it is important to note that these are all small or very small groups, entirely comprising grog-tempered fabrics. Since grog-tempered wares make up the vast majority of more diagnostic early Roman context groups, these do not provide any positive evidence for Late Iron Age activity on site. In fact, on balance, it seems fairly likely that 1st century settlement activity entirely post-dates the Roman Conquest. The overall fabric composition is fairly comparable to that in phases 2.2 (*c.* AD 43-70) and 2.3 (*c*. AD 70-150) at Westhawk Farm (Lyne 2008). The small but consistent quantities of south Gaulish samian wares and north Kent

fine ware fabrics make it seem less likely that the assemblage was deposited in the immediate post-Conquest period. Although the proportion of samian ware (*c*. 1% of sherds) is fairly typical for lower status rural assemblages (Willis 2011, table 3, 188), it is less common to find samian and other fine wares in the very early Roman period, in rural settings (Booth 2004, 44-45). Although there are almost no diagnostic Flavian forms, the small proportion of Canterbury fabrics suggests that many of the larger context groups were deposited after *c*. AD 70 since the industry expanded significantly after than time (Pollard 1988, 66-67).

As grog-tempering persisted to some degree throughout the Roman period in the Ashford area, a few contexts containing one or two entirely undiagnostic grog-tempered sherds were assigned a very broad spot-date spanning the whole of the Late Iron Age and Roman period. There was however, no evidence of pottery post-dating the 1st century AD from stratified deposits. A handful of mid/later Roman sherds were noted however, including a few examples of central and east Gaulish samian ware (SAMCG and SAMEG), the latter associated with a Dragendorff 33 cup form, a sherd of North Gaulish grey ware (NGGW), a tiny scrap of Oxfordshire red-slipped ware (OXRC) and a grog-tempered bead and flanged bowl, all of which were recovered from subsoil or other unstratified contexts.

Fabrics

As shown in Table B3, about 90% of the Late Iron Age/Roman assemblage is grog-tempered. These fabrics are predominantly equivalent to Brisley Farm fabric GROG1 or fabric B2 from the Canterbury series. A minor grog-tempered fabric variant (GROG1A) features pale grog inclusions and another contains prominent quartz sand (GRQU1). It is probably chronologically significant that other tempered wares appear to be very rare in Late Iron Age/early Roman groups. Only one example of a coarse iron-rich fabric (IO2) was recorded. It should be noted that, because this assessment has been completed without stratigraphic phasing information, fabrics like hand-made sandy, glauconitic and flint-tempered wares have been assumed to be prehistoric and omitted from quantification in Table B3. In the current assemblage, these other tempered wares did very occasionally occur with Late Iron Age/early Roman grog-tempered fabrics. Two small groups which may be of Middle/Late Iron Age date are highlighted above but, elsewhere, these fabrics only tended to occur in mixed contexts which also contained Early Iron Age material so it is difficult to determine whether any of these should be considered contemporary in the Late Iron Age/early Roman period. It is notable that glauconitic, flint-tempered and hand-made sandy wares were all but absent from Area 12 which produced most of the Late Iron Age/early Roman pottery and which contained very little prehistoric activity. Such fabrics were clearly a significant component of Middle/Late Iron Age groups at Brisley Farm and continued to appear in small quantities into the 1st century AD, even in the immediate post-Conquest phase (Thompson 2013, Fig 10.7, 10.9, 10.11). Their near absence in these groups perhaps adds weight to the idea that the Area 12 settlement was founded in the post-Conquest period.

Fabric group	Code	CAT*	Sherds	Weight (g)	ENV
Grog-tempered wares	GROG1	B2	2530	22302	1868
	GROG1A	B2.1	53	451	22
	GRQU1	B5	8	46	4
Iron rich wares	IO2	?	1	8	1
Oxidised coarse wares	OXID	R74	19	44	14
	RWS	R105	1	9	1
Reduced coarse wares	BBS	R73.1	5	46	5

Fabric group	Code	CAT*	Sherds	Weight (g)	ENV
	SAND	R100	42	212	34
Regionally traded coarse wares	CTGW	R5	5	19	3
	CTOX	R6	34	158	19
	HOO	R18	8	15	7
	VRW	R15	1	1	1
	COLWW	R63	14	181	1
Unsourced/local fine wares	OXIDF	?	32	35	18
Regionally traded fine wares	NKGW	R16	54	99	40
	NKOX	R17	12	39	9
	OXRC	LR10	1	2	1
Amphorae	BAETE	R50	13	347	3
	GAUL1	R56	5	93	2
Other imported coarse ware	NGGW	?	1	5	1
Imported fine wares	GBWW	BER10	14	15	2
	SAMCG	R43	2	2	2
	SAMEG	R46	2	41	2
	SAMLG	R42	22	70	21
	SAM	?	1	0	1
Total			2880	24240	2082

Table B3: Quantification of Late Iron Age and Roman pottery fabrics (CAT* = suggested concordance to the unpublished Canterbury fabric series Macpherson-Grant *et al* 1995)

Together, Roman fabrics account for about 10% of the *c.* 1st century AD pottery and no one fabric group makes up more than 1-2% of the assemblage. Unsourced coarse sandy wares (SAND) are predominantly black-surfaced although this category also includes a few examples of coarse grey wares possibly of North Kent/Thameside origin. A single coarse body sherd is possibly a mid/later Roman black-burnished style fabric (BBS) although, in the absence of associated form elements, this remains uncertain. Unsourced oxidised wares (OXID) include some coarse red/orange sandy wares as well as buff/white fabrics of uncertain origin. A single example of a white-slipped fabric (RWS) is possibly from north Kent and many of the unsourced fine oxidised wares (OXIDF) also have some similarities to fabrics from the same region.

Regionally-traded wares include sandy grey and oxidised fabrics of Canterbury origin (CTGW, CTOX). North Kent fine grey and oxidised wares (NKGW, NKOX) constitute the single most frequent fabric category after grog-tempered wares, although they make up just 2% of sherds. A few examples of Hoo white-slipped wares are also present. A single mortarium was tentatively identified as Colchester white ware (COLWW), although it has been suggested that similar fabrics were produced within Kent; for example, in the Canterbury series, fabric R63 is described as Colchester/Kent mortaria. A body sherd of Verulamium region white ware (VRW) was also recorded.

La Graufesenque samian ware (SAMLG) makes up about 1% sherds. Two vessels were also recorded in Gallo-Belgic white ware (GBWW). A small number of amphora sherds from the site include examples of Baetican Dressel 20 (BAETE) and Gaulish fabrics, likely associated with Gauloise forms (GAUL1).

Forms

As is typical in rural lower status sites, the assemblage is dominated by jars, which account for 77% of ENV and 75% of EVE. More than half of these can be broadly characterised as necked jars. Where enough of the profile was present to assign these to a more specific form type, they are overwhelmingly fairly simple cordoned types equivalent to Thompson (1982) form B1. A single example of a fine thin-walled necked jar was also recorded in North Kent fine ware (Monaghan type 4J). There are surprisingly few examples of more complex cordoned or corrugated profiles of Thompson's types B2 and B3. This may be related to chronology since more elaborately cordoned vessels appear to be more common in pre-Conquest groups. Pedestal vessels (Thompson's class A) are also only represented by one or two examples. Bead rim (Thompson class B5-5 and C1) or hand-made short everted rim jars (Thompson class C2), often associated with combed/furrowed surface treatments, are also common elements in the assemblage: the former accounts for 17% of ENV and 27% of EVE and the latter for 7% of ENV and 6 % of EVE. Plain profile jars (Thompson form C3) are very uncommon however, represented by just two estimated vessels. Again this may be chronologically significant as these forms were better represented in the pre-Conquest assemblage from Brisley Farm (Thompson 2013, table 10.10). Storage jars were also found infrequently, with just two estimated vessels recorded.

Form class	ENV	EVE	ENV %	EVE %
Amphora	2	0.48	0.9%	2.5%
Beaker	10	0.79	4.4%	4.1%
Bowl	4	0.27	1.7%	1.4%
Cup	4	0.4	1.7%	2.1%
Dish/platter	7	0.15	3.1%	0.8%
Flagon	4	1.34	1.7%	7.0%
Jar	177	14.48	77.3%	75.1%
Jar/beaker	10	0.85	4.4%	4.4%
Lid	9	0.44	3.9%	2.3%
Mortarium	1		0.4%	0.0%
Strainer	1	0.08	0.4%	0.4%
Total	229	19.28	100.0%	100.0%

Table B4: Quantification of Late Iron Age/Roman forms

Other coarse ware forms are uncommon in the assemblage. Lids account for 4% of ENV and 2% of EVE. The few bowl forms recorded are all partial rims probably from carinated bowls, including a grog-tempered example, possibly similar to Thompson type G2-3 and fragmentary rims probably from carinated reeded-rim bowls in Canterbury fabrics. No fine ware bowls were recorded although a few small decorated samian fragments are likely from bowl forms. A single mortarium of probable Colchester origin was recorded with a hooked flange and low bead. A single grog-tempered strainer is also present. Its form is similar to dishes like Thompson G2-2 but it also features multiple pre-firing perforations in the base.

Around 4% of the assemblage is made up by uncertainly categorised jar/beaker forms. These are typically necked, sometimes cordoned forms with thin-walled profiles and small diameters. More certainly assigned beaker forms account for another 4% of the assemblage and include a plain grog-tempered barrel shaped butt-beaker (Thompson form G5-1), globular beakers, including a rouletted

example in an unsourced sandy ware and fragmentary sherds from two carinated North Kent fine ware beakers (Monaghan type 2G).

Other fine and table ware forms include dishes/platters, accounting for 3% of ENV and 1% of EVE. These comprise grog-tempered derivatives of Gallo-Belgic forms (Thompson G1-5 and G1-10), dishes imitating Dragendorff 36 in North Kent fine wares (Monaghan form 7A1.1) and samian Dragendorff 15/17 and 18 forms.

Four examples of flagons were recorded, accounting for 2% of ENV and 7% of EVE. One of these is in an unsourced buff ware and is only represented by undiagnostic body elements, one is a collared flagon in a grog-tempered fabric analogous to Thompson G6. The remaining two flagons are both associated with Canterbury oxidised wares. One is a ring necked form and the other a pully rim flagon, comparable to an illustrated Canterbury vessel from Westhawk Farm (Lyne 2008, Fig 6.2, no 32).

Cups are represented by three examples, including grog-tempered, Gallo-Belgic influenced forms (Thompson E1-1 and G3-1) and a single samian Dragendorff 27. Another east Gaulish samian Dragendorff 33 cup is among the small poorly stratified mid/later Roman assemblage described above.

Significance and Potential

Although the prehistoric assemblage is only of moderately large size, the presence of at least a few large diagnostic stratified pit groups of Early Iron Age date is of some regional significance, since diagnostic ceramics of this period have so far been lacking in the Ashford area, despite quite extensive programmes of excavation having been undertaken locally. Some similar fabric types were encountered at Little Stock Farm a few kilometres to the south-east (Bryan 2006) but this assemblage was mostly attributed as either earlier (earliest Iron Age) or later (Middle Iron Age) and there is possibly some chronological overlap with the small assemblage from Christchurch School (Doherty 2013). The assemblage has a number of areas of potential. The date range attributed to the Early Iron Age material (*c.* 600-400/300 BC) is rather broad and tentative because the scientific dating framework for Iron Age pottery is limited. Although the common occurrence of recurving plain and very strongly shouldered/carinated jars has been interpreted here as an indicator of a developed Early Iron Age assemblage post-dating 600BC, it is notable that fine carinated bowls are absent and slightly earlier dating is not completely excluded as a possibility. It would therefore be very useful to obtain radiocarbon dates from some of the key pottery groups. A single internal burnt residue is available on a pottery sherd from the largest Early Iron Age group from fill (7040) of pit [7043]. It is proposed that this should be radiocarbon dated and that the potential for dating of any other organic material such as animal bone, charcoal or other charred plant remains from contexts containing large diagnostic Early Iron Age pottery assemblages should also be considered. This addresses the *South East Research Framework* aim to improve our understanding of the absolute dating of later prehistoric pottery (Champion 2011, 44):

‘Since most sites will be dated by the pottery found there, there is a need for a firmly based ceramic chronology, ideally derived from the detailed typological analysis of large assemblages and stratified sequences and made absolute by an appropriate programme of high-precision radiocarbon dates’.

It is of particular note that the Early Iron Age assemblage is so dominated by grog-tempered fabrics. Grog-tempering has previously been identified in several Early or Early/Middle Iron Age assemblages in coastal east Kent, including Saltwood Tunnel (Jones 2006) and the Aerodrome and Canterbury Road sites at Hawkinge (Hamilton & Seager Thomas in prep a and b). This tempering tradition is quite atypical in contemporary assemblages elsewhere in Kent and the South East and possibly suggests strong

localised ceramic links to areas of France and the Low Countries. Having said this, the current assemblage does not necessarily appear as influenced by continental forms or decorative traditions as other coastal assemblages: it lack elements such as fine pedestal base jars or the common use of rustication, for example. Further reading and comparison to other Kentish assemblages is required to explore the significance of Early Iron Age grog-tempering at Stour Park. This has the potential to contribute to the following research aim form the South-East Research Framework (Champion 2011, 50):

'The external connections of the region require further analysis, especially connections with other areas of southern and eastern England and across the Channel with France, Belgium and the Netherlands'.

The Late Iron Age/early Roman assemblage is much larger in size and also contains some large stratified groups. It is clearly of local significance and worthy of publication; however, its significance is slightly limited by the fact that several other Late Iron Age/Roman assemblages have been published from the area (e.g. Thompson 2013; Lyne 2008; Powell 2013) and many others are available in grey literature format (e.g. Lyne 2000; Brown 2006; Booth 2011, Rayner 2021). It also seems to conform fairly closely to the range of fabrics and forms expected in this period for a lower status rural assemblage.

Further work

It is proposed that the Early Iron Age and Late Iron Age/early Roman pottery assemblages should be published. The following further work tasks have been identified:

Integrate any updated stratigraphic phasing into the pottery dataset and produce updated phased quantification tables and overviews of pottery by phase	4 days
Integrate any updated stratigraphic data (grouping etc) and consider pottery distribution at a group/landuse level	1 day
Radiocarbon date on burnt residue from pottery sherd in fill 7040	Fee
Discuss of any new dating evidence from the radiocarbon programme	1 day
Comparative reading on similarities and differences with other assemblages from coastal south-east Kent and possible continental influences	2 days
Comparative reading and discussion on the Late Iron Age/Roman pottery	1 day
Total	9 days

References

Booth, P, 2004 Quantifying status: some pottery data from the Upper Thames Valley, *J Roman Pottery Studies* **11,** 39-52

Booth, P, 2011 in A Anker and E Biddulph, *Orbital Park Ashford, Kent Post Excavation Assessment Report*, Oxford Archaeology Unpublished report https://eprints.oxfordarchaeology.com/3288/1/ASORB10_PXA.pdf

Brown, L, 2006, *The Late Iron Age and Roman pottery from Bower Road, Smeeth, Kent (ARC440/99)*, CTRL specialist report series, Archaeology Data Service (distributor) https://doi.org/10.5284/1000230

Bryan, E, 2006, *The Later Prehistoric Pottery from Little Stock Farm, Mersham (ARC LSF99),* CTRL specialist report series, Archaeology Data Service (distributor) https://doi.org/10.5284/1000230

Champion, T, 2011 *South East Research Framework Resource Assessment for the Middle Bronze Age to Iron Age Periods*

https://www.kent.gov.uk/__data/assets/pdf_file/0020/93170/South-East-Research-Framework-Resource-Assessment-and-Research-Agenda-for-the-Middle-Bronze-Age-and-Iron-Age.pdf

CIfA 2020 *Checklist for Specialist Reporting*, https://www.archaeologists.net/reporting-toolkit/downloads

Doherty, A, 2013 Discussion, in M Lyne, with A Doherty, The prehistoric and Roman pottery from Christchurch CE High School in J Stevenson*. Living by the Sword: the Archaeology of Brisley Farm, Ashford.* Spoilheap Monogr **6**, 269-270

Hamilton, S, and Seager Thomas, M, in prep a, Earlier first millennium BC pottery from Hawkinge Aerodrome, in G Dawkes, and A Doherty, *Place of the Hawks: Prehistoric, Roman and Later Activity at Hawkinge, Kent, 1993-2006*, Spoilheap Monogr

Hamilton, S, and Seager Thomas, M, in prep b, First millennium BC pottery from Canterbury Road in G Dawkes, and A Doherty, *Place of the Hawks: Prehistoric, Roman and Later Activity at Hawkinge, Kent, 1993-2006*, Spoilheap Monogr

Jones, G P, 2006, *The Later Prehistoric Pottery from Saltwood Tunnel, Saltwood, Kent*, CTRL specialist report series, Archaeology Data Service (distributor) DOI https://doi.org/10.5284/1000230

Lyne, M, 2000 in C Hayden, *Boys Hall Balancing Pond, Sevington, Kent, ARC BHB 98. Strip, Map and Sample Excavation Assessment Report*, Oxford Archaeological Unit unpublished report https://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-2466-1/dissemination/pdf/BHB_PXAssessment/A_BHB_PXAssessment_report/combined_pdf/BHB_PXAssessment_combined.pdf

Lyne, M, 2008 Roman and medieval pottery, in P Booth, A Bingham and S Lawrence, *The Roman Roadside Settlement at Westhawk Farm*, Oxford Archaeology Monogr **2**, 207-259

Macpherson-Grant, N, Savage, A, Cotter, J, Davey, M, and Riddler, I, 1995 *Canterbury Ceramics 2. The Processing and Study of Excavated Pottery*, Canterbury Archaeol Trust unpublished document

MoLA 2019 *London Roman Pottery Codes*, Museum of London Archaeology, https://www.mola.org.uk/roman-pottery-codes

Monaghan, J, 1987 *Upchurch and Thameside Roman Pottery: A Ceramic Typology, First to Third Centuries AD,* BAR Brit Ser **173**

PCRG, 2010 *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication,* Prehistoric Ceramic Research Group Occasional Papers **1** and **2**, 3rd edition,

http://www.pcrg.org.uk/News_pages/PCRG%20Gudielines%203rd%20Edition%20%282010%29.pdf

PCRG, SGRP and MPRG, 2016 *A Standard for Pottery Studies in Archaeology*, Prehistoric Ceramics Research Group, Study Group for Roman Pottery and Medieval Ceramic Research Group

http://romanpotterystudy.org/new/wp-content/uploads/2016/06/Standard_for_Pottery_Studies_in_Archaeology.pdf

Pollard, R J, 1988 *The Roman Pottery of Kent*, Kent Archaeol Soc Monogr **5**

Powell, A B, 2013 Settlement and landscape reorganisation from the middle Iron Age to the early Roman period: excavations south-east of Park Farm, Ashford, *Arch Cant* **133**, 298-308

Rayner, L, 2021 in Wilson, J, *Archaeological Excavations at Parcel Q and R, Chilmington Green, Ashford, Kent, A Post Excavation Assessment and Updated Project Design Report,* Archaeology South-East Unpublished report 2020188

Thompson, I, 1982 *Grog-tempered 'Belgic' Pottery of South-Eastern England,* BAR Brit Ser **108**

Thompson, C, 2013, The Late Iron Age and Roman pottery from Brisley Farm, in J Stevenson, *Living by the Sword: the Archaeology of Brisley Farm, Ashford,* Spoilheap Monogr **6**, 270-282

Willis, S, 2011 Samian ware and society in Roman Britain and beyond, *Britannia* **42**, 167-242

Post-Roman Pottery

Luke Barber, freelance specialist

Introduction

The archaeological work at the site recovered 2417 sherds of post-Roman pottery, weighing 33,048g, from 119 individually numbered contexts. These totals include 355 sherds (1009g) from 67 different environmental residues – the remainder being recovered by hand collection on site. An estimated 1033 different vessels are represented in the assemblage. The pottery is of variable condition but there is a tendency towards small to medium sized sherds (to 60mm across) although larger sherds are present in the Late Medieval assemblage – the average sherd sizes by period are given in Table B5. The earliest sherds are notably fresh, despite having a small average sherd size and, with the exception of the Late Medieval material, the remainder of the assemblage is characterised by slightly abraded sherds indicative of slight reworking and/or the adverse effect of an acidic burial environment. The worst affected sherds are, unsurprisingly, those that appear to be residual.

The overall site assemblage is characterised at a basic level in Table B5 in order to give a rough idea of quantities by period. The exact division between periods is approximate as some of the fabrics cross the actual dates allocated. This is most notable with the sandy-shelly wares that mainly sit in the Early Medieval period but linger on into the High Medieval period. Sherds that appear to fall within these 'transitional' phases have been allocated the earliest period in which they appear.

The assemblage has been fully quantified (number of sherds/weight/estimated number of vessels) by fabric and form on pro forma with spot dates being allocated to each context. The fabric series established at the Brisley Farm site (Ashford) was used where possible (Barber 2013). Fabrics not present at Brisley Farm where allocated a code as per the Canterbury fabric series (described in Cotter 2006) or, where this was not obviously apparent, a site specific code. In the event virtually all the site specific codes relate to Late Saxon and Early Medieval material - periods not well represented at Brisley Farm. The results of this work have been used to create an excel spreadsheet as part of the digital archive.

Period	No./weight	Average sherd size	No. of different fabric groups
Early/Mid Saxon C6th to C8th	15/32g	2.1g	Local – 1
Late Saxon Mid C9th to mid C11th	90/294g	3.3g	Local - 4
Early Medieval Mid C11th-early/mid C13th	545/5142g	9.2g	Local – 9
High Medieval Mid C13th – mid/late C14th	582/6301g	10.8g	Local – 7
Late Medieval Mid/late C14th – early/mid C16th	1159/21,017g	18.1g	Local – 18 Imported - 3
Early post-medieval Mid C16th – mid/late C18th	11/181g	16.5g	Local – 1 Regional – 1 Imported - 3
Late post-medieval Mid/late C18th – early C20th	15/81g	5.4g	Local - 1 Regional - 5

Table B5: Characterisation of pottery assemblage by period. NB. Totals include all residual/intrusive and unstratified material. Local equates to Kent/East Sussex wares; Regional to other English wares.

Periods and Fabrics

Overall the date range of the post-Roman pottery spans the later 6th to 19th/early 20th centuries. Although all periods are represented in the assemblage the majority of activity, at a general level, appears to relate to the later 12th to mid 16th- century with a peak in refuse disposal in the 15th to mid 16th centuries. Due to a moderate degree of residuality on the site, the provisional nature of the site phasing and the many small context groups involved the ceramics are discussed by ceramic period rather than provisional site phase. This approach gives a good indication of the chronological run of activity, even where a period is represented by residual sherds.

Early/Mid Saxon: 6th to 8th centuries

The earliest post-Roman pottery recovered consists of 15 sherds (32g) from a single reduced chaff tempered vessel of indeterminate form. All were recovered from ditch fill [11033] and although small are quite fresh, particularly considering the low-fired nature of the fabric. Too little is present to draw conclusions from but their presence confirms activity between *c.* 575 and 750.

Late Saxon: Mid 9th to mid 11th centuries

The 90 sherds allocated to this period were all clustered together in Area 10 (contexts in the 10000s). Once again, although the sherds are usually small they are quite fresh suggesting they have not seen any significant reworking. The assemblage is dominated by Late Saxon shelly ware with a scatter of vessels tempered with shell and flint grits, a few of Canterbury type Late Saxon Sandy Ware (LS1) and some possible pieces tempered with alluvial flint. Few feature pieces are present but where they are vessels appear to consist of quite crudely made reduced jars with simple everted rims. Close dating of these fabrics is notoriously difficult, particularly in the absence of more feature sherds and/or associated imports so only a broad date can be given. The presence of the material is interesting as it highlights a probably short-lived period of activity following which the area was largely abandoned.

Early Medieval: Mid 11th to early/mid 13th centuries

This period potentially has a number of sub-periods within it judging by the pottery. The earliest is represented by a scatter of Canterbury Sandy Ware (EM1) of the later 11th to early 12th centuries. This is most notable in the old topsoil context [10002]/[10015] where six different EM1 cooking pots are represented by beaded flaring rims of Frere's Group 2/3 (Frere 1954). These appear alongside some early shelly wares (Brisley F1a) and flinty wares that could either be contemporary or residual from the Late Saxon activity in this area. Certainly the flinty wares and F1a shelly fabric are common types in the first half of the 12th century and there is a scatter of chalk tempered sherds (not present at Brisley Farm) that are probably of the same general period (eg pit [8136] contained 4 sherds including one from a reduced cooking pot with thickened flaring rim). It would appear that activity in this area (contexts in the 8000s) began at the very end of the 11th or beginning of the 12th century. The F1a shelly ware is present but the most dominant type at this time is the F1b coarse sandy-shelly ware that is suspected of being more of early/mid 12th- century date but still includes some flaring rim types.

These earlier fabrics are gradually replaced by the finer sandy-shelly wares (Brisley F1c) during the later 12th century and a range of generally oxidised cooking pots is represented, occasionally augmented with bowls and unglazed jugs (eg a strap handle with oblique slashing from subsoil [8001]). The Potter's Corner industry at Ashford (Grove 1952) is the source of this material and indeed for the more refined type (F1d) with a notably lower proportion of shell that becomes the dominant type during the 13th century. Combined, these two fabrics account for 336 sherds (3639g) and show a notable increase in activity/refuse disposal from the later 12th century. Both types continue well into the 13th century and are common on sites in the area (Parfitt 1976; Rigold 1962). Quite when they were totally replaced by the typical High Medieval sandy wares is uncertain but it is likely even the finer F1d was scarce by the late 13th century. Vessels are typically plain and there are no non-local types in the assemblage of this period.

High Medieval: early/mid 13th to mid 14th centuries

As noted above the sandy-shelly wares of the Potter's Corner industry heavily overlap into this period. However, probably from the early 13th century the Ashford potters were producing increasing numbers of purely sand tempered vessels, initially for sparsely glazed jugs to complement the sand/shell wares, but later across the whole vessel spectrum (Brisley Farm F2c: 387/3638g). At least 39 different F2c jugs are represented in the assemblage. Most are mutely decorated with patches of clear or green glaze but some have incised line or white slip decoration (eg ditches [8025], fill [8024], and [8033], fill [8032]). Other F2c vessels include cooking pots (mainly), bowls and at least one pipkin (fill [8032]). Other fabrics are also essentially sand tempered, sometimes with notable iron oxides (Brisley Farm F3a), but the source of these is less certain. The exception to this is a scatter of well formed and decorated jugs from the Rye industry (mainly from ditch [8252], fill [8251]) that are of mid 13th- to mid 14th- century date. As a whole the assemblage demonstrates quite intense refuse disposal was continuing throughout the 13th century and into the first half of the 14th. The High Medieval assemblage is composed exclusively of local wares with no regional or foreign imports being present and is thus fairly typical of a Wealden land-locked site of low status.

Late Medieval: mid 14th to early/mid 16th centuries

The period between 1350 and 1550 is characterised by a series of overlapping fabrics marking a gradual development brought about by the gradual recovery of the population after the mid 14th- century

epidemics, the improvement in manufacturing technology and the changing role of ceramics in the home. The current assemblage unusually does not appear to have a gap in the second half of the 14th century, though there does appear to be a reduction in the amount of refuse at this time. This would suggest that although the plague had an impact activity did not stop. Ditch [8252] (fill [8251], is dated to the period *c.* 1350-1450 and includes many typical Late Medieval sandy ware sherds (many probably from the Rye industry) as well as low quantities of residual earlier material. The wares are typically better fired and utilitarian in nature with cooking pots/jars, bowls and pitchers dominating. There is a single probable Late Tyler Hill sherd (from north of Canterbury) but the vast majority of the pottery is from Rye or one of the number of small Wealden workshops that were operating at this time – all of which produced a similar range of wares in remarkable similar/overlapping fabrics.

The latter part of the period is better represented still, suggesting an intensification of refuse disposal between *c.* 1425/50 and 1550. Some of the earlier hard fired sandy wares continue but they are gradually replaced by finer types with less sand, some to the point of being virtually untempered. The fabrics tend to merge with each other and originated from a number of small potteries across the Weald though the more major centres such as Rye probably produced the majority – sourcing these wares is notoriously difficult due to the ubiquitous nature of pottery in the Weald at this time. With the exception of some very fine types, with sparse calcareous inclusions, all can be paralleled at Brisley Farm (Barber 2013) and good assemblages of similar types are known from elsewhere (Barber 2011; Streeten 1983 and 1985; Whittingham 2001). The range of forms tends to increase in this period with cooking pots/jars, jugs/pitchers, bowls, dishes, mugs and pipkins being represented in the current assemblage. Of note is the fragment from a large (*c.* 420mm diameter) bowl/trough in calcareous peppered hard fired earthenware from ditch [8250] (fill [8249]) that belongs to the end of the period or the beginning of the early post-medieval one. Decoration is typically rare and muted when it does occur in this period but a few sherds have the typical white painted slip lines.

This period also sees the first imported pottery in the form of six sherds from at least two different Raeren mugs (subsoil [8001] and ditch [8262], fill [8259]), part of a Cologne/Frechen bottle (subsoil [8001]) and three sherds (27g) from a probable Dutch tin-glazed earthenware dish (badly degraded) with blue and yellow cable design from ditches [8250] (fill [8249]) and [8262] (fill [8259]). Although a meagre imported assemblage that does not suggest a particularly wealthy household it does demonstrate the wider market contacts enjoyed by the inhabitants between *c.* 1475 and 1550.

Early Post-medieval: early/mid 16th to mid 18th centuries

At just 11 sherds this period suggests a marked decrease in activity at the site after *c.* 1550 either as a result of occupation being abandoned or shifting to a new centre, or due to a change in the pattern of refuse disposal/agriculture. Five sherds are from local glazed red earthenware vessels (bowls and a cup), one of which copies a Dutch form, and there is a single sherd from a Surrey-Hampshire white Border Ware dish with clear (yellow) glaze. The remaining sherds are imported German material. This is dominated by three sherds from Frechen bottles, a brown glazed bowl in probable German whiteware (ditch [8241], fill [8241]) and part of a mug in Weser red/green trailed slipware (context [8043]). The pottery assemblage of this period is often unstratified or intrusive in earlier features. Although it is too small to draw conclusions from there is a notable increase in the proportion of non-local pottery suggesting the associated household, albeit set some way from the excavation area, was more affluent than before.

Late Post-medieval: mid 18th to early 20th centuries

The assemblage of this period is of similarly small size to that of the early post-medieval one suggesting low level activity, most likely the result of manuring cultivated land with domestic waste during periods of arable cultivation. Most of the sherds are from topsoil deposits and late ditches. The assemblage is dominated by local glazed red earthenwares but includes some late English stoneware and a chronological spread of finewares including creamware, pearlware and transfer-printed refined whitewares suggesting activity between the later 18th to 19th centuries. Most sherds are small with signs of having been reworked.

The Assemblage

The majority of the ceramic assemblage was derived from ditches and open layers, including mixed material from the topsoil and subsoil. There is also a scatter of better sealed pits but context groups in these are rarely large. Although most context groups produced small assemblages there are some larger ones present though many include small to moderate residual or, to a lesser extent, intrusive, elements (the largest are shown in Table B6).

Feature	No. sherds	Weight	Ceramic Spot Date
8001 (subsoil)	91	1426g	Mixed: mid/late C11th – 16th
8008 (ditch)	91	1152g	c. 1225-1325 (low residual C12th)
8032 (ditch)	122	1490g	c. 1250-1350
8043 (ditch)	125	2150g	c. 1475-1550 (residual C13th/14th, low intrusive later C16th
8145 (pit)	103	718g	c. 1175-1250
8187 (pit)	53	346g	c. 1425-1525
8215 (ditch)	66	802g	c. 1400-1500
8222 (ditch)	56	1254g	c. 1425-1525
8241 (ditch)	231	4366g	c. 1525-1600 (low residual C13th -15th)
8251 (ditch)	452	6524g	c. 1350-1450 (low residual C13th – mid 14th)

Table B6: Summary of all PR pottery context assemblages in excess of 50 sherds

As can be seen from Table B6, the majority of the larger groups are of the Late Medieval period though some good earlier groups are also present. It is likely that following final phasing and grouping many individual context groups will be able to be combined to create larger coherent groups that will facilitate the analysis of fabric ratios through time. Despite their size many of these groups are not well supplied with sherds worth illustrating but even so overall up to 32 sherds are deemed potentially worthy of illustration across the post-Roman assemblage.

Although residuality, and to a lesser extent intrusiveness, are an issue in some contexts, the sherds are either easily isolated and/or the issue is not considered to be a significant one statistically.

Potential of the Ceramic Assemblage

The post-Roman pottery is considered to hold mix potential for further analysis depending on the sub-period involved. The Early/Mid Saxon assemblage is of interest as it is the earliest post-Roman material recovered. However, although the material needs to be mentioned in the final report the sherds themselves have no potential for further analysis. The Late Saxon assemblage is considered more important as this period has not been well represented in the Ashford area previously and it not only demonstrates a specific area of activity at this time but also provides a small insight into the fabrics in

use. The Early Medieval assemblage is also considered to be of interest, particularly for the period pre-dating the mid 12th century. The assemblage contains new fabrics not previously seen at Brisley Farm as well as highlighting the Canterbury source for much of this early material and establishing the probable start date for the field lay-out and full-time settlement of the land. The pottery from the latter part of the Early Medieval period is of less interest as, despite demonstrating the chronological narrative of the current site, similar material is well known from other sites in and around Ashford. This position is similar for the High Medieval assemblage which is somewhat repetitive and unremarkable compared with that from Brisley Farm. The Late Medieval material is considered to have more potential for detailed work. Despite the period being well represented at Brisley Farm the current assemblage includes a notable quantity of material that falls between *c.* 1350 and 1450 – a period often not represented in assemblages due to the massive reduction in population following the plague. As such some of the current groups have the potential to help our understanding of the fabrics in use at this time and the transition between the High and 'later' Late Medieval periods ceramically. The early and late post-medieval assemblages are two small and scattered to warrant any further detailed analysis though their presence should be noted in the final report in order to help understand the nature of land-use and close by occupation at this time.

Methodology of Further Work

It is proposed that a publication report on the post-Roman pottery will be produced for publication. This will give an overview of the overall assemblage (largely drawn from the current assessment) but will include the results of more detailed analysis on the Late Saxon, Early and Late Medieval assemblages. The best groups will be tabulated to demonstrate the changing fabrics through time and up to 30 vessels will be illustrated. Parallels will be sort from similar sites in the area against which to compare the fabrics and forms through time. A number of analysis tasks have been identified:

Update excel archive with final groupings/phasing	5 hrs
Correlate/integrate selected fabrics with the Canterbury Archaeological Trust fabric series	6 hrs
Study spatial distribution of key pottery groups	7 hrs
Compile the site fabric series	7 hrs
Tabulate key groups	6 hrs
Comparison with other published assemblages in area	7 hrs
Selection and catalogue of illustrated pottery	5 hrs
Publication report	14 hrs
Total	**57 hrs**

References

Barber, L. 2008. 'The Pottery' in L. Barber and G. Priestley-Bell Medieval Adaptation, Settlement and Economy of a Coastal Wetland: The Evidence from around Lydd, Romney Marsh, Kent. Oxford: Oxbow, 113-173.

Barber, L. 2013. 'The Post-Roman Pottery' in J. Stevenson, Living by the Sword: the archaeology of Brisley Farm, Ashford, Kent. Spoilheap Monograph 6, 284-301.

Cotter, J. 2006. 'The Pottery' in K. Parfitt, B. Corke and J. Cotter Townwall Street, Dover. The Archaeology of Canterbury New Series Vol III. CAT: Canterbury, 121-254.

Frere, S. 1954. 'Canterbury Excavations, Summer 1946: the Rose Lane Sites' Arch. Cant.lxviii, 101-43.

Grove, L. R. A., 1952. 'A 13th century Kiln site at Ashford' Arch. Cant. 65, 174-193.

Parfitt, J. 1976. 'A moated site at Moat Farm, Leigh, Kent' in Archaeologia Cantiana 92, 173-201.

Rigold, S. 1962. Excavation of a Moated Site at Pivington. in Archaeologia Cantiana 77, 27-47.

Streeten, A. 1983. Bayham Abbey Sussex Archaeological Society Monograph 2.

Streeten, A. 1985. 'The Pottery' in J. Hare, Battle Abbey: the eastern range and excavations of 1978-80. HBMCE Archaeological Report 2, 103-126.

Whittingham, L. 2001. 'The Ceramic Assemblage' in M. Biddle, J. Hillier, I. Scott and A. Streeten Henry VIII's Coastal Artillery Fort at Camber Castle, Rye, East Sussex. Oxford Archaeological Unit/English Heritage, 213-256.

Post-Roman Glass Assessment

Andrew Morrison (AOC Archaeology Group)

Introduction

A small glass assemblage (Mass: 519.5g) was submitted for assessment in February 2022 following the recent archaeological trial trenching and strip, map, and sample undertaken by AOC Archaeology Group at land on the north side of Highfield Lane (also known as Stour Park), Sevington, in Ashford Borough Council in Kent, in advance of the construction of an employment-led mixed-use scheme. This assessment considers the Post-Roman glass identified within the overall glass assemblage, with the Roman glass fragments already having been extracted to be separately assessed by a Roman specialist. It is possible that some of the non-diagnostic sherds and shatter sherds considered here may be Romano-British in date, however their small size does not allow for an accurate classification. The Post-Roman assemblage in consideration here comprises what is likely a post-medieval hexagonal black glass bead, a complete and intact late 19th to early 20th century medicinal bottle, a 19th to 20th century wine bottle fragment, an 18th century or later drinking glass foot, a small amount of likely 15th century or later window glass, and other non-classifiable bottle glass and glass fragments and other tiny, non-diagnostic shatter sherds. The assemblage is associated with activity on site from the Tudor period onwards, with the glass representing residual remains incorporated within the various deposits, ditches, and pit fills across the site.

Methodology

This assessment report provides a summary of the assemblage with information on form and function based on a visual examination; it also provides recommendations for further work, conservation, and illustration. The assemblage was examined macroscopically with the aim of identifying object type, function, and date, and to compile an inventory for assessment purposes. The finds were both hand-retrieved in the field and recovered during the post-excavation processing of soil sample retent. The hand retrieved finds were recorded as bulk finds and are identified by their context of discovery (e.g.8000), while the retent finds are identified by RT followed by their sample number (e.g. RT 19). For the purpose of identification within this assessment, where more than one classification of artefact was submitted under the same bulk finds number or retent number, these have been subdivided with the addition of a letter for differentiation (e.g. 8000a, 8000b, RT 19a, RT 19b). Finds were measured using a 0-150mm Carbon Dial Caliper with 0.1mm accuracy and were weighed using a Sartorius digital scale

accurate to 0.1g. A summary table of the material by context has been included as part of the digital archive with a complete table available as a separate excel spreadsheet.

The assemblage

The assemblage comprises a complete and intact medicinal bottle (12002) which makes up the majority of the assemblage by weight (Mass: 400.5g), a dark olive green drinks bottle fragment (8043) (Mass: 60.3g), a tiny black glass bead (RT 150a), (Mass: <0.1g), a partial drinking glass foot (8000b) (Mass: 9.8g), 10 window glass fragments (Mass: 28.8g), a non-classifiable bottle neck and finish fragment (8000a) (Mass: 15.1g), 10 non-classifiable vessel fragments (Mass: 4.1g), and 25 tiny non-diagnostic shatter sherds (Mass: 0.1g) (See Table B7 below, for a summary of the material by date). A small quantity of tiny fragments of natural quartzite (Mass: 0.8g) was also submitted amongst the retent glass assemblage and will not be considered here further.

The intact medicinal bottle (12002) was retrieved from the subsoil deposit (*12002*) in Area 12, and has been identified as a light green aqua Boots Regesan Fruit Saline bottle most likely dating from the late 19th to early 20th century. The bottle has a slightly tapering rectangular body with rounded edges and a rounded shoulder with plate mould-imposed lettering and a short wide neck and wide packer finish. Fruit saline was most likely used, and is still used today, as an antacid.

Other bottle glass sherds recovered comprise two dark olive green body, heel, and base fragments from a Ricketts-moulded wine bottle (8043) dateable from the 2nd quarter of the 19th century and later (Dungworth 2012, 39-40) recovered from the drainage or field boundary ditch [*8043*] in Area 8, and a light blue aqua short bottle neck and patent finish from a 19th-20th century sauce bottle or medicinal bottle (8000a) retrieved from the topsoil (*8000*) in Area 8.

Other finds of note comprise a single, tiny intact black glass bead (RT 150a) that was retrieved from the primary fill (*8254*) within ditch slot [*8255*], and a stemware drinking glass fragment (8000b) from the topsoil (*8000*) in Area 8. The bead has a likely hexagonal body and angled terminals, and is most likely identifiable as a dress bead associated with the post-medieval period. The tiny size of the bead allows for the possibility that it may be intrusive within its context of discovery. The stemware drinking glass fragment displays a slight greenish grey tinge, and comprises the partial foot and basal stem knop, and is most likely dateable from the 18th century or later.

The window glass assemblage comprises 10 fragments is varying condition, ranging from heavily corroded with only the core glass surviving, displaying heavy flaking corrosion and pitting, to only lightly corroded with minimal abrasion, with some remaining near firebright. Colour ranges from clear and colourless, to light sage green, with the majority of the fragments, where discernable, displaying a light yellow green tinge. Thickness, where both faces are intact, spans from 1.1mm to 2.0mm, with the average ranging from 1.3mm to 1.6mm. Evidence for triangular or diamond-shaped panes are present in five fragments recovered from contexts (*8192*) (*8241*) (*8249*) and (*8259*), with the fragment from (*8249*) displaying two chamfered edges meeting at an approximate 135-degree angle and showing the shadow of a lead came 1.6mm in width. Evidence for possible crown glass is also present in the light sage green coloured fragment (8192) retrieved from the fill of the ditch slot [8192], although this is not definitive. The majority of the window glass fragments recovered most likely date from the Tudor period to the late 17th century, when the smaller greenish-tinged lead came-framed panes were supplanted by larger, clearer sash window panes which were favoured for the increased amount of light that they let into a room (Dungworth 2011, 26).

Other finds retrieved comprise 10 non-diagnostic vessel sherds recovered from the mixed horizon deposit (*8174*) and the primary fill (*8249*) of ditch slot [*8250*] in Area 8, the fill (*10167*) of posthole [*10168*] in Area 10, and the fill (*12077*) of ditch slot [*12078*] in Area 12, as well as 25 tiny non-diagnostic shatter sherds recovered from a total of 16 separate contexts across Areas 6, 8, 10, and 12. The non-diagnostic vessel sherds include a small dark greyish blue green curved body sherd (8174), seven very thin curved fragments from a possible dish or drinking glass (8249b), a small sherd of dark olive green possible bottle glass (10167), and a small fragment of light yellow green glass (RT 515). The shatter sherds are not classifiable due to their tiny size and lack of diagnostic features, however they may include the remains of window glass and bottle glass and range in colour from clear and colourless, to light greenish yellow, light greenish grey, bright emerald green, and light green and light blue aqua tinged.

Table B7: Summary of the materials recovered by date

Identification	Context	Mass (g):
19th-20th century		
Ricketts moulded wine bottle fragment	8043	60.3
Intact Boots fruit saline bottle	12002	400.5
Bottle neck and patent finish	8000	15.1
Window glass	11027, U/S	2.5
Shatter sherd	6164	<0.1
18th century or later		
Stemmed drinking glass foot	8000	9.8
Likely 15th to late 17th century		
Window glass	8207, 8241, 8249, 8259	24.0
Non-diagnostic likely vessel glass	8249	2.8
Post-medieval		
Tiny hexagonal black glass bead	8254	<0.1
Non-diagnostic fragment	10167	0.4
Not closely dateable		
Window glass core	8001, 8192	2.3
Non-diagnostic body sherd	8174	0.8
Non-diagnostic fragment	12077	0.1
Non-diagnostic shatter sherds	6202, 8010, 8184, 8186, 8254, 8259, 10013, 10033, 10049, 10117, 10159, 10192, 10200, 10212, 12186	0.1
Natural quartzite		0.8
Total:		**519.5**

Summary of the contextual units

The table below (Table B8) summarises the glass recovered from each contextual unit across the site. For a more detailed summary of the material, please see digital appendix). The site comprises twelve separate excavated areas, with Areas 1-10, and Area 12 subject to a programme of archaeological strip, map, and sample, while Area 11 is made up of 20 individual trial trenches. The glass was recovered from a total of 29 separate contexts, including two from Area 6, 13 from Area 8, nine from

Area 10, one from Area 11, three from Area 12, and one from an unstratified context. The glass recovered from Areas 6, 10, 11, and 12 are predominantly tiny non-diagnostic shatter sherds, apart from the topsoil finds, with the main focus of the activity limited to four to five contexts representing ditch fills within Area 8 (*8207, 8241, 8249, 8254, 8259*).

Table B8: Summary of the contextual units from Stour Park

Context no	Context Description	Material	Bulk/ RT #
Area 6			
6064	Fill of pit [6065].	Natural stone	RT 49
6100	Grave cut. Fill (6098), SK 6099. Grave Group 27.	Natural stone	RT 508
6164	Fill of grave [6166], SK 6165. Saxon Cemetery, Grave Group 45.	Shatter sherd, possible modern safety glass	RT 19a
		Natural stone	RT 19b
6202	Fill of burial cut [6203], SK 6201. Saxon Cemetery, Grave Group 48.	Non-diagnostic shatter sherd	RT 252
Area 7			
7042	Secondary fill of pit [7063]. Post-built structure or pit group.	Natural stone	RT 162
Area 8			
8000	Topsoil	19th-20th century sauce/ medicinal bottle neck/ finish	8000a
		19th century or later stemmed drinking glass foot	8000b
8001	Subsoil	Window glass	8001
8010	Fill of ditch slot [8011]. Likely Post-Roman.	Non-diagnostic shatter sherd	RT 35
8043	Feature group. Drainage or field boundary ditch. Likely Post-Roman.	19th-20th century wine bottle fragment	8043
8174	Mixed horizon deposit. Ragstone foundation.	Non-classifiable bottle body sherd	8174
8184	Fill of pit [8185]. Possible post and beam-slot structure [8203].	Tiny non-diagnostic sherd	RT 118
8186	Secondary fill of pit [8188]. Possible post and beam-slot structure [8203].	Tiny non-diagnostic sherd	RT 93
8192	Cut for ditch slot. Fill (8191). Likely Post-Roman.	Window glass	8192
8207	Secondary fill of terminus ditch slot [8209].	Window glass, likely 15th century or later	8207
8241	Primary fill of ditch slot [8242].	Window glass, likely 15th century or later	8241a-b, RT 143
8249	Primary fill of ditch slot [8250].	Window glass, likely 15th century or later	8249a
		Vessel glass, likely 15th century or later	8249b
8254	Primary fill of ditch slot [8255].	Post-medieval black glass bead	RT 150a
		Non-diagnostic shatter sherds	RT 150b
8259	Tertiary fill of ditch slot [8262].	Window glass, likely 15th century or later	8259a

Context no	Context Description	Material	Bulk/ RT #
		Non-diagnostic shatter sherds	RT 152
Area 9			
9057	Fill of pit/ cremation [9058]. Possible cremation cemetery.	Natural stone	RT 197
Area 10			
10013	Slot cut within subsoil.	Non-diagnostic shatter sherds	RT 350
10033	Fill of pit/ posthole [10034]. Enclosure surrounding kiln, north side.	Non-diagnostic shatter sherd	RT 356
10049	Deposit. Spread overlying (10027) Kiln, (10028) ditched enclosure	Mix of natural stone and non-classifiable shatter sherds	RT 389
10115	Fill containing collapse of flue of kiln [10029]. Q2.	Natural stone	RT 5467
10117	Second fill of kiln [10029] Q3. Flue collapse.	Tiny non-diagnostic shatter sherd	RT 396
10159	Fill of pit [10160]. Post-built building.	Tiny non-diagnostic shatter sherd	RT 428
10167	Fill of posthole [10168]. Possible post-built structure.	Non-diagnostic vessel/ window fragment	10167
10192	Fill of posthole [10193]. Possible post-built structure.	Tiny non-diagnostic shatter sherd	RT 450
10200	Fill of ditch terminus [10201].	Tiny non-diagnostic shatter sherd	RT 456
10212	Fill of kiln [10029].	Tiny non-diagnostic shatter sherd	RT 485
Area 11			
11027	Fill of ditch [11028].	Tiny modern window glass	RT 170
Area 12			
12002	Subsoil	Late 19th- early 20th century intact Boots Fruit Saline bottle	12002
12077	Fill of ditch slot [12078]. L-shaped gully.	Small non-diagnostic fragment	RT 515
12186	Fill of ditch slot [12187].	Tiny non-diagnostic shatter sherds	RT 325
12216	Secondary fill of ditch slot [12218].	Natural stone	RT 310
12220	Secondary fill of ditch slot [12222].	Natural stone	RT 328
U/S	Unstratified	Modern window glass	U/S

Discussion and statement of significance

The Post-Roman glass assemblage recovered during the archaeological trial trenching and strip, map, and sample exercise at Stour Park comprises 10 fragments of window glass, one intact medicinal bottle, three bottle sherds including 2 wine bottle sherds, a stemware drinking glass sherd, a tiny hexagonal bead, 10 non-classifiable vessel sherds, and 25 tiny non-diagnostic shatter sherds.

The majority of the window glass assemblage most likely represents the remains of greenish-tinged triangular and diamond-shaped panes associated with leaded came and dateable from the Tudor period of later, from between the 15th to late 17th centuries. These small fragments most likely represent residual remains incorporated within the various ditch fills within Area 8.

The heavily fragmented non-classifiable vessel sherds are representative of residual materials incorporated within the various feature fills, while the numerous tiny shatter sherds as well as the tiny bead (RT 150a) may be intrusive within their contexts of discovery owing to their small size. Other finds retrieved, including the late 19th-early 20th century intact fruit saline medicinal bottle, the 19th century or later bottle glass fragments, and the 18th century or later stemware drinking glass fragment, represent the remains of domestic waste incorporated with the topsoil and subsoil layers across the site.

Recommended further work

The finds retrieved are considered to be of limited archaeological significance beyond a site-specific level and possess little scope for further research.

Conservation: No specialist conservation is required.

Specialist analysis: No further specialist analysis and recording is recommended.

Illustration: No illustration is merited.

Retention: The finds recommended for retention comprise: light blue aqua sauce or medicinal bottle neck and finish (8000a), the stemware drinking glass foot and knop (8000b), the greyish blue-green vessel body sherd (8174), the non-classifiable blue tinged sherd (RT 118), the non-classifiable greenish-yellow tinged sherd (RT 93), the window glass fragments (8192, 8207, 8241a-b, 8249a-b, 8259a, RT 143), the hexagonal bead (RT 150a), and the intact Boots Regesan Fruit Saline medicinal bottle (12002). The remaining finds are suggested for eventual discard.

References

Dungworth, D., (2011). 'The Value of Historic Window Glass'. *The Historic Environment: Policy & Practice,* 2:1, 21-48.

Dungworth, D., (2012). 'Three and a Half Centuries of Bottle Manufacture'. *Industrial Archaeology Review,* 34.1, 37-50.

Ceramic Building Materials

Andrew Peachey, Wardell Armstrong

Introduction

Excavations recovered a total of 1175 fragments (92.131kg) of ceramic building material (CBM); entirely of post-medieval date, potentially spanning the Tudor period to the 18th century (Table B9) and generally in a moderately fragmented condition; as well as 1070 fragments (9117g) of daub that is highly fragmented (with a friable nature) and may be contemporary, if not related to preceding prehistoric to medieval activity. The CBM includes a low number of bricks that could feasibly have been produced from the mid 15th century onwards, but although they generally occur separately from the pre-dominant brick, it is more likely that both types represent contemporary activity in the mid 16th to 17th centuries. Similarly the peg tile may have currency into the 18th century, but is likely contemporary with the bricks. The only substantive groups of both peg tile and brick were contained in ditches, including field boundaries and drainage ditches, which is also true of the daub, except for a very high concentration recorded as a spread that may have been associated with a structure.

Date	CBM type	Fragment Count	Weight (g)
Post-Medieval			
Tudor to 18th C	Peg tile	664	37155
	Ridge tile	8	1706
	Misc. CBM (?peg tile)	208	310
Mid 15th-Early 17th C	Wall brick	13	11242
Mid/Late 16th-17th C	Wall Brick	282	41718
Medieval to Post-Medieval	Daub	1070	9117
Total		2245	101248

Table B9: Quantification of CBM

Methodology

The CBM was quantified by fragment count and weight with fabric samples examined at x20 magnification, extant dimensions measured and manufacturing traits recorded in free text; with all data entered into a Microsoft Excel spreadsheet that will be deposited as part of the archive.

The Assemblage

Roof tile (Peg and Ridge tile)

Peg tile was innovated in Britain in the medieval period, becoming relatively common by the 14th century; however the traits and standardization of the Peg tile (explored below) suggest that it is entirely of post-medieval origin, probably in the mid 16th to 18th centuries. The peg tile was manufactured in two fabrics, with the predominant type (659 fragments, 36.384kg) ranging from pale orange to mid red-orange in colour, and a rarer variant (8 fragments, 1706g) appearing with cream surfaces over a pinker/redder core. However the inclusions of both fabrics appear comparable and it is likely they represent variations in local clay. Both fabrics have inclusions of common to abundant limestone, some oolitic (generally <0.25mm, occasionally to 0.5mm) with common shell/dissolved voids (<3mm), and are very hard and well-fired.

A complete peg tile was recovered from the subsoil (Figure B1), with numerous larger fragments often with complete width and/or peg holes in ditches [8043], [8209], [8216], [8250], [8252] and [8262] supporting the theory that only a single variant of peg tile is represented. The peg tile have dimensions of 235x160x12mm with a fully rectangular, not tapered profile. They are typically flat or slightly warped with a finely sanded base, faint striations on the upper surface, and fairly regular edges with slight tips and occasional fingermarks where they were pressed into a former or handled. At one end of the tile are two diamond shape peg holes, 12mm wide and slightly tapered to the base, with a slight lip on the underside where they were cut when the tile was leather hard. The holes vary slightly in placement, clearly intended to be a 'centred' pair, but often pierced through closer to the corners; a degree of variation typical in pre-industrial products. The peg tile has an extensive distribution in ditches across the site, as well as in pits [8185] and [8188] possibly as packing material, as well as in peat (8041); but the principal small to modest groups of sherds were contained in ditches [8043], [8152], [8185], [8209], [8216], [8223], [8242], [8245], [8250], [8252] and [8262]; with further notable fragments from the topsoil and subsoil. This pattern of deposition likely represents the dumping of CBM in order to enhance drainage at the base of ditches, and is not of sufficient scale to be directly associated with demolition deposits related to an adjacent structure; but an association with a structure in the vicinity or the production of peg tile in the local landscape cannot be entirely discounted, while the relative homogeneity of the peg tile's technology and fabric suggests the various groups may have a fairly

narrow chronology within the mid 15th to 18th centuries. It may be pertinent that the peg tile appears slightly narrower than that specified in a statute of 1477 to regulate the dimensions of peg tile at 10.5x6.25x0.5 inches (267x159x13mm) and to dictate seasonal minima for the digging, turning and firing of clay (Drury 1981, 131 & 135); potentially indicating that the peg tile is consistent with production in the late 15th century or shortly thereafter, although degrees of local variation persisted throughout the post-medieval period.

Figure B1: complete post-medieval peg tile recovered from the subsoil

In comparison to peg tile, ridge tile is rare with just eight fragments identified, all in the same fabric as the dominant peg tile, and present in ditches [8209], [8216], as well as the topsoil and subsoil, and all associated with substantive groups of peg tile. The ridge tile is closely comparable to the peg tile in that it is 12mm thick with a sanded base, but ridge tiles have steep slightly curved sides rising to a strongly curved crest; in total 140mm tall (full width not extant). There is no evidence that any of the ridge tile was glazed or decorated (not the peg tile), traits that may have been more common in the medieval period, and there is little doubt that these are a contemporary and associated product of the post-medieval peg tile.

Wall Bricks

A small proportion of the recovered bricks, a total of 13 fragments from ditches [8209], [8216], [8223] and [8226] may have a currency that commences in the mid 15th century and continues into the early 17th century, with the largest fragments including a complete brick in ditch [8216], and a small fragment associated with the more common red bricks only in ditch [8209]. These bricks were manufactured in a mid orange to red-orange fabric with inclusions of common white clay pellets (0.5-4mm) and sparse red clay pellets (0.5-10mm), a medium hardness and a slightly powdery to abrasive feel. These bricks have dimensions of 210x110x45mm (or 8 ¼ x 4 ½ x 1 ¾ inches) with a slightly rough base, slightly

creased faces, shallow sunken margins with fairly regular arises. The traits exhibited are consistent with bricks produced in south-east England from the mid 15th to early 17th centuries (Tudor to early post-medieval periods) (Drury 1981, 94-96), , but examples have been recorded in arches and vaults dating from the early 13th century at Allington Castle, Kent (Lloyd 1983, 89), therefore medieval origins cannot be entirely discounted.

The most common brick in the assemblage may be considered a red 'stock' brick common throughout the 16th to 17th centuries, although the varied preservation in this assemblage suggests they may have been reused. Fairly well-preserved but not complete fragments were recovered from ditches [8043], [8152], [8206], [8242], [8245], [8250], [8252], pits [8185] and [8188]; while rounded smaller fragments of rubble that were still identifiable as derived from these bricks were recovered from path/foundation/floor (10127), (10129), and kiln [10029], suggesting re-use as hardcore within make-up layers or lining. These bricks were manufactured in a red-orange fabric with inclusions of abundant well-sorted fine quartz (<0.25mm), occasional quartz, flint and red iron-rich grains (<0.5mm, rare to 10mm), and a medium hardness with a powdery to slightly abrasive feel. Based on the recorded fragments, this type had partial dimensions of ?x110x55mm (or ? x 4 ½ x2 ¼ inches) with a flat base that exhibits common straw/organic impressions, regular to slightly creased faces, and slightly rounded regular arrises. It is notable that these dimensions are smaller than those dictated in an Act of Parliament of 1725 to standardise the size of bricks, and that the size and traits of this type are commensurate with examples at Sturry Court, Kent, built in the early 16th century, Old Charlton House and Broome Park, Denton, Kent, both built in the early/mid 17th century (Lloyd 1983, 91-2))

Daub

The assemblage included a fairly extensive albeit sparse distribution of daub, including a single significant group and seven small groups. The daub was comprised of pale orange-brown silty clay with incidental inclusions of medium-coarse quartz sand, chalk and flint; and di not appear to have been fired or exposed to any significant degree of heat. The most significant group comprised a total of 189 fragments (5.238kg) recovered from associated spreads (10049) and (10051), including relatively large fragments with a high incidence of extant wattle impressions and 'external' surfaces. These fragments indicate the daub was packed over parallel wattle rods (each c.10-15mm in diameter) to a thickness of approximately 40-40mm thick either side of the wattle, with surfaces then crudely smoothed or patted flat before being left to dry solid. Further wattle impressions were observed on single fragments of daub in pit [9044] and posthole [12181]. A total group of 294 small fragments (1309g) was recovered from associated postholes [10032], [10036], [10038], [10040], [10042], [10044] and [10046], potentially part of a small structure; while other small groups of daub were contained in posthole [7043], pit [9071], ditches [10083], [10158], and kiln [10030], including posthole [10218]. Elsewhere on the site, the sparse distribution of daub was limited to very small fragments, typically amounting to less than 100g per deposit. Wattle-and-daub construction such as this was in use from at least the early Bronze Age to Roman periods, if not earlier, but is a common component of medieval building and would have persisted, especially in rural areas into the 17th and 18th centuries, prior to the industrial revolution allowing a massive increase in the production and transport of bricks.

Research Potential

The CBM assemblage relates well to several themes identified as having research potential within the region, including the potential transition and change in building materials from the medieval to post-medieval periods, the types of structure of non-extant farms and domestic rural or estate buildings

(Barber 2013, 7, 9, 12-13), and the local production of handmade brick and tile (Barber 2013, 40-1). Similarly, the distribution may inform on the construction of a post-built structure that may be datable by associated pottery or artefacts to a period more specific than prehistoric to medieval. However, the deposition and/or re-deposition of brick and tile in ditches and field boundaries, and the resultant modest level of fragmentation may present a significant constraint on the level of potential analyses that can be applied to this assemblage. No further recording is required for this assemblage but specific research questions that may be addressed comprise:

- *Do the traits of the wall brick and peg tile allow them to be associated or paralleled with any local/regional kilns, workshops, structures or assemblages?*
- *Does spatial analysis allow for any focal points of deposition to be identified, that may be associated with structures on or close to the site?*

Proposed Tasks and Resources

Task	Description	Time
1	Library research into published and grey literature assemblages of brick and tile.	1 day
2	Sort data into groups according to phasing and distribution to identify any foci or patterns that may be associated with structures.	1 day
3	Expand discussion and conclusion for archive report	1 day
Total		*3 days*

Bibliography

Barber, L. 2013 (revised 2019) 'South East Research Framework Resource Assessment and Research Agenda for Post-Medieval, Modern and Industrial periods'. https://www.kent.gov.uk/__data/assets/pdf_file/0008/99494/Post-medieval,-Modern-and-Industrial-chapter.pdf (accessed 25/01/22)

Drury, P. 1981 'The production of brick and tile in medieval England' in Crossley, D. (ed) *Medieval Industry*. Council of British Archaeology Research report 40, 126-142

Lloyd, N. 1983 *A History of English Brickwork*. Antique Collectors Club, London

Ryan, P. 1996 Brick in Essex: From the Roman Conquest to the Reformation. Privately Published, Colchester.

Fired Clay

Orlene McIlfatrick (freelance specialist on behalf of AOC Archaeology Group), Daniel Bateman and Dawn McLaren (AOC Archaeology Group)

Introduction

Fragments of fired clay totalling more than 130kg were recovered during archaeological evaluations undertaken by AOC Archaeology Group, at Stour Park, to the north side of Highfield Lane, Sevington, Kent (Site code: 34280). A total of 11 Areas (Areas 1-10 and 12) were opened across the site, with various levels of archaeological results, leading to additional extensions of Areas befitting the initial results. The material discussed in this report came from Area 10 and comprises the fired clay debris resulting from the destruction of three thermal installations. These structures/features, [10027], [10029] and [10030] were used for some form of thermal process, though not one requiring high temperatures

(see conclusion). Two types of structure are present, with [10027] having a completely different shape to [10029] and [10030]. Despite this, the fired clay material is largely identical in terms of fabric. This assessment is designed to quantify and characterise the fabric, form, construction and general types of fired clay recovered and will proceed to discuss it by feature (i.e., the structural aspects of the kiln/thermal installation structure) and context (finds location within the structure), in order to identify any particular fabric, firing and possible architectural patterns within the fragmentary remains.

The two large structures [10029] and [10030] are located relatively close together aligned north-south, with their flues facing towards each other. They appear to respect each other in placement, and this may indicate contemporaneous use. Structure [10027] lay north and slightly east of [10029] and is the smallest of the group. Its distinctly different layout and rather better preservation in terms of quantity of material may be chronologically significant, and may indicate either a different function or different date of use. The dating of features on the Stour Park site is wide ranging. Bronze Age features were encountered, along with Iron Age and Roman material. The thermal installations, and their fired clay remains are hypothesized to be of Roman date (AOC 2020) as they appear to have been dug into the Roman date subsoil and subsequently covered by subsoil, also hypothesized to date to the Roman period. Of the three, only the fills of [10029] was sampled for environmental assessment (Roy: 2022).

Methodology

The fired clay was hand collected on site on a context basis, and later washed free of adhering soil during post excavation. The dried material was then weighed using a Sartorius digital scale accurate to 0.01g, counted, measured using a carbon dial calliper accurate to 0.1mm, and described within a Microsoft Excel spreadsheet inventory. Some of the contexts were extremely densely strewn, and so they were separated into several bags, and this is reflected by multiple entries in the digital inventory, and therefore collated in the table below (Table B10). The full inventory of the fired clay is presented as an accompanying Microsoft Excel Spreadsheet and is summarised here as Appendix A.

Assessment for specific aspects of fabric and structure have been carried out macroscopically with the aid of a hand lens only.

Recommendations for further work, including any scientific analysis, illustration or conservation will be discussed towards the end of the report.

The Assemblage

The Stour Park fired clay assemblage weighs 133.5kg, totalling approximately 6986 fragments. The fragments were recovered in association with, meaning from the fills of, the three thermal installations, and represent the superstructure and/or lining, destroyed during collapse and subsequent intervention. The bulk of the fragments are abraded, amorphous and lack any particular distinguishing features, such as a variety of types of fabric. Some fragments of the debris do have surviving features which pertain to the construction methods employed in the building to the structures such as withy impressions. The distribution of the recovered debris will be addressed and discussed, and any significance it may suggest. This will be done for each of the three sets of fired clay remains.

Structure [10027]

Structure [10027] is of ovoid, slightly ‘waisted’ figure-of-eight form aligned east-west on the long axis, with the proposed flue and stoke-pit facing east. It measures 1.80x 3.20m. Of the three thermal installations, the contexts relating to the collapse/destruction of this, the smallest one, yielded the best-

preserved fragments of fired clay. The quantity of larger pieces, the overall lower intensity of abrasion, and the number of fragments bearing withy impressions etc. makes it the most informative subdivision of the assemblage. Just over 119kg of fired clay was retrieved. The retrieved material came from six contexts; (10113), (10130), (10131), (10138) and (10139) and the kiln lining feature {10136} associated with the thermal installation, the weights of material per context can be read in Table B10 below. The inventory indicates that all quadrants were excavated under the context number (10113) for 'masonry' which appears to comprise the fired clay which is identifiable as super-structural elements, such as lining, from each quadrant. Thusly, (10113) alone produced just over 81.8kg of that material. It was excavated in 8 sub-divisions labelled 'Quadrants' and identified A-H. These sub-divisions covered the 'firing chamber' (10133), a short 'flue' (10134) and the 'stoke-pit' (10135). The author must note that the given information, nor the fired clay material, supports or refutes such subdivision. Lenses of charcoal-rich fill were found in both (10133) and (10135) (contexts (10131) and (10132) respectively), underlying the fired-clay fragment rich fill (10130), which show presence of burned wood fuel in both 'premises' of the structure. Feature {10136} is the fired clay superstructure of the installation, comprised of red hard-fired clay. Fragments of this were retrieved and are discussed below.

The depth of the fills in the dug-in portion of the installation is recorded as 50cm in the proposed firing chamber, and 55cm in the stoke pit. The fill of the kiln, comprising contexts (10130), (10131), (10138) and (10139), are layers identified as resulting from the collapse of the structure yielded a combined quantity just exceeding 33 kg of fired clay. (10130), the uppermost of these layers was the most productive, probably predominantly material from the upper part of the structure or 'roof', while the underlying (10131) yielded much less material, but also in this context, the soil fill contained a quantity of charcoal. Unfortunately, the homogeneity of the material, and the lack of any distinct pattern in the fill does not allow a postulation of a model of collapse for the structure.

Fabric: Only one fabric, fabric 1, was identified. It is a silty, yet very slightly sandy, most likely alluvial clay. Very few inclusions can be observed, and these are limited to small rounded pebbles of a fine-grained white stone, which may be thermally decayed coarse limestone, predominantly smaller than 5x5mm, and with very occasional pebbles of 10x7mm.Most fragments show no inclusions of this kind, and can be considered accidental natural inclusions in the raw clay. The soils and sediments assessment report (Roy 2022) notes that the Atherfield Clay formation, a cretaceous bedrock, is mapped south of the site, and that the superficial deposits of the site are alluvial clays, silts, sands and gravels deposited in the Quaternary Period when the local environment was predominantly riverine. This alluvial origin is reflected in the texture of the clay used for the construction of the thermal installations. No voids from organic inclusions were observed. The temperature to which it was heated did not vitrify any components of the fragments, indicating no temperatures in excess of around 750-800 degrees, and more likely in the 650-750 range. The resulting 'ceramic' is porous, crumbly, easily abraded, and with a powdery surface texture akin to baking soda. The colour varies from pale apricot to a deeper orange. Occasionally a grey reduced core or patchy grey areas can be observed within the fragments.

Form: All the fragments are abraded, most of these to an amorphous shape varying from crumb-sized to palm sized pieces. Some fragments with a smoothed surface can be distinguished, however none of the fragments can be identified as kiln furniture or supports. The conclusion is that this material is structural, either from the superstructure of the kiln or installation, such as a dome or vault, and from the clay-plastered lining.

Some indication of the construction methods can be drawn from the presence of withy impressions. The assemblage from this structure was the only one of the three to produce such readily identifiable traces. There are around 24-30 fragments, better preserved, taken predominantly from quadrants C and D of (10113) which show round-wood withy impressions congruent with a woven structure, resembling wattle, with both vertical and horizontal impressions. Measured diameters range from 8-15mm, with occasional larger shafts up to 19mm, which are more likely to be the horizontal portion of the framework. Where possible to measure, the horizontal placement of the withies was close, at only around 19-11mm distant one from the next, and using more consistent thickness of withy, of 8-12mm. No bark impressions or striations remain. A few of the best impressions are angled, indicating the lay of the weave of withies. Two fragments show the flat, ledge-shaped, right-angle impression left by a flat/squared baton or lath, though where this may have been employed structurally is unclear. Additionally, around 10 fragments from Structure [10027] context (10113), which appears to contain substantial quantities of kiln lining fragments, also show the impressions from some form of loosely woven textile such as sack-cloth on one smoothed side of each fragment (Figure B2-4).

Figure B2: Photograph of a fragment of fired clay from (10113) Quad E, structure [10027], showing textile impressions.

Figure B3: Detail of a fragment of fired clay from (10113) Quad E, structure [10027], showing textile impressions.

Figure B4: Photograph of a fragment of fired clay from (10113) Quad F, structure [10027], showing textile impressions.

Inspection of the impressions shows a simple lattice weave, made from twine/yarn which has a round cross-section and must have been quite stiff in order to leave such distinct preserved curvature in the wet clay. This seems to be external, as the opposite side shows withy impressions indicating the direction of application for the clay to the woven scaffold of withies. It should be added that these were the only pieces with clear 'surfaces' and very few other pieces with conclusive surfaces could be identified with surety in the whole assemblage. The assessment of the structure identifies their location as internal to the firing chamber, in Quadrants A, B, C and D. This was also where the bulk of the fired clay was retrieved. Quadrants E and F are located in the flue, crossing into the stoke pit, and Quadrants

H and G contain the remaining stoke pit area. These quadrants also produced large quantities of fired clay from the collapse, though in general their state of preservation was much poorer, with the fragments being smaller and more abraded, and only a very small number of fragments with surviving distinguishable withy impressions. A group of 39 fragments from feature <10136>, identifiable as coming from the fired clay lining of the structure, came from along the firing chamber, flue and stoke pit. This shows that the construction of the various areas of the installation seems to have been homogenous in terms of method and material.

Inspection on a quadrant-by-quadrant basis of the material does not show that there was any significant difference in firing temperature across the assemblage. One would expect remains from inside the proposed firing chamber to be more highly fired, however this does not appear to be the case, and the consistency of colouring, hardness and atmospheric indicators such as prevalence of reduced versus oxidized fragments, suggests that no part of the structure was exposed to particularly high temperatures or uncontrolled atmosphere relative to the other areas.

Structure [10029]

This structure [10030], is the first of two structures on the site which seem to share the same extremely elongated design and construction methodology. The whole structure stretches to 8.40m and 1.5m at its widest point. It is aligned slightly north-east - south-west, with the 'flue' facing south-west. The internal depth of the fill reached 80cm at the deepest area. The retrieved material came from thirteen contexts; (10053), (10054), (10114), (10115), (10116), (10117), (10118), (10120), (10170), (10173), (10196),(10237) and (10238). The structure is hypothesized to represent a single phase of use, and to be part of the second industrial phase of the site (AOC 2020)

The structure's fill was partitioned into 12 'quadrants', from which 6 were excavated and fired clay retrieved: Context (1053) lay uppermost and covered all quadrants. Q1(10054) and (10116), Q2(10115), Q3(10117) and (10114),Q4(10118) and (10172) ,Q5(10170),and Q6 (10173) and (10196). Contexts (10237) and (10238) relate to the northernmost end of the structure. The lower fill, (10196) and (10114), which contained varying quantities of fired clay debris overlaid a masonry base which was made of the local ragstone, and clearly heat affected. Mid-level fills (10117), (10118), (10170), (10173) were less plentiful in fired clay fragments. The context reports indicate that these fills were frequently heterogeneous, and may have been the result of rapid back-filling of the collapsed structure. It should be noted that the soils and silt assessment included a kubiena tin sample from Q3, which straddled the (10114)-(10117) boundary, and that a distinct horizon could be observed between this upper and lower fills, both of which contained fired clay. In terms of fired clay fragment retrieval: (10114) contained 33 fragments versus (10117) with 23. Likewise upper and lower fills of Q6, (10173) and (10196) show little difference in fragment retrieval with 21 and 13 respectively. The uppermost fills (10053) and (10054) were the richest in fragments, with 135g and 436g collected respectively.

Not all of the contexts named as 'fills' in the report are represented by fired clay fragments, and those are not included here. Quadrants 4, 3, 2, and 1 relate to the flue, while Quadrants 5 and 6 relate to the firing chamber. Context (10199) located in Quadrant 5, yielded quantities of lime mortar, potentially related to the construction, and therefore included in the collapse debris, and not discussed here. Structure [10029] is the least represented in terms of recovered fired clay material, with only about 2kg retrieved for assessment. For distribution by context see Table B10 below. The fragments are in particularly poor condition. The northernmost part of the structure was subject to later interference in the form of a large rubbish pit dug into the area that was identified during the excavation as the stoke-

pit and part of the firing chamber. The backfill of this pit was included in the assessment of fired clay. Two further intrusions in the form of animal burials were recorded in Quadrant 6, (10231) and (10232). As a result the disturbance of the original layering in this area disrupted the layer of collapse debris (10197), and potentially (10196) above it where fired clay was recovered, and this should be noted as a possible reason why the latter context – while in the 'heart' of the structure, yielded so little fired clay (8.2g). Beside and beneath the fill contexts lie the features identified as fired clay lining. They are: N end = {10234}, Q6 = {10171}, Q5= {10174}, Q4= {10124}, Q3= {10123} and {10120}, Q2= {10122} and Q1= {10141} which together combine to form the encompassing {10119}. According to the inventory, no in-situ samples of this material were extracted for analysis or comparison with the retrieved fragments in the fill contexts.

Fabric: Only one fabric, fabric 1, was identified. It is the same silty, yet very slightly sandy clay used in the construction of [10027]. The same pattern of infrequent, rare white stone grits or small rounded pebbles is maintained, with the same range of sizes. Once again, most fragments show no inclusions at all, and there are no voids indicating organic material added as temper. Additionally, the fired clay was exposed to the same range of temperatures - likely in the 650–750-degree range. The porous ceramic resulting from the firing of the 'kiln' is particularly susceptible to abrasion, as evidenced by the very poor quality of the collected fragments and their powdery, crumbly and highly water-absorbent characteristics. The colour varies from predominantly pale apricot to a deeper orange, and some fragments show grey, reduced patches.

Form: All the fragments are abraded, amorphous, and most are small and a good deal of the material is less than 40x30x20mm in size. A goodly portion of the material can only be recorded as 'crumb fragments'. Very few fragments survive in good enough condition to identify any construction detail such as withy impressions. One fragment from (10170) is an exception. Records of the excavation mean it is possible to distinguish kiln-pit lining from other parts of the collapsed upper structural areas. The context (10136) was recorded as 'kiln lining'. Under inspection this material is very different to distinguish from the material which must relate to the other structural elements due to the highly fragmentary nature of the retrieved material. The recorded plan of the structure under excavation shows that the whole interior space contained a thin lining of fired clay, noted as 'reddish lining'.

Structure [10030]

The second of two structures on the site which seem to share the same extremely elongated design and construction methodology. The alignment runs north-east south-west with the whole structure stretching to 8.50m while only approximately 1.80m wide. The flue faces north-east. The internal depth of the fill reached from 50cm in the proposed firing chamber, to 80cm at the deepest area which may have been the stoke pit in the original structure but was subsequently deepened by the intrusion of the later rubbish pit feature [10222]. The retrieved material came from seventeen fill and collapse contexts; (10055), (10056), (10057), (10074), (10075), (10077), (10121), (10175), (10177), (10178), (10183), (10205), (10225), (10226), (10227) and (10229). See Table B10.

Almost 8.5 kg of material was collected from the interior of the collapsed structure. This material includes the lining and walls, and the upper area of the construction. Once again, the bulk of the fragments are in very poor condition. The southernmost part of the structure was subject to later interference from the large rubbish pit [10222] dug into, and extending beyond the original boundary of the area that was identified during the excavation as the 'stoke-pit' and part of the 'firing chamber'. The pit-cut was then backfilled with material including a large rock (10228). It must be noted that no working

could be observed on this rock, and its deposition or discard in this pit does not appear to have been related to the structure's original use. The backfill of this pit was not included in the assessment of fired clay.

As with [10029] the structure's fill was partitioned into ten 'quadrants', however it appears that no quadrant sampling technique was subsequently followed, as no further reference to quadrants is used in the logging of the fired clay retrieved. Furthermore, the sketches provided by the excavating archaeologists in the site record sheets appear to show layer by layer (context-based) excavation across the whole fill of the structure.

The upper fill of the kiln comprising of context (10055) and (10056) produced only 337.5g of fired clay, very fragmented. It was the deeper layers of collapse, (10121), (10175) and immediately below that, (10183), that produced the majority of the fired clay that was retrieved, with the latter two of those contexts in direct association with each other located in the mid-section of the structure's 'floor plan', combining a yield of just over 2.9kg.

The kiln structure was subdivided as features thus: (10225) partly fired mud brick wall, (10226) unfired and partly fired clay lining, and (10229) unfired mud wall. According to the inventory, a small quantity of the material in the retrieval came from these features. The fired clay from these context is homogenous with the material from the fills. The base, or floor of the installation was only visible in the 'firing chamber' identified as feature (10235), and not in the flue. This floor was formed from compact crushed fired clay and showed evidence of much burning which was visible in the form or scorching and deeper shades of red in the fired clay. The manner of collapse of this chamber indicates that the ceiling/roof of the structure fell first, after which the walls folded inwards over it burying the roof collapse material. The resulting hole was then filled. The quantities of fired clay are so homogenous in form and fabric that confirmation of this cannot be confirmed materially, and the excavator's observations of the layering must be the guide to the manner of the structure's demise. The fired clay from the 'firing chamber' came from overlaying fill contexts - here listed from highest to lowest (10175), (10183), (10205) and (10206) the quantities of retrieved material are listed accordingly in Table B10, and shows an interruption in the otherwise consistent pattern of fired clay density, with upper fills (10121) 2255.8g, (10175) 1665.2g, middle fills (10183) 1237.8g and (10205) 21.3g, and lowest (10206) 1536.6g. Note that (10205) shows a significant reduction in retrieved fragments which seems to confirm the observations recorded for (10205) as an accumulated deposit, described as 'thick' lying on top of the original chamber floor of the structure, it may represent accumulation of soil etc. prior to the full collapse of the structure – hence the very small quantity of fired clay retrieved (AOC 2020). It was also subject to interference in the form of the cutting out of the large pit [10222] at a later date. No inventory of collected material is listed for the crushed clay layer (10236) which directly overlay the base {10235}, despite its description as 'crushed clay fill'.

Fabric: As with the other two thermal installations, only one fabric, fabric 1, was identified. It is the same silty, yet very slightly sandy clay used in the construction of [10027] and [10029]. The recurrence of this clay use pattern suggests that this is an easily available clay type in the locality, and either these three structures are roughly contemporary, or that this source was productive and prominent enough to be exploited over an extended period. The author need not repeat therefore, the inclusion, colour, firing or tempering patterns observed as they are the same as those already described above.

Form: Large quantities of amorphous heavily abraded fragments of various sizes and shapes, mostly sub-rounded. Much of the material is less than 4x3x2cm in size. Oxidisation levels vary. As with the retrieved material from [10029], a large portion of the material from the majority of the most productive

contexts can only be recorded as 'crumb fragments'. No fragments survive in good enough condition to identify any construction detail, and there are no pieces with withy impressions. Record sheets from the excavation allow some rudimentary identification of kiln-pit lining from other parts of the collapsed upper structural areas. The features (10226) and (10229) are recorded as 'kiln lining' and 'yellow lining' respectively. As with the described contexts from [10029] this material is mostly indistinguishable from the other fragments retrieved from the collapsed fill, except that it is the layer of fired clay encountered marking the bounds of the structure, indicating its function as the clay-plaster lining. A few fragments from these contexts have what could be termed a surface, though having abraded away to varying degrees. Material from feature (10226) comprises 223 (1.9kg) heavily abraded fragments of fired clay with varying levels of smoothing and a number containing withy impressions (Thickness: 8.6 -12.0mm) running parallel from one another, indicating that the lining was indeed supported by a woven network of withies. The cross-sectional plan of the proposed firing chamber indicates that the fill containing crushed fired clay was deposited in lenses after the manner of a collapse, which was then backfilled. Feature (10225) is an interesting structural feature of the installation, being composed of mud bricks. These bricks, though in poor condition could be measured at 60x30cm, corresponding in size to the Roman 'bipedalis' type, which when unfired themselves, were used for *opus latericium* masonry. Unfortunately, none of these bricks were available at the time of assessment to be visually inspected and so confirmation of a Roman or Romano-British origin cannot be given here. It appears to have been part of the superstructure delineating the walls of the northernmost end of the flue and may have extended higher. Whether or not this construction was used to create a barrel vault type of roof cannot be determined, although the excavator notes the presence of a clay/earthen/degraded mud brick 'plinth' as part of (10229) at the beginning of the flue, which may have supported such a roof. The bricks remained only low temperature fired from their use as part of the installation. Given that it appears to abut, or perhaps take over from, the clay lining and superstructure here, it may be some form of extension, replacement or repair.

Summary of the contextual units

Feature no.	Feature description	Context no.	Context description	Material	Mass (g)
10027	Thermal installation	10113	Kiln Quads. A,B,C,D,E,F,G,H	Fired clay	81,813.7
		10130	Upper rubble fill in 10133 10134 10135. Quad G	Fired clay	25,949.2
		10131	Charcoal fill in 10133	Fired clay	5980.9
		10136	fired clay lining of kiln 10027	Fired clay	4105.9
		10138	Backfill of const. cut south side. Quad E	Fired clay	991.1
		10139	Backfill of const. cut north side. Quad F	Fired clay	755.4

		Total			119,596.2
Feature no.	**Feature description**	**Context no.**	**Context description**	**Material**	**Mass (g)**
10029	Thermal installation	10053	Backfill of kiln	Fired clay	134.7
		10054	Upper fill of kiln Quad 1	Fired clay	436
		10114	Fill containing collapse of flue Quad 3	Fired clay	14.9
		10115	Fill containing collapse of flue Quad 2	Fired clay	675
		10116	Fill containing collapse of flue Quad 1	Fired clay	110.4
		10117	2nd fill of kiln Quad 3	Fired clay	14.3
		10118	2nd fill of kiln Quad 4	Fired clay	25.7
		10120	Kiln flue	Fired clay	571
		10170	4th fill of kiln Quad 5	Fired clay	24.2
		10173	4th fill of kiln Quad 6	Fired clay	16
		10196	Fill of Kiln Quad 6	Fired clay	8.2
		10237	fill of kiln	Fired clay	13.8
		10238	clay structure lining {10119}	Fired clay	121.3
		Total			2,165.5
Feature no.	**Feature description**	**Context no.**	**Context description**	**Material**	**Mass (g)**
10030	Thermal installation	10055	Upper Fill of Kiln	Fired clay	139.3
		10056	Upper Fill of Kiln	Fired clay	198.2
		10057	Fill of Kiln	Fired clay	255.2
		10074	Fill of kiln	Fired clay	115.3
		10075	Fill of kiln	Fired clay	121.7
		10077	Fill of kiln	Fired clay	83.2

		10121	Collapse of kiln	Fired clay	2255.8
		10175	Collapse of kiln	Fired clay	1665.2
		10177	Collapse of kiln	Fired clay	158.6
		10178	Fill under 10176	Fired clay	28.9
		10183	Fill under 10175	Fired clay	1237.8
		10205	Fill of kiln	Fired clay	21.3
		10206	Fill of kiln	Fired clay	62.7
		Feature [10225]	Bricks, side of kiln	Fired clay	427
		10226	Clay lining kiln	Fired clay	1536.6
		10227	Fill of kiln	Fired clay	95
		10229	Yellow lining	Fired clay	1.6
		Total			8,403.4

Table B10: Distribution of fired clay associated with structures [10027], [10029] and [10030] by context

Discussion and statement of significance

The fired clay assemblage from structures [11027], [10029] or [11030] are all fairly typically of what would be expected from thermal installations (such as ovens or kilns) from archaeological contexts, deriving from either the interior lining of the kiln itself or from its collapsed superstructure. The lack of any diagnostic kiln furniture means that there is a limit to how much can be inferred from the fired clay assemblage alone. Rather, it is comprised predominantly of either amorphous low-fired clay, fired clay with partial smoothed original surfaces or those with withy impressions attesting to use in association with a wattle framework, all of which are typical of lining and superstructure fragments from kilns and ovens of later prehistoric through to post-medieval date.

Given that none of the fired clay from [11027], [10029] or [11030] has been exposed to very high temperatures such as would be the case in a pottery kiln, or a kiln used form ceramic building materials, and given the absence of wasters, kiln furniture fragments or indeed the internal fixtures which would be expected from a Roman, Romano-British or Early Medieval ceramic producing kiln (Swan 1984), it is proposed that some other more domestic function should be sought for these thermal installations. Nor can any connection of these structures with metalworking activities be offered. Not only are the form of these structures completely different to what would be anticipated for an iron smelting furnace, iron smithing hearth or even a refractory kiln for the refinement of non-ferrous metal production (Dungworth 2015) but the quantity of metalworking slags (A Morrison, 2022) recovered during excavation is extremely limited implying that although ironworking was taking place at Stour Park, the activity appears to be either very small scale, episodic and/or focused in an area beyond the trench edges of the excavation area. Additionally, the thoroughness of the firing of the clay from [11027], [10029] or [11030] despite the low temperature suggests prolonged exposure to the heat over either

many hours, or many firings, or both. It is also possible that the upper range of temperatures which would result in fired clay such as this, came from hot fires set in the main chamber periodically to sterilise the space from moulds and food-spoiling bacteria, much as is still practiced in Eastern Europe today during the process of home-curing pork.

In the case of [10029] and [10030] in particular, the noticeably elongated flue ('stoke chamber') may have been specifically to allow lengths of greenwood or similar fuels to dry out slowly and burn at a lower temperature in order to produce controlled quantities of heat and/or smoke in the main chamber to smoke meat, fish and game, or simply to thoroughly dry it (in a climate which is more conducive to moulding than drying). During use, a lapse in attention while attending the smoking or drying could lead to conflagration of wooden withy racking and foodstuffs, and destruction of the installation.

Grain drying kilns, or indeed maltings, two other possible uses for the structures, are frequent finds in the archaeological record, and have long spans of use from prehistory to the post-medieval period (Rikett 2021), including examples such as the medieval kilns from Warren Lane, Ashford, Kent with their distinctive pear-shaped or figure-of-eight configuration (Atkins and Webster 2012). Such structures, much as with the smokehouse model, most often have a domed roof constructed by plastering a woven 'basket' frame with clay or daub, leaving space for a vent. As little remains of the flue walls for any of the structures, their height (or that of the main chamber roofs) cannot be determined from studying the retrieved material, it is simply too fragmentary and with no clear indication of what proportion of the original structures are represented in each case. Therefore, it is not possible to say if entry and exit to these structures was possible after construction was complete, or by what means.

The pair of structures [10029] and [10030] are so similar in form but set at opposing orientations that this suggests that their function was the same, however, the lack of stratigraphic relationship between the two features means that it is not possible to determine if these were contemporary or represent sequential replacements. Structure [10027] is sufficiently different in form and construction to perhaps hint at a different use or period of construction. The use of sack cloth or loose weave fabric to cover the superstructure of [10027] (as evidenced by impressions on fragments of fired clay recovered from context (10113)) merits note. Whether the application of textile to the exterior of the kiln or oven was for aesthetic or practical purposes is unclear and this practice may benefit from further investigation.

The chronology of use of these structures based on the form of the fired clay alone is also elusive. As already described, the elongated form of structures [10029] and [10030] are unusual and, as a result, cannot be readily ascribed to typical thermal installations of a particular period or date. On the basis of stratigraphy alone, as already described, [10029] and [10030] are probably Roman in date as they are sandwiched between two deposits, both thought to be Roman in date. It has also been noted that Roman bricks have been used in the construction of [10030] which suggests that this structure has a *terminus post quem* of circa. 1st century AD. The date range of the finds within contexts overlying structure may assist in providing a *terminus ante quem* which will narrow down the date bracket for the construction, use and abandonment of the structures.

Recommended further work

The fired clay assemblage from structures [11027], [10029] or [11030] are all fairly typically of what would be expected from thermal installations (such as ovens or kilns) from archaeological contexts, deriving from either the interior lining of the kiln itself or from its collapsed superstructure. However, there are a few aspects to the assemblage that merit further consideration and analysis, and any

publication on the site and its artefacts would benefit from a summary of this material being included in the report.

Further research into Roman and medieval thermal structures would also be beneficial to allow closer identification of the function of each of these thermal installations and to compliment the data provided here. As just described, we can rule out certain possibilities for their use but defining their exact function remains elusive.

Avenues into a better understanding of these structures include the following tasks: further works recommended include:

- *Targeted re-examination of a representational sample of the fired clay fragments with textile impressions (from context 10113) by a textile specialist may help to provide a closer identification of the type of fabric used and its date;*
- *Research into published Roman and Medieval roadside settlements in Kent and the surrounding counties to determine if any parallels for structures [10029] and [10030] can be identified (e.g., consultation with regional journal articles and monographs);*
- *Cross reference contexts associated with fired clay with ecofact assessment data from the contexts related to structures [10027], [10029] and [10030], particularly 'primary' floor levels, where possible. This may help to determine the function of these structures.*
- *Cross reference contexts associated with fired clay with artefact assessment data from the contexts related to structures [10027], [10029] and [10030], particularly 'primary' floor levels (rather than backfill). This may help to determine a) the function of these structures and b) the chronology of their construction, use and abandonment.*
- *The date of these structures remains elusive. Stratigraphic information implies that these thermal installations are Roman in date but this is yet to be proven. Three approaches could be taken to try to refine this. Can the associated artefact assemblage (such as the pottery) help to refine this? Is there sufficient in situ carbonised organics from primary floor levels within all three structures ([10027], [10029] and [10030]) to allow for C14 dating of each? Can any similar structures from Kent or the southeast more generally be identified to help refine the function/date?*

Following further analysis and research, an updated report on the fired clay is recommended.

Conservation: the fired clay assemblage is stable and packed in museum-standard archive boxes. No conservation is recommended.

Illustration: Presuming that the site will go to publication, a suite of photographs and hand-drawn illustrations detailing fragments with withy and textile impressions from [10027] and [10029] would be essential. Appendix A includes specific samples which are considered good candidates for illustration from which a representational sample should be extracted. An artist's impression of the structures may also be valuable as an aid to visualisation (not costed for here).

Discard/Retention: Given the amorphous and abraded nature of the assemblage, it is recommended that the fragments undergo strict selection. Only withy and textile marked fragments are of interest or possible future use, along with a representative few fragments per context for the site archive. Appendix A provides a list which may be consulted for this purpose, and the whole inventory is provided in the form of a Microsoft Excel spreadsheet.

Requirement	Estimate
Selection of textile impressed fragments from (10113) for examination by a textile specialist	2 hours
Textile impressed fragments: Transport to and return from specialist	External cost. est. £30 + VAT x 2 = £60 + VAT
Examination and report by textile specialist (e.g. Textile Research Laboratory, York)	External: 2 days (approx.. £400 + VAT)
Selection of withy marked fragments from [10027] and [10029] for illustration and publication photography	2 hours
Photography of withy impressed fragments [10027]	2 hours
Cross-reference with environmental assessment report to determine if sufficient secure carbonised organics survive within primary levels in [10027], [10029] and [10030] to allow for C14 dates	4 hours
If sufficient carbonised organics survive, selection of suitable samples for C14 dating [by enviro specialist]	3 hours
If sufficient carbonised organics survive from secure in situ contexts within [10027], [10029] and [10030], 1 x C14 date per structure	External cost, £315 + VAT per sample
Cross-reference with artefact assessment inventories to establish character and date of artefacts associated with [10027], [10029] and [10030]	6 hours (2 hours per structure)
Research into regional comparanda by referencing regional and wider existing publications	Max 2 days
Revision of report on fired clay associated with Structures [10027], [10029] and [10030] for inclusion in publication	2 days

References

Atkins, R & Webster, M.T., (2010). Medieval Fields & Ovens at Land off Warren Lane Ashford Kent. Excavation report. Oxford Archaeology.

Atkins, R & Webster, M.T., (2012). Medieval Corn-Driers Discovered on Land Probably Once Part of the Repton Manor, Ashford. Archaeologia Cantinana 132, 275-89.

Dungworth, D., (2015). Archaeometallurgy. Guidelines for Best Practice. London: Historic England. Accessed on-line: https://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/heag003-archaeometallurgy-guidelines [Accessed 11/02/2022].

Morrison, A., (2022). The industrial residues from Stour Park, Sevington, Kent: an assessment. Unpublished archive report produced by AOC Archaeology Group.

Rickett, R. (2021). Post-Roman and Medieval Grain Drying Kilns (Foundations of Archaeological Research). Archaeopress, Oxford.

Roy, L., (2022). Soils and Silts: an assessment [Stour Park, Kent]. Unpublished archive report produced by AOC Archaeology Group.

Swan, V.G., (1984). The Pottery Kilns of Roman Britain. Royal Commission on Historic Monuments Supplementary Series 5. London

Clay Tobacco Pipe

[redacted] (AOC Archaeology Group)

Introduction

A very small assemblage of 4 (37g) clay tobacco pipe fragments were recovered by hand during archaeological investigations at Stour Park (SPS20). The pipe fragments have been assessed for this report.

This report aims to spot date the assemblage as well as consider the significance of the material in line with regional and wider frameworks.

Methodology

The pipe assemblage has been quantified, using number of fragments, weight (g) and type (bowl, stem or mouthpiece). The bowls have been identified and spot dated using the Atkinson & Oswald (1969), London typology.

The clay pipe assemblage has been recorded in line with Guidelines for the Recovery and Processing of Clay Tobacco Pipes from Archaeological Projects (Higgins, 2017) on an Excel spreadsheet, to be included with the final site archive.

The Bowls

Only two clay tobacco pipe bowls were recovered from site, dating from mid-17th to late-18th century. Both bowls are incomplete, with no decoration or makers marks present.

The earliest bowl (14g) identified is likely an AO9 type (c.1680-1710) from topsoil context (8001). The second bowl (17g), recovered from the primary fill (8249) of a ditch (8250) is likely an AO6 type dating to c. 1660-1680.

Stems and Mouthpieces

One fragment of stem (3g) and one fragment of a mouthpiece (3g) were recovered from context (8043). Neither contain any decoration.

Potential and significance

The assemblage is small and offers little archaeological value beyond dating evidence. The assemblage is not of regional or local significance.

Recommendations for further work

None

Recommendation for illustration

None

References

Higgins, D. (2017) Guidelines for the Recovery and Processing of Clay Tobacco Pipes from Archaeological Projects, National Pipe Archive, University of Liverpool

Atkinson D. & Oswald, A. (1969) London Clay Tobacco Pipes, Journal of the British Archaeological Association, Third Series, XXXII, 171-227.

Metals

[redacted] freelance specialist

Introduction

This report assesses metal finds recovered during excavation by AOC Archaeology at Stour Park (MOJO). It discusses the composition of the assemblage and the identification and dating of the objects within it, as well as looking briefly at their contexts within the site. It then assesses the significance and potential of the assemblage and makes recommendations for further work. At present limited spot dating is available, further refinement of the dates presented here and their typological groups will require potential revision at the analysis stage.

Methodology

The metal finds were examined with the aid of x-radiography. Counts of objects and fragment were recorded; when multiple refitting pieces of the same object were identified within the same bag, these are recorded as one object. The resulting data were recorded in the accompanying spreadsheet (see Appendices I and II for abridged versions for the spreadsheets relating to the metal objects and the nails/hobnails).

The Assemblage

A total of 265 metal objects were identified. 125 of these were iron nails and nail fragments (see Appendix II), whilst 140 were other types of objects made from iron, copper alloy and lead (see Appendix I). The whole assemblage weighed 4009g with nails accounting for 741g of this weight.

Copper Alloy

A total of 11 objects within the assemblage are made from copper alloy, weighing 29.9g. These objects include a buckle, two brooches, two strap ends and a possible finger ring. Stylistically, the identifiable copper-alloy objects are consistent with a Late Iron Age, Roman or early-medieval date, some finds present more refined dates within this range.

The copper alloy finds have been grouped broadly by functional category as defined by Nina Crummy (1983) based on the artefactual assemblage from Colchester and are discussed in these groups below. These consist of objects of personal adornment and objects of an uncertain function.

Objects of personal ornament:

Seven objects of personal adornment have been recovered consisting of brooches, buckles, strap ends, a possible hair pin and a fragment of a pin. These date from the late Iron Age to the Roman period as well as the early-medieval period. It is possible that <RF 87> is a later medieval strap end. One fragment consists of an element of the shaft of a hair pin or the pin from a bow brooch from context (7040).

Brooches:

Two incomplete bow brooches were recorded from Stour Park. <RF 24> from context (10014) is an incomplete bow brooch of probable late Iron Age to early Roman date such as a Langton Down type where the sprung pin is encased within the wings. Only the wings and upper section of the bow survive, the x-ray reveals elements of the sprung pin survive within the encased wings.

<RF 1> from context (6140) consists of two connecting fragments of a Roman bow brooch which has broken through being twisted. Only the lower section of the bow which is decorated with a raised vertical ridge and the complete foot survives.

Buckles:

A copper-alloy buckle and plate <RF 9> were recovered from the burial of Sk6167. The buckle is D shaped with an elaborate shield on pin. The buckle plate is produced from a sheet of copper-alloy folded around the pin bar. It tapers from the buckle to the tip where it is perforated to hold two circular rivets. There are two triangular openwork sections at the tip of the plate. The buckle plate is decorated with multiple ring and dot motifs, the reverse is undecorated. No clear parallel for the distinctive plate is recorded in Marzinzik (2003) or Macgregor and Bolick (1993). This combined with the shield on pin suggests the buckle is a continental type. It is advised that strontium isotope analysis is undertaken on this individual.

A fragment of copper-alloy sheet with a minimum of two perforations is possible part of a sheet metal buckle plate or a vessel repair <RF 195>. It was recovered from context (8174) and has been tentatively assigned to the personal adornment category.

Strap ends:

A copper-alloy early-medieval strap end of Thomas (2003) Class B Type 1 <RF 158> which stylistically dates to c. AD 750-1100 from context (10015). The top of the strap end has a split terminal with two circular perforations. The tip narrows to the tip. It is decorated with three sets of three horizontal grooves. At the tip are two concave recesses which form a zoomorphic depiction of a snout.

A second probable strap end <RF 87> was recovered from context (8171). It appears to be constructed from a single sheet of copper-alloy which has been folded and held together with a single rivet. The object has been gilded on the front face.

Finger ring:

An almost complete copper-alloy probable finger ring <RF 13> from context (9034). Broadly 90% of the ring survives, it is circular in cross section.

Objects of an uncertain function:

Three copper-alloy objects of uncertain function are recorded. These consist of <RF 148> from context (8251) which is a small pin that could be a clothes pin. These pins often have wound wire head and date to the 14th century onwards (Egan and Pritchard, 1991). <RF 33> and <RF 89/90> are both unidentified fragments.

Iron

A total of 246 objects within the assemblage are made from iron alloy, weighing 3,573g. These objects include a spearhead from burial [6169], knives and cleavers, a buckle, holdfasts and nails. Ironwork generally is functional and therefore many objects remain in consistent form throughout the Roman, early-medieval and medieval period. Pottery spot dates were not available at the time this assessment was compiled but the majority occur from context (10015) the Roman topsoil. Therefore, where objects have been assigned a typology generally the typology for Roman ironwork by William Manning (1985) has been used, revision might be required as part of the analysis.

The iron finds have been grouped broadly by functional category as defined by Nina Crummy (1983) based on the artefactual assemblage from Colchester and are discussed in these groups below. These consist of objects of personal adornment, weapons, tools, transport, fixtures and fittings and objects of an uncertain function.

Objects of personal ornament:

The iron items of personal adornment consist of three buckles, one possible iron pin and five iron hobnails.

Buckles:

<RF 126> is a complete iron buckle and pin from context (10023). The buckle is oval in plan and circular in cross section. <RF 86> is an incomplete buckle which is missing its pin from context (10015). <RF 178> is possibly either a penannular buckle or brooch from context (10213). The plain terminals could also suggest that the object is a simple iron loop which has been slightly bent.

<RF 173> is an iron pin, probably from a buckle which was recovered from context (10015).

Hobnails:

Iron hobnails are often the only surviving remains for shoes at Roman sites. Five hobnails were recorded, two (<RF 106> and <RF 144> from context (10015)) are registered small finds, the remainder were from the bulk finds from contexts (6188), (9041), and (10179).

Weapons:

An incomplete iron spearhead <RF 3> was recovered from burial [6169]. The spearhead is seemingly incomplete and survives in three fragments. The tip of the blade is missing, the spear head is c. 200mm and pointed oval in cross section before expanding towards the socket. The socket it c. 15mm in internal diameter at the tip. The socket is damaged and there is no split terminal in the surviving section. This suggests that the spear is an incomplete. The form and proportions of the spear suggest that it is a Swanton Type D2 due to the proportion of the surviving socket length. Swanton (1974, 11) noted that this type appears to have developed in the 6th century and was commonly associated with Frisian style pottery and that its distribution is concentrated in Kent and along the Thames.

Tools:

Within the tools category are finds both from burials and other areas of the site. They have been discussed based on their form typology based on Manning and their completeness.

Knives and cleavers:

An iron folding knife with bone handle <RF 33> from context (10051). The blade is asymmetrical and measures 52mm in length. The tang tapers slightly and has two perforations which contain iron rivets. These allow the folding blade to open and close within the handle. The bone handle is incomplete in nine fragments but the majority of both sides of the handle survive. The handle is broadly oval in form and has a maximum width of c. 24mm. It is decorated with multiple double ring and dot motifs.

Three Manning (1985) Type 19 knives with asymmetrical blades are recorded from context (10015). Two are complete, <RF 28> measures 104mm in length, <RF 31> is 97.5mm in length and <RF 79> is almost complete, it measures 104mm in length.

One Manning (1985) Type 22 knife <RF 25> was recovered from (10013). It is socketed with a straight backed blade which rises slightly and a downward facing edge that turns up slightly at the tip. The socket has a maximum internal diameter of 8.5mm and a length of 34mm.

Three incomplete or almost knives were recorded from context (10015). These consist of <RF 40> where the tang is incomplete, the knife measures 98mm in surviving length. <RF 63> is an incomplete iron blade, probably from a knife and the tang is missing, it measures 24.5mm in surviving length. The blade from <RF 174> is incomplete, the tang is complete and the knife measures 103mm in surviving length. A knife consisting of a complete blade and incomplete tang <RF 128> was recorded from context (10023), a fragment of blade <RF 58> from context (10051) and a fragment of blade <RF 176> from context (10181).

Two knives were deposited as grave goods. An incomplete knife with an asymmetrical blade <RF 4> from burial [6169] and an incomplete iron blade from a knife <RF 16> from burial [6203].

Finally, one iron blade from the bulk iron assemblage from context (8018) has been recorded as a cleaver due to the size of the blade. The tip of the blade is missing preventing classification, the blade is 35mm in width. The tang is complete. The cleaver measures 135mm in length.

Reaping hook:

An iron reaping hook <RF 125> from context (10023). The blade is incomplete and curved. Reaping hooks and sickles appear to have been uncommon finds based on the analysis by Lodwick and Brindle (2017) evaluating data from the Roman Rural Settlement project. They would have been used to cut cereals and straw.

Spade:

A complete iron spade sheath with straight edges <RF 7> from context (8249). The edges are grooved and at the tip are two perforations and are 19mm wide at the rivet. The sheath is 190mm in length and 165mm wide.

Hammerhead:

A complete iron cross pene hammer head <RF 23> from context (10013). The hammer head is broadly square (23mm wide), to the reverse the narrow face is rectangular (18mm wide, 11mm thick). The perforation appears to be oval indicating the hammer is unlikely to be Roman in date. From the x-ray both faces have been used but the perforation is not visible in the x-ray. It is probable that this hammer is medieval in date.

There is a diverse range of tools recovered ranging from agricultural activities to industry. The most interesting aspect is the quantity of knives recovered. Further work on these 13 knives should be undertaking assigning types to the material.

Transport:

Spur

An incomplete iron spur <RF 10> from context (8241) which is missing one terminal and the tip of the central projection - this would have held a spike or a rowel. On one terminal is a loop and what appears to be a small attachment on the x-ray. This suggests that the spur is medieval to post-medieval.

Snaffle bit

An incomplete bit link from a two link snaffle bit <RF 39> from context (10015). The loops are offset and one is incomplete. The complete loop shows signs of wear internally.

Fixtures and fittings:

A total of 166 objects are recorded under this category including 126 nails, hold fasts, mounts, binding strips and other objects. They have been discussed based on their form typology based on Manning and their completeness. Three modern iron nails consist of two nails recorded from the bulk iron assemblage from context (10090) and fan incomplete nail shank from the bulk iron assemblage from context (10130).

Nails:

126 iron nails or tacks weighing 741g have been recorded from a variety of contexts, primarily nails were recorded from contexts (10015) – 42 examples, (8193) – 11 examples, (8251) – 6 examples, (8177) – 6 examples and (8043) – 5 examples. Of the 125 nails, the heads survive on 37 examples allowing a type to be assigned. Manning (1985) notes that the majority of nails at Roman sites fall into one of two types (Type I and type II). Type I is divided based on length and the form of the head, type IB nails are less than 150mm in length and have a flat head. With the caveat regarding spot dating the assemblage consists of 34 type IB nails, 1 Type IA and 1 Type III nail.

Of the nails and nail fragments a total of 56 show evidence of being used. The majority have been bent from insertion or from extraction or marks on the head from hammering (Manning, 1985) Rhodes (1991, 132) study of a hoard of nails from the Walbrook Valley highlighted that some nails were unused, others were damaged from insertion, but the majority were damaged from extraction with a nail claw.

Hold fasts:

Four holdfasts were recovered from the excavations. Holdfasts are used to join two pieces of wood and consist of a nail and an iron plate called a rove attached to the tip of the nail shaft, the nail if often subsequently flattened. Holdfasts are often used by shipbuilders (Manning, 1985). Three holdfasts were recorded from context (10051) including <RF 59>, <RF 60> and one bulk find. A further holdfast was recorded as a bulk find from context (8186).

L clamp/hinge pivot:

A complete iron L clamp/hinge pivot <RF 67> from context (10015). L clamp is the Roman typological terminology and hinge pivot is the terminology used in the medieval period.

Mounts:

Two mounts were recorded from context (10015), <RF 42> is broadly cross shaped and has a central circular perforation, <RF 75> has two perforations for attachment and an incomplete projecting iron loop at the top. The mount expands from the iron loop (8mm wide) to 17mm before tapering to the foot. At the foot and just below the loop are two circular perforations c. 6mm in internal diameter.

Binding strips:

Binding strips and bands were used to reinforce objects. The material discussed below includes a number of possible examples. <RF 26> is a fragment of binding strip from context (10015) with three circular perforations and <RF 34> from context (10051) has two perforations with two iron tacks remaining in situ. A third possible piece of binding strip was recorded from context (8241) from the bulk iron assemblage.

Uncertain objects:

Within this category fall material which appears to be related to the fastener and fitting category but no further refinement can be made. This group consists of 33 objects and includes elements of iron sheets, incomplete fixtures or fittings. The majority were recovered from contexts (10015), or (10051).

Two fragments of iron sheets appear to be related, <RF 64> and <RF 65> were recovered from context (10015) and form a rectangular plate with circular perforations, albeit they do not clearly join. Within <RF 65> is a complete iron tack with remains in situ.

Uncertain:

Within this category are 48 objects, the majority are recorded from context (10015). This group includes objects such as iron loops <RF 154> and an example within <RF 118> which cannot be assigned a category, fragments of iron sheet metal including <RF 83>, <RF 159> and <RF 146>, hooks <RF 62, <RF 84> and <RF 89>, a possible strike a light as well as unidentifiable lumps and fragments. The possible strike a light <RF 77> from context (10015) is broadly circular both terminals are joined and curl inwards. It measures 66mm in length.

Lead

The lead assemblage from the site consists of 5 objects, weighing a total of 223.58g. These consist of two pieces of folded lead including <RF 45>, a piece of rolled lead sheet, fragments of lead sheet <RF 141> and a slender possible lead rod recovered from sample 510 of burial [6100]. Generally, the objects are undiagnostic and dates cannot be assigned based on stylistic features.

The slender rod recovered from burial [6100] measures 51mm in length, 0.2mm in diameter and weighs 0.01 grams. At present it remains undiagnostic.

Composite materials

Two objects <RF 5> and <RF 6> have been recorded from the burial [6169]. These objects have been assessed visually and by x-ray. Generally they appear to consist of fragments of possible mineralized wood although within <RF 6> is a fragment of curved copper-alloy sheet and further mineralized wood. Tentatively this suggests that copper-alloy sheet such as a circular band was wrapped around the object. Further conservation work on this material and evaluation of the potential mineralized wood by a relevant specialist is required.

The date of the assemblage

Within this assemblage are objects which date to the late Iron Age to Roman period, the Roman period, the early-medieval period and the medieval period. With the caveat that this report has been written prior to spot dating, the majority of the ironwork perhaps dates to the Roman period and the typology defined by Manning (1985) has been used here as part of this assessment. As has been noted, as ironwork in generally functional the forms used vary little over a long period of time.

The Anglo-Saxon burials appear to be 6th century in date based on the evidence of the spearhead from burial [6169] where Swanton (1974) suggests that this type is a 6th century introduction and based on the unusual continental buckle.

Objects such as the hammerhead <RF 23> stylistically appears to be medieval in date, the shape of the perforation will assist more nuanced dating for this object.

The context of the assemblage

The assemblage was distributed throughout a wide range of different contexts at the site. Finds principally occurred from context (10015; the Roman topsoil) – 99 artefacts, (12074; spread?) – 11 artefacts, (10051; spread over (10029) and (10030)) – 11 artefacts, (8193; Fill of slot) – 11 artefacts and (8043; fill of drainage ditch) – 10 artefacts and (10023; Roman drainage ditch) – 8 artefacts.

The Anglo-Saxon burials:

Metal grave goods were recorded from three Anglo-Saxon burials, [6100], [6169] and [6203]. A pyrite nodule was recovered from a sample of burial [6200] which is noted here but is likely to be a coincidental recovery. When this assessment was written no osteological data for these burial was available.

[6100]

A very slender rod of possible lead was recovered from sample 510 of this burial. It measures 51mm in length, 0.2mm in diameter and weighs 0.01 grams.

[6169]

The grave goods from this burial include an iron spearhead <RF 3> with mineralized wood in situ within the socket and an iron knife <RF 4>. It is possible that the composite objects <RF 5> and <RF 6> are elements of the spear depending on the location where these objects were recovered. They appear to consist of mineralized wood and copper-alloy sheet fragments of broadly the same diameter as the socket of the spear. It is advised that this potential mineralized wood is evaluated by a specialist.

A further copper-alloy object <RF 33> is recorded from context (6168) which could similarly be associated with the objects discussed above.

A copper-alloy buckle with intricate openwork plate and shield on pin was also present in this burial. As has been noted this buckle is not recorded in the standard works of buckles in Britain and therefore it is suggested that this is a continental type. Consequently, strontium isotope analysis is strongly advised.

Although the socket of the spearhead is damaged, typologically it falls under Swanton Type D2 which appears to have developed in the 6th century. It might be beneficial to consider submitting the mineralized wood and the inhumation for radiocarbon dating. This is to allow better modelling and potential variation if, for example the spear was curated prior to deposition.

As links have been made between this spearhead type and Frisian pottery (although it is a British form), it might be pertinent to consider strontium isotope analysis.

[6200]

From sample 248 a small spherical pyrite nodule was recovered which weighs 0.93 grams. In this circumstance it is likely that this was not specifically selected for deposition.

[6202]

An iron knife <RF 16> was deposited as a grave good with this burial.

Discussion

Tentatively, the suggestion based on the metalwork is that the burials with grave goods are 6th century in date. Further analysis of the continental buckle is essential and both radiocarbon dating and strontium isotopic analysis could prove informative.

Significance and potential

The assemblage is significant at both site and regional level. At the site level the quantity of tools must be emphasised, particularly the proportion of knives which requires further investigation. This offers insights into the activities that occurred at the site which can be considered in combination with other archaeological evidence.

At a regional level, the material recovered from the Anglo-Saxon burials suggests those interred might not be local and were of potentially high status. This is an important avenue to explore and further consideration on the material in combination with scientific analysis could be of particular importance.

Recommendations for further work

It is recommended that further research is carried out on this assemblage and that the assemblage is recorded in general detail. Particularly focus should be made on the ironwork after it has undergone cleaning and conservation. At present the dating evidence for certain contexts is limited and osteological reports were not available limiting the scope of this assessment. Consequently, these elements need to be considered and the typologies used might been to be amended depending on date.

It is recommended that objects which are unidentified such as <RF 5> and <RF 6> require further assessment by a relevant specialist and conservation. Subsequently analysis can be undertaken considering the relevant reports and grave plans.

The metal assemblage should be contextualized within the full site assemblage and the features present at the site, using the Post-Excavation Assessment report, with the aims of better understanding the

distribution of the full site assemblage and understanding the activities that took place in different areas of the site.

For objects whose dates and types can be refined, further comparative research should, again, be used to refine these dates and types. Objects that have been identified as particular candidates for this work include the continental buckle, spearhead, knife blades; spade sheath, hammerhead and the other tools. However, other objects in the assemblage will also benefit from this work.

Focussed research should be undertaken on the following:

Anglo-Saxon burials

Detailed typological analysis should be undertaken on the spearhead, buckle, and knives from the burials as well as a consideration of the two composite objects. In combination with specialist reports and scientific analysis what can this tell us about those who were interred at the site and are there similarities between these burials and at other sites in the wider environs.

Iron tools

A consideration as to the high proportion of tools should be undertaken. Detailed typological assessment is required and then comparison with other sites within the wider region, potentially utilising the Roman Rural Settlement project.

The recommendations for analysis and the time required are as follows:

Task	Time Required
Full recording of the assemblage	3 days
Comparative research on identification, type and dating	2 days
Cataloguing of the assemblage	3 days
Placing the assemblage into its site context	2 days
Placing the assemblage into its regional context	3 days
Focused research on the Anglo-Saxon burials	2 days
Focused research on the iron tools	2 days
TOTAL	*17 days*

In addition to the further research recommended above, it is also recommended that a number of the objects from the assemblage are illustrated. Recommendations for illustration are listed below:

- *<RF 1> and <RF 24> the Roman brooches*
- *<RF9> and <RF 126> buckles*
- *<RF 158> strap ends*
- *<RF 3> Spear*
- *The knives*
- *<RF 125> Reaping hook*
- *<RF 7> Spade*
- *<RF 23> Hammerhead*
- *<RF 10> Spur*
- *<RF 77> Strike a light?*

Bibliography

Crummy, N. (1983). Colchester archaeological report 2: The Roman small finds from excavations in Colchester 1971-9. Colchester: Colchester Archaeological Trust.

Egan, G. & Pritchard, F. (1991). Dress Accessories, c. 1150-c. 1450. London: HMSO.

Lodwick, L. & Brindle, T. (2017). Harvest methods. In: Allen, M., Lodwick, L., Brindle, T., Fulford, M. & Smith, A. (eds.) The rural economy of Roman Britain. London: Society for the Promotion of Roman Studies, 46-47.

MacGregor, A. & Bolick, E. (1993). A Summary Catalogue of the Anglo-Saxon Collections (Non-Ferrous Metals). Oxford: British Archaeological Reports.

Manning, W. H. (1985). Catalogue of the Romano-British Iron Tools, Fittings and Weapons in the British Museum. London: British Museum Press.

Marzinzik, S. (2003). Early Anglo-Saxon Belt Buckles (late 5th to early 8th centuries A.D.). Oxford: British Archaeological Reports.

Rhodes, M. (1991). The hoard of iron nails. In: Wilmott, T. (ed.) Excavations in the MiddleWalbrook Valley London: London and Middlesex archaeological society special paper 13, 132-138.

Swanton, M. J. (1974). A Corpus of Pagan Anglo-Saxon Spear-Type. Oxford: British Archaeological Reports.

Thomas, G. (2003). Late Anglo-Saxon and Viking Age Strap-Ends 750-1100 Part I. Finds Research Group Datasheet 32.

Numismatic assessment

[redacted] freelance specialist

The assemblage

A single probable barbarous radiate <RF13> was recorded from (9034).

A probable barbarous radiate copying an uncertain ruler dating to the period c. AD 275-285 (Reece period 14), uncertain reverse type and mint. The flan is slightly dished.

Recommendations for further work

No further work is recommended.

The Stone Spindle Whorl

[redacted] AOC Archaeology Group

The assemblage

Excavations recovered a total of three fragments (15g) of stone spindle whorl contained in ditch [10048] (10047). The stone appears to be shale with deep black surfaces over a dark red-orange core, and may have been burnt (the lithology is uncertain). Two of the fragments are cross-joining and form the profile of a conical spindle whorl with a slightly convex top and sides, and a flat base. The basal diameter is 40mm and the height 15mm, with the internal perforation 10mm in diameter. The spindle

whorl was form by turning, and three incised grooves decorate the base, while seven incised grooves run around the sides and top. These traits are commensurate with spindle whorls used in the Roman period, although conical spindle whorls in various materials continued to be used into the 16th century.

Recommendations for further work

A small finds specialist should be engaged to confirm the lithology and seek parallels for the type that will confirm the likely Roman origin.

The Lithics

[redacted] freelance specialist

Introduction

A lithic assemblage comprising 456 pieces of struck flint and 132 pieces of burnt unworked flint weighing 177g was presented for assessment by the AOC Archaeology Group. This had been recovered during an archaeological evaluation carried out ahead of the construction of an employment led mixed use scheme at land on the north side of Highfield Lane, Sevington, in Ashford Borough, Kent.

Location

The site from which the lithic assemblage was recovered is approximately 49 hectares (ha) in area, centred on Ordnance Survey (OS) Grid Reference 603954 140821, and at the time of the evaluation was in arable agricultural use, with two small fields to the north-west under pasture. Highfield Lane runs through the south-western corner and partially bounds it on the eastern and southern extents. The M20 motorway runs north-west to south-east to the north and the Channel Tunnel Rail Link partially bounds the site to the south, while the A2070 runs to the west (Clarke 2019).

Topography and geology

The centre of the site is a slightly elevated point within the surrounding landscape. The ground slopes down towards the south-east with the fields to the south of Highfield Lane sloping more steeply than those in the centre of the site. The geology is mixed and comprises sandstone and limestone of the Hythe Beds along with sandy mudstones of the Atherfield Clay formation, overlain by superficial alluvial deposits of clay, silt, sand and gravel (Waterman 2014).

The struck flint

A total of 456 struck flints were recovered from 146 separate contexts. The assemblage is summarised by artefact type in Table B11 and is set out in full by context order in Table B12. This makes clear that only four contexts achieved double figures while no fewer than 58 produced only a single piece. The most productive single context was 7052, the fill of pit 7053, which produced 34 flints, although 26 of these comprised spalls <10mm in size. Next came context 7040, the fill of pit 7043, with 21 pieces, of which nine comprised spalls.

Raw material and condition

Virtually all the raw material comprised small to medium cobbles presumably obtained from the local superficial alluvial deposits. These were often of indifferent quality with thin worn cortex and thermal

flaws. Ten pieces of Bullhead Bed flint from the Thanet Sand/Woolwich and Reading Beds were also present. Colours range from grey to orange/brown, though the majority are mid grey-brown.

Most of the assemblage is in a fresh, occasionally sharp condition. Twenty-eight pieces, including all eight pieces from fill 2019 of pit 2020, show traces of surface re-cortication ranging from partial (milky-blue/dendritic) to complete (snow-white). These include re-corticated blades or blade-like pieces, which may have chronological implications. A few other pieces have heat-affected 'crizzled' surfaces (marked by an asterisk * in Table B12), though none have been truly burnt.

Technology

As Table B11 makes clear, the assemblage is dominated by debitage in the form of unmodified flakes, principally secondary and tertiary pieces, along with blades and spalls. True parallel-sided blades are few, and most of the pieces classified here as blades are more accurately categorised as narrow flakes/blades. Most of the various blanks are small: few are over 50mm in length, and most are less than 40mm. The high number of spalls (comprising nearly 55% of the total assemblage) is worthy of note though this is clearly a result of wet-sieving bulk soil samples from individual contexts.

In contrast to the spalls, cores are virtually absent, although a handful of core preparation and maintenance pieces are present. These comprise two crested pieces, one of which from subsoil context 8001 is 67mm in length and partially re-corticated on its dorsal face, two core tablets, and a few platform-renewal flakes including one heavily re-corticated piece from subsoil context 10016. Two spherical hammerstones of divergent size and weight were recovered from fill 7040 of pit 7043 and topsoil context 10015.

Low numbers of formally retouched pieces include eight convex scrapers of end and end/side form along with a single discoidal example; a single narrow blade microlith blunted down one edge and across the base from context 8089 (L 31mm, W 7mm; Clarke 1934, Class B1/C1b); and a fragmentary bifacially worked arrowhead of probable leaf form from fill 12207 of ditch 12208. (A further possible transverse arrowhead fragment came from fill 6003 of ditch 6004.) There is a single burin worked on a truncation from context 8106; and a fragment of a slender bifacially worked chisel from 6103. Other more informally worked pieces include three flake/blade knives, one utilising a robust blade 70mm in length and 24mm in width from subsoil context 12002. Severally thinning flakes include one large piece measuring 48mm x 37mm from fill 12221 of ditch 12222, which is likely to have been detached from a chipped axe of opaque mottled orange-brown flint.

Table B11: summary of the lithic assemblage by artefact type

Artefact Type	Nos
Flakes	58
Flake fragments	25
Blades and blade-like flakes	18
Blade fragments	36
Spalls <10mm	248
Core	1
Core fragments	2
Core preparation and maintenance pieces	8
Miscellaneous waste	12
Trimming flakes	16
Thinning flakes	4
Scrapers	8

Artefact Type	Nos
Scraper/denticulate	1
Miscellaneously retouched pieces	3
Spherical hammerstones	2
Flake knives	3
Notched pieces	3
Serrate	1
Microlith	1
Arrowhead fragments	2
Burin on truncation	1
Chisel fragment	1
Flaked flake	1
TOTAL	**456**

Distribution

The lithic material appears to be widely if thinly dispersed across the site and, as noted above, only four contexts produced more than 10 pieces. Most of the contexts comprised the fills of ditches and pits of seemingly medieval date, with further contexts including burials, kilns/ovens, 'spreads', postholes and topsoil/subsoil layers.

If the initial spot-dating is to be relied on, it seems likely that virtually all the flints were residual within the fills of later period features. Possible exceptions comprise 'natural pit' 3014, whose fill 3013 produced 11 flints including a core tablet and a thinning flake, and pit 7043, whose fill 7040 contained 21 flints including a spherical hammerstone (240g) and a core trimming piece.

Dating and affinities

The lithic assemblage is clearly mixed, incorporating diagnostic pieces of Mesolithic, Neolithic, and probably later prehistoric type. Most, as noted above, are likely to be residual within features – mostly pits and ditches – of medieval date, though several pits (eg 3014 and 7043) might be earlier.

Diagnostic Mesolithic material includes the single narrow blade microlith from context 8089, and a possible microburin from context 9035. Furthermore, the few blade-like pieces, some re-corticated and including a uni-directionally crested piece 67mm in length from subsoil context 8001, probably belong here too, along with the burin fashioned on a truncation from context 8106.

Diagnostic Neolithic material includes the arrowhead fragments of leaf and possibly transverse forms, together with the flake/blade knives, a number of the scrapers, the single broken serrate from subsoil 12002, and several of the thinning flakes.

Technologically, it seems likely that a proportion of the worked lithics can be ascribed to the later prehistoric period, ie Middle/Late Bronze Age. These include a number of the squat flake blanks and the single scraper/denticulate from spread 9041.

Table B12: all lithics from all contexts (=burnt piece; tab=core tablet; cr=crested piece; ch=chunk; fl=flake; bl=blade)*

Cxt No	Reg No	Fl (frag)	Bl (frag)	Spall	Core (frag)	Core prep	Misc waste	Other	Tot
+								1 trim fl	1
2009	<239>			5			1		6
2013	<261>		(1)	3					4

Cxt No	Reg No	Fl (frag)	Bl (frag)	Spall	Core (frag)	Core prep	Misc waste	Other	Tot
2017	<241>			3					3
2019	<242>	1	2 (2)	2				1 thinning fl frag	8
2023								1 end scraper	1
	<244>		1	6					7
2025	<245>			1					1
2027								1 end scraper	1
	<246>			4					4
3011		1							1
3013		(3)	1	3	(2)	1 tab		1 thinning fl	11
4001/4002								1 end/side scraper	1
4010								1 end scraper	1
6000							1 ch		1
6003			(1)					1 misc ret (?TVA)	2
6009				1					1
6028	<53>			2					2
6015/6062		1 (1)							2
6034		1							1
6062	<50>		(1)	1					2
6083		1 (1)	1 (1)	4					8
	<29>	1	(2)						3
6086		2	1				3 ch		6
6099	<510>		1						1
6103				1				1 end scraper 1 chisel fragment	3
6148		(1)	1						2
6155	<25>			1					1
6168	<30>			1					1
	<32>	(1)							1
	<33>	1							1
6181	<207>			1					1
6188			1						1
6189	<262>			3					3
6199		1							1
	<250>			1					1
6202	<254>			3					3
7026		1							1
7040		1	2			1		1 spherical hammerstone (240g)	5
	<41>	2 (4)	(1)	9					16
7041		2				1			3
	<161>		(2)	4					6
7042	<162>			8			2		10
7050	<67>			2*					2
7052		1						1 flaked flake 1 trim/thinning fl	3
	<42>	3		19					22
	<159>	2		7					9
7054	<56>			5					5
7059	<54>			1					1
7062	<163>	1		3					4

Cxt No	Reg No	Fl (frag)	Bl (frag)	Spall	Core (frag)	Core prep	Misc waste	Other	Tot
7064	<164>			1					1
7066		1							1
8001						1 cr			1
8008			(1)						1
8012		(1)	1 (1)						3
8016								1 flake knife	1
8017	<83>		(1)	2					3
8026	<74>		(1*)	2					3
8028	<75>	1		1					2
8034	<77>			7					7
8035						1			1
8043								1 trim fl	1
8048	<111>			5					5
8052	<112>			1					1
8089	<80>			1				1 microlith	2
8104	<125>			2					2
8106	<82>	1		2				1 burin on truncation	4
8108			1						1
8113			(1)						1
8117			1						1
8128			(1)						1
8130	<115>			6					6
8134	<121>	(1)		1					2
8135	<122>			3					3
8137		1							1
8141	<99>			3					3
8163	<97>		(1)						1
8184	<118>						2		2
8186								1 trim fl	1
8215								1 trim fl	1
8233	<133>			3					3
8237	<136>			>5					>5
9024	<174>	1		1					2
9034		2	1					1 trim fl	4
9035	<232>			1				1 notched bladelet (microburin?)	2
9041		1 (1)	(2)					1 side scraper 1 end scraper/ denticulate	6
	<231>	1		5					6
9043	<188>	1							1
9045		1	1					1 misc retouch	3
	<201>		(3)	1					4
9049	<190>	1							1
9051		2 (1*)							3
9057								1 trim fl	1
	<197>	(1)							1
9059		1							1
9061				1					1
	<194>			1					1

Cxt No	Reg No	Fl (frag)	Bl (frag)	Spall	Core (frag)	Core prep	Misc waste	Other	Tot
9063	<195>			4					4
9067								1 trim fl	1
9069		(1)						1 trim fl	2
	<200>	1	(1)	5*					7
9070		1							1
	<202>	1		2					3
10013	<349>			2					2
	<350>	1							1
10002/ 10015		3	1 (1)		1			1 misc retouch (knife?)	7
10015								1 spherical hammerstone (30g)	1
10016		1*		1				1 trim fl?	3
10019	<363>			2					2
10021	<353>			1					1
10022	<354>			1					1
10030	<356>			1					1
10047								1 discoidal scraper	1
10051	<406>			1					1
10075	<380>	1		1					2
10089								1 trim fl	1
10115	<467>			2					2
10117	<481>			1					1
10121	<434>			1					1
10128	<404>		(1*)	3					4
10136	<483>	1*							1
10153	<427>			2		1*			3
10178	<442>		(1*)			1 cr*			2
10179	<445>			2					2
10190	<449>	1		1					2
10200	<456>	1		3					4
10209	<479>	(1)	(1)	3					5
10211	<482>	(1)		2				1 trim fl	4
10212	<485>		(1)						1
	<491>			1					1
10213	<490>		(1)						1
10225	<486>	1		1					2
11034		1		1		1 tab			3
12002								1 bl knife?	1
	<19>							1 serrate frag	1
	<20>		(1)						1
12023								1 notched piece	1
12050		1						1 end scraper frag	2
	<219>						1		1
12054	<263>			5				1 trim fl	6
12055	<264>	(1)		8					9
12058	<227>			1					1
12060	<228>		(1)						1
12073		(1)						1 nod trim fl	2
12074	<271>		(1)	1			1		3
12075	<514>			4					4

Cxt No	Reg No	Fl (frag)	Bl (frag)	Spall	Core (frag)	Core prep	Misc waste	Other	Tot
12077	<515>			2					2
12100	<272>	2		3					5
12113	<275>			4					4
12114	<276>			1			1		2
12118		(1)							1
12127		(1*)							1
12146	<315>			2					2
12158			(1)						1
	<301>	1							1
12159		1							1
12160	<303>		(1*)						1
12182	<307>		(1)	2**					3
12186	<310>			1					1
12192				1					1
	<314>			3					3
12207	<321>			1				1 bifacially worked frag (?leaf ah) 1 misc retouch	3
12209								1 nod trim fl 1 notched piece	2
	<322>		1						1
12216		(1)							1
12219	<327>			2					2
12220	<328>			1					1
12221								1 thinning fl 1 shallow notched piece 1 flake knife? frag	3
12231	<334>	1							1
12232	<335>			1					1
12250	<342>	(1*)							1
12251								1 nod trim fl	1
	<397>			2**				1 trim fl	3
TOTALS									

Unworked burnt flint

Small quantities of burnt flint were recovered from 25 contexts across the site, all from wet sieving. No single context produced more than 38g of material and most produced less than 10g.

Table B13: All burnt unworked flint from all contexts

Context No	Sample No	Nos clasts	Weight (g)
2025	<245>	4	<1
6174	<180>	3	4
6177	<184>	2	12
6205	<255>	3	<1
7040	<41>	2	29
7052	<42>	46	33
	<159>	9	38
8099	<103>	1	<1
8130	<115>	2	<1

Context No	Sample No	Nos clasts	Weight (g)
8237	<136>	2	5
9037	<230>	4	<1
9049	<190>	4	<1
9053	<192>	1	1
9057	<197>	1	1
10013	<349>	3	<1
	<350>	1	<1
10128	<404>	7	8
10209	<479>	5	2
10211	<482>	3	7
10213	<490>	3	<1
12100	<272>	1	<1
12113	<275>	1	<1
12146	<315>	1	1
12160	<303>	15	1
12184/12190	<309>/<313>	6	4
12192	<314>	1	<1
12250	<342>	1	19
TOTALS		**132**	**177**

Significance of the lithic assemblage

Taken together, the struck and burnt unworked lithic assemblages outlined above are small and seemingly widely scattered across a large area. Most pieces appear to be residual within features of later, predominantly medieval date, although as noted above pits 3014 and 7043 might be earlier. As such the assemblages are considered here to be of local significance only.

They can be added to those recorded previously from the wider locality of the upper Stour (eg Wymer 1977, 144; Clark 1996). These include the late Mesolithic assemblage recovered from Beechbrook Wood, north-west of Ashford during the High Speed I project (eg Booth *et al* 2011, 43–45), and the mixed multi-period assemblage reported from Westhawk Farm, south of Ashford (Booth *et al* 2008, 17–25) – though little of the latter assemblage appears to have been contained within contemporary features.

Potential for further work

There is limited potential for more work on the Stour Park struck and burnt lithic assemblages as they currently stand. However, a short, illustrated report on the data assessed here should be incorporated in any published account, and a note on its discovery should be added to the county HER. Further fieldwork on the site may require a revision of this assessment.

Recommendations

No further work on the current assemblage is required at this stage, but a short report ought to accompany any account prepared for publication, along with selected illustrations of diagnostic pieces such as the microlith, possible microburin, arrowhead fragments, scrapers, flake/blade knives, hammerstones, re-corticated crested piece and thinning flakes.

Estimated time: 1 day for preparing text; illustrations additional.

References

Booth, P, Bingham, A-M and Lawrence, S, 2008 The Roman Roadside settlement at Westhawk Farm, Ashford, Kent: excavations 1998–9, Oxford Archaeology

Booth, P, Champion, T, Foreman, S, Garwood, P, Glass, H, Munby, J and Reynolds, A, 2011 On Track. The Archaeology of High Speed I Section I in Kent, Oxford Wessex Archaeology Monograph No 4

Clark, J G D, 1934 The Classification of a Microlithic Culture: The Tardenoisian of Horsham, Archaeol J 90, 52–77

Clark, P, 1996 Park Farm, Ashford, Canterbury's Archaeology 1994–1995, Canterbury Archaeological Trust Annual Report 19, 37

Clarke, H, 2019 Stour Park, Sevington, Kent. Written Scheme of Investigation for Archaeological Strip, Map and Sample, Project No: 70056115, June 2019

Waterman, 2014, Stour Park, Ashford: Historic Environment Desk Based assessment, unpub report

Wymer, J J, 1977 Gazetteer of Mesolithic sites in England and Wales, CBA Research Report No 20

Leather

[redacted] freelance specialist

Methodology

The following assessment is based on examination of the leather on 25th February 2022. A basic record of the material has been made, noting all the diagnostic features present, measurement of relevant dimensions and species identification where possible, and is included below (6). The material is summarised below (2-3) incorporating the contextual information available at present, recommendations for conservation are given (4) and the necessity for additional work is considered (5). All measurements are in millimetres (mm). Leather species were identified by hair follicle pattern and thickness using a low-powered magnification. + indicates an incomplete measurement.

Condition of the material

The leather has been washed and is currently packed wet in double self-sealing polythene bags in an airtight plastic storage box. The leather from Sample 88 (8161) is dry and similarly packed. The leather is in good and robust condition.

Summary and dating

A small amount of waste leather was present in the primary fill (8161) of pit 8162. The waste leather comprised 5 small pieces of narrow trimming (cat no 1-5) produced when trimming a pattern piece to size and 4 small shavings (cat no 6) from paring down the leather to reduce the thickness. The leather waste was in varying states, some wet, some dry, but weighed in total less than 5g. While its presence does provide evidence for leatherworking, such a small amount is of no significance. Waste leather has no diagnostic features that are independently dateable.

The vamp from a leather shoe (cat no 7) of welted construction was found in the primary fill (8249) of ditch 8250, part of Group 8212. The vamp is made of cattle hide, flesh side out, and has a low lining also of thick bovine leather. The shoe vamp has low side seams and an integral tongue that is now

broken off. The back part of the shoe upper (the quarters) is missing and there is no indication of a fastening surviving. The remains of what appears to have been a large integral tongue suggests that the missing quarters had latchets by which the shoe either tied or buckled across the instep. The shoe sole is also missing. Few diagnostic features are present, but the use of the leather flesh side outward and the decorative tunnel stitching were both popular features of footwear in the 17th and 18th century. The location of the tunnel stitching running around the vamp above the lasting margin, however, is more unusual and may point to a later date. The vamp is shaped for a right foot which also suggests 19th century rather than an earlier date. The shoe is clearly of post medieval date but being broken and lacking the quarters and shoe sole is difficult to date closely. It is a sturdy practical shoe intended for outdoor wear.

Recommendations for conservation

The leather cannot be stored wet indefinitely. Without conservation the leather will deteriorate and is potentially hazardous to health being liable to fungal and bacterial infection. Wet leather presents difficulties with short-term storage, transportation, study and illustration. The eventual repository of the leather should be consulted regarding their discard and retention policy for wet organic material. It is usual for this to follow that recommended in the SMA Guidelines and unlikely that they will accept wet leather. When conserved, the material can be safely stored and further examined. Historic England Guidelines (2018) Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation (historicengland.org.uk) provides advice on the conservation options available. If the leather is to be retained, conservation is recommended and, in this case, air-dying under controlled conditions would be appropriate.

Potential for analysis

The leather has been catalogued (6) and a summary (3) has been provided to inform those writing the site narrative. No further work is necessary. The leather is of little intrinsic value and, as it cannot contribute to the site dating, it may be considered for disposal. If the leather is to be discarded then a good quality photograph of the items should be made to accompany the basic record for inclusion in the site archive. If the leather is intended for long term storage it should be conserved (see 4).

Catalogue: basic record for the site archive

1 Secondary waste. Tapering trimming, tapering to a long point, other end broken. Leather cattle hide 3.44mm thick. Length 101+mm, max width 9mm. Wt. 2g (wet). SPS20 primary fill (8161) of pit 8162

2 Secondary waste. Trimming with skived (bevelled) ends, may be torn from the above but no join obvious. Leather cattle hide 3.37mm. Length 43mm, width 11mm. Wt. 1g (wet) SPS20, primary fill (8161) of pit 8162

3 Secondary waste. Narrow paring. Leather cattle hide 5mm thick. Length 35mm, width 1.5mm (dry). SPS20, Sample 88, primary fill (8161) of pit 8162

4 Secondary waste. Narrow trimming. Leather bovine leather 1.07mm thick. Length 25mm, width 2.5mm (dry). SPS20, Sample 88, primary fill (8161) of pit 8162

5 Secondary waste. Narrow trimming. Leather sheep/goatskin 0.44mm thick. Length 8mm, width 5mm (dry) SPS20, Sample 88, primary fill (8161) of pit 8162

6 Primary waste. Shavings: 4 fragments with no grain pattern. Wt. Less than 0.5g (dry) SPS20, Sample 88, primary fill (8161) of pit 8162

7 Shoe vamp, welted construction right foot, adult size. Vamp with a grain/flesh stitched lasting margin, stitch length 8-9mm. The vamp has a oval/rounded toe, low slightly forward sloping side seams c 40mm high, and an integral tongue that is broken off across the instep. The butted edge/flesh side seams, stitch length 4mm, are heavily worn on the outside (flesh side). A row of decorative tunnel stitching runs around the vamp about 10-15mm above the lasting margin. The vamp is flesh side outward (suede), grain side inward. Leather cattle hide 3.70mm thick. Condition: wet. A low lining runs around the base of the vamp on the interior, two lengths of this remain with a grain/flesh seam incorporated into the lasting margin and a grain/flesh lapped seam along the top edge. The widest lining piece. 119+mm in length is 25mm tall, broken at the wider end and tapering to a point at the other. The other piece is 158+mm long and 15mm tall. Lining bovine leather 3mm thick. Condition: wet. SPS20 primary fill (8249) of ditch 8250

Reference

Historic England 2018 *Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation*. Swindon: Historic England . Waterlogged Organic Artefacts: Guidelines on their Recovery, Analysis and Conservation (historicengland.org.uk)

Slag and Industrial Residues

[redacted] (AOC Archaeology Group)

Introduction

A moderate sized assemblage of vitrified and heat-affected materials, collected as industrial residues (Mass: 10.4kg) was submitted for assessment in February 2022 following the recent archaeological trial trenching and strip, map, and sample undertaken by AOC Archaeology Group at land on the north side of Highfield Lane (also known as Stour Park), Sevington, in Ashford Borough Council in Kent, in advance of the construction of an employment-led mixed-use scheme. This report presents a summary of the assemblage, providing information on the quantity and classifications of the vitrified and other materials recovered, assessing their form and what this can tell us about the processes that lead to their formation as well as considering the site distribution and the inherent significance of the material.

The vitrified material assemblage is dominated by ironworking waste (Mass: 9.5kg), which is largely made up of slags indicative of iron smelting, and includes large quantities of dense, grey tapped slags (Mass: 3.6kg). Some possible evidence for smithing was also identified in the form of two plano-convex cake fragments (Mass: 703.4g) although these may be smelting related, as well as a concentration of flake hammerscale and slag spheres retrieved along with small fragments of unclassified iron slag and runned slags (Mass: 1.0kg) from a single pit deposit. Other materials retrieved include unclassified iron slags and runned slags which are diagnostic of metalworking though not indicative of a particular metalworking process, and small amounts of vitrified ceramic and fuel-ash slags, including one fragment identified as Iron Age Grey. This material represents the remains of both smelting and smithing activities most likely taking place during the Romano-British period, and though no definitive *in situ* evidence for metalworking was identified, the activity is predominantly focused around the features within Area 10.

Methodology

This assessment report provides a summary of the assemblage with information on form and function based on macroscopic examination only; no scientific analysis was undertaken at this stage. The assemblage was examined with the aid of a low-powered binocular microscope to clarify surface details with the aim of identifying object type, function, and date, and to compile an inventory for assessment purposes (separate Microsoft Excel spreadsheet), with the classifications following the guidelines set out by Historic England's *Archaeometallurgy* guidelines for best practice document (Dungworth 2015) and follows established terminologies (Bayley et al 2001; Starley 2000; McLaren & Dungworth 2021).

The material discussed was both hand-retrieved in the field and recovered during the processing of soil sample retent. The hand-retrieved material was recorded in the field as both registered finds and as bulk finds, with registered finds identified by RF followed by their registered finds number (e.g. RF 35), while bulk finds are identified by their context of discovery (e.g. 2851), and retent finds identified by RT followed by their sample number (e.g. RT 127). For the purpose of identification within this assessment, separate classifications of items within the same bulk finds bag or under the same retent number have been further subdivided by separate letters (e.g. 2851a, 2851b, RT 127a, RT 127b). Recommendations for further work, conservation, and illustration are provided following a statement on the potential significance of this material.

The fragments were scanned with a magnet to allow recognition of magnetic response and were weighed using a Sartorius digital scale accurate to 0.01g, and measured using a carbon dial caliper accurate to 0.1mm. A summary table of the material by context has been included as Table B17.

The assemblage

Vitrified materials, often referred to by the general term 'industrial residues', can typically be split into two broad groups: those that are indicative of metalworking and those which, although heat-affected, are not diagnostic of a particular process or craft (e.g. fuel residues produced in a domestic hearth) (McDonnell 1994). Macroscopic examination allows diagnostic types to be identified but, in the absence of scientific analysis, it is often not possible to provide close identifications of all vitrified materials (Crew & Rehren 2002).

The assemblage from Stour Park consists of a moderate-sized assemblage of vitrified material (Mass: 10.4kg) which is dominated by slags produced as a byproduct of ironworking (Mass: 9,531.9g), and is accompanied by a small quantity of undiagnostic vitrified materials (Mass: 64.7g), and other materials, including natural and unmodified sandstone and mudstone (Mass: 804.1g) and a miniscule amount of likely naturally occurring charcoal flecks (Mass: <0.1g). Table B14, below, summarises the classifications of materials recovered with their associated material abbreviations, along with their quantities by mass.

Table B14 : Summary of the materials recovered

Material	Material Abbreviation	Mass (g):
Indicative of metalworking		
Plano-convex cake	PCC	703.4
Tapped slag	TS	3623.3
Runned slag	RS	205.9
Unclassified Iron Slag	UIS	3140.6
Slag amalgam	UIS	651.1

Material	Material Abbreviation	Mass (g):
Flake hammerscale	HS	<0.1
Mixture of unclassified iron slag and runned slag	UIS/ RS	161.9
Mixture of unclassified iron slag, runned slag, flake hammerscale, and slag spheres	UIS/ RS/ HS/ SS	1045.7
Not diagnostic of metalworking		
Fuel-ash Slag	FAS	8.0
Iron Age grey	FAS	28.4
Vitrified ceramic	VC	28.3
Other materials (including charcoal and stone		804.2
Total:		*10,400.8*

Materials indicative of metalworking

The diagnostic vitrified materials recovered are dominated by tapped slags (TS) by weight (Mass: 3.6kg), which are usually large, dense and heavy slag fragments that show a molten or flowed appearance to their surfaces and typically do not produce a magnetic response. These slags are associated with iron smelting within a bloomery smelting furnace and are produced when the molten slags are drained or 'tapped' from the furnace during a smelt and allowed to flow out onto the ground surface. The tapping of bloomery furnaces as part of the iron smelting process is generally considered to have been introduced by the Romans (Cleere 1971; Starley 2000) and is therefore dateable from the Romano-British period, however this interpretation is sometimes considered to be problematic. The recovery of tapped slag fragments was limited to Area 10, and was identified within seven separate contexts, including the interface between subsoil (*10002*) and the Roman topsoil deposit (*10015*), the subsoil (*10016*), the fill (*10019*) of pit [*10018*], the upper (*10022*) and lower fills (*10021*) of ditch [*10020*] that makes up part of the Roman ditch group [*10023*], the fill (*10047*) of ditch slot [*10048*], and the fill (*10159*) of pit [*10160*]. While the smaller quantities of tapped slags recovered from the various pits, ditches, and subsoil deposits are likely identifiable as residual background materials incorporated within those features, possible evidence of a deliberate dump is present in the fills of ditch [*10020*], with over 2.1kg of tapped slag retrieved, and over 95 % of that confined to the lower fill (*10021*).

Plano-convex slag cakes (PCC) are dense plano-convex accumulations of slag formed in a pit, which can come in a range of different sizes. It can be difficult to distinguish between slag cakes produced during the smithing process (hearth bottoms) and those produced during the smelting process (furnace bottoms). The criteria employed to aid in distinguishing between the two include size, weight, texture, visible inclusions, and magnetic response (McDonnell 1994: 230, 200, 219; Starley 2000: 338). Smelting slag cakes tend to be bowl-shaped accumulations formed at the base of the smelting furnace and tend to be larger, heavier, and non-magnetic, typically with large charcoal inclusions or impressions and a runned appearance. In contrast, plano-convex hearth bottoms associated with smithing are formed as the result of a high temperature reaction between the iron, hammerscale, and hearth lining, which forms a plano-convex accumulation of material at the base of the hearth and often have a dished upper surface. Smithing hearth bottoms tend to be smaller in diameter, thinner and lighter but often

quite dense and the surfaces often respond to a magnet. Two PCC fragments (Mass: 703.4g) were recovered as residual finds from two contexts within Area 10- the Roman ditch group [*10023*], and the spread (*10051*) overlying the kilns [*10029*] and [*10030*]. Based on the size and shape of the fragments, it is not possible to determine if they are associated with either the smelting or the smithing process, however the lack of magnetic response and molten appearance suggests smelting as a strong possibility.

Small quantities of runned slags (RS) were identified within the assemblage. In total, 205.9g of material was retrieved from seven separate contexts within Area 10, as well as quantities of runned slag mixed with unclassified iron slags (UIS) (Mass: 161.9g) as well as UIS, flake hammerscale (HS) and slag spheres (SS) (1.0kg) that were recovered from Area 10 during the processing of soil sample retent. Runned slags are usually dark metallic grey coloured slags that possess a runned or flowing appearance and are typically non-magnetic. Where large concentrations or sizeable fragments of runned slag are found they typically are indicators of smelting activity having formed in a smelting hearth however, it should be noted that small, short, flows of molten slag can also seep from smithing hearths during use (Heald 2008, 207) making this category of slag difficult to identify to process based on form alone.

Unclassified iron slag (UIS) is one of the most common types of slag to be recovered during archaeological excavations (Crew & Rehren 2002). Its characteristics, such as colour, texture, inclusions, weight, and magnetic response enable it to be identified as associated with metalworking, however it lacks in sufficient diagnostic features to either be assigned to the smithing or smelting processes and may represent rake-out material from either a smithing hearth or smelting furnace. A total of 4.9kg of UIS was retrieved from site, which includes small quantities of slag amalgam, and mixed bags of materials combining runned slags and flake and spherical hammerscales recovered during the processing of soil sample retent. Apart from small amounts of UIS recovered from Area 2 (Mass: 12.9g), Area 8 (Mass: 143.6g), Area 11 (Mass: 15.9g), and from Area 12, including the large mixed bags (Mass: 860.6g), the vast majority of UIS is associated with Area 10 (Mass: 2.1kg) and was retrieved from a total of 11 separate contexts, including large amounts from the Roman topsoil deposit (*10015*).

Quantities of flake hammerscale and slag spheres (RT 429) mixed with small fragments of UIS and RS (Mass: 1.0kg) were recovered during the processing of soil sample retent from the fill (*10163*) of pit [*10164*] that makes up part of pit group [*10150*]. Hammerscale flakes are small flakes of iron oxide produced by the impact of a hammer against the hot iron during either the refining of blooms during smelting or the working of wrought iron during smithing, while slag spheres, or spheroidal hammerscale as they are also referred, are small spheroidal, porous or hollow masses of once molten iron oxide within a silicate matrix and are mainly associated with the forge-welding of iron objects during the smithing process (Dungworth and Wilkes 2009: 45). Hammerscale flakes and slag spheres are generally considered to be one of the few categories of waste material diagnostic of metalworking, and when found in significant quantities, can provide direct evidence for *in situ* metalworking and blacksmithing activities (Bayley et al. 2001; Dungworth and Wilkes 2009). Based on the quantity of hammerscale and slag spheres recovered from this single context, they are likely indicators of *in situ* iron smithing taking place or may represent a dump of material within the immediate vicinity of these practices taking place.

Non-diagnostic materials

Materials not diagnostic of metalworking include two fragments of vitrified ceramic (VC) and eight fragments of fuel ash slag (FAS) including one fragment of Iron Age Grey. Vitrified ceramics are the heat affected remains of clay-lined features such as hearths or kilns, which are associated with pyrotechnic processes, but not always associated with metalworking. The fragments recovered (one from the primary fill (8161) of pit [8162] in Area 8, and the other from the spread [12050/12074] in Area 12) both display slag-attacked faces, which confirms an association with metalworking.

Fuel-ash slags are produced when a number of natural materials are combined and fuse together under high temperature processes, such as those in a domestic hearth. The silica content in the clay lining of the hearth or in the natural ground surface can react with potash from the burnt fuels of the fire and other organic materials (e.g. bone or plant matter) to create a light weight, brittle, porous, vesicular and often pale coloured (off-white/yellow/green) vitrified material with patches of glassy sheen on the surfaces (Bayley 1985; Dungworth 2015). Seven fragments of FAS were retrieved from the fill (*10128*) of slot [*10129*] within the Group [*10125*] ditch in Area 10, while one fragment of Iron Age Grey (RT 431a) was identified within the fill (*10167*) of posthole [*10168*]. A subclassification of fuel-ash slag, Iron Age Grey slags are larger fragments which may be produced in large domestic hearth settings, and are particularly common to contexts dateable to the Middle to Late Iron Age (Young 2013, 1). It is thought that these slags are formed by the partial melting of materials within the hearth, possibly enhanced by the digging of a hearth into a calcareous substrate, with some assemblages interpreted to reflect communal cooking practices within a large outdoor hearth (*ibid*, 2).

Summary of the contextual units

The table below (Table B15) summarises the slag and industrial materials recovered from each contextual unit across the site. For a more detailed summary of the material, please see Table B17. The site comprises twelve separate excavated areas, with Areas 1-10, and Area 12 subject to a programme of archaeological strip, map, and sample, while Area 11 is made up of 20 individual trial trenches. The vitrified and heat-affected materials were recovered from a total of 39 contexts across the excavated area, with materials retrieved from one context within Area 2, one context within Area 6, three contexts within Area 8, 27 contexts within Area 10, one context from within Trench 3 in Area 11, and from six contexts within Area 12.

A total of 804.1g of material has been identified as natural, unmodified stone (largely sandstone and mudstone), which was the only material within the assemblage that was recovered from Area 6 (Mass: 5.6g from the grave fill (*6174*). Natural stone was also identified within the registered finds, bulk finds, and retent finds recovered from Area 10 (Mass: 652.3g) (RF 53, RT 467, RT 483), and Area 12 (Mass: 146.2g) (12007, 12100). Tiny flecks of charcoal (Mass: <0.1g) were also identified within the materials recovered during the processing of soil sample retent from the fill (*8163*) of a drainage ditch/ field boundary in Area 8 (RT 97), and from the fill (*12116*) of a boundary ditch within Area 12 (RT 277). The small size and miniscule amount of charcoal recovered identifies this material as residual, and potentially naturally occurring. Interestingly, no significant quantities of charcoal are present within the assemblage which may have been associated with fuel remains or metalworking and other pyrotechnic activities.

With regards to the non-diagnostic materials recovered, Table B15 shows that only a small amount of fuel-ash slag (FAS) (Mass: 36.4g), including a fragment of Iron Age Grey (RT 431a) was identified within Area 10, while small quantities of vitrified ceramics (VC) were retrieved from Area 8 (Mass: 20.8g)

(8161) and Area 12 (Mass: 7.5g) (12023a). The small quantities recovered indicate these materials to be residual background scatters within the various pits, ditches, and spreads within their respective areas, with no concentrations of materials present which could have been indicative of hearths, hearth waste, or other associated structures or features.

Materials diagnostic of metalworking were recovered from Areas 2, 8, 10, 11, and 12, with Areas 2, 8, 11, and 12 only producing small amounts of unclassified iron slags that likely represent residual materials incidentally incorporated into the fills within those areas. The main area of metalworking activity is confined to Area 10, which produced 8.5kg of diagnostic material from a total of 27 separate contexts. Although no definitive *in situ* metalworking has been identified at this stage, it is clear from the remains that metalworking (predominantly smelting) was taking place in the immediate vicinity most likely during the Romano-British period. Contexts of particular interest within Area 10 include the Roman topsoil deposit (*10015*) which produced 869.6g of material, the ditch fills (*10021, 10022*) (Mass: 3.1kg) which may represent a deliberate dumping of metalworking waste, and the fill (*10163*) of pit [*10164*], which contained over 1kg of possible smithing waste including flake hammerscale and slag spheres.

Table B15: Summary of the contextual units from Stour Park

Context no	Context Description	Material	Mass (g):
Area 2			
2007	Fill of ditch slot [2008]. Ditch group [2030].	Unclassified iron slag (UIS)	12.9
Area 6			
6174	Fill of grave [6175], associated with SK 6173.	Natural stone	5.6
Area 8			
8008	Ditch group.	Unclassified iron slag (UIS)	143.6
8161	Primary fill of pit [8162].	Vitrified ceramic (VC)	20.8
8163	Secondary fill of ditch slot [8165]. Drainage/ field boundary ditch group [8060].	Charcoal	<0.1
Area 10			
10002/ 10015	Interface between (10002) subsoil and Roman topsoil deposit (10015).	Tapped slag (TS)	781.6
		Unclassified iron slag (UIS)	485.1
10015	Roman topsoil deposit	Unclassified iron slag (UIS)	810.2
		Unclassified slag amalgam (UIS)	59.4
		Natural stone	0.2
10016	Subsoil slot	Tapped slag (TS)	71.7
10019	Fill of pit [10018].	Tapped slag (TS)	64.9
10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	Tapped slag (TS)	2009.6
		Unclassified slag amalgam (UIS)	591.7
		Unclassified iron slag (UIS)	207.1
		Runned slag (RS)	151.0
10022	Upper/ tertiary fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	Tapped slag (TS)	109.0
		Unclassified iron slag (UIS)	54.1
		Runned slag/ Unclassified iron slag (RS/ UIS)	53.8
10023	Roman E-W ditch group. South end.	Unclassified iron slag (UIS)	326.5
		Plano-convex cake (PCC)	372.5
10047	Fill of ditch slot [10048].	Tapped slag (TS)	294.7
		Unclassified iron slag (UIS)	194.4
		Natural stone	651.3

Context no	Context Description	Material	Mass (g):
10051	Spread overlying kiln/ corndrier [10029], kiln [10030].	Plano-convex cake (PCC)	330.9
10080	Fill of gully terminus [10081]. Roman N-S gully group [10079].	Possible flake hammerscale (HS)	<0.1
10115	Fill containing collapse of flue of kiln [10029].	Natural stone	0.1
10128	Fill of slot [10129]. Group [10125] Ditch for path or foundation or flooring.	Fuel-ash slag (FAS)	8.0
10136	Fired clay lining of kiln [10027].	Natural stone	0.7
10144	Fill of pit [10145]. Pit group [10150]- group of pits south end.	Unclassified iron slag/ runned slag (UIS/ RS)	94.6
10146	Fill of pit [10147]. Pit group [10150]- group of pits south end.	Unclassified iron slag/ runned slag (UIS/ RS)	7.3
10148	Fill of gully terminus [10149].	Unclassified iron slag/ runned slag (UIS/ RS)	6.2
10157	Fill of ditch terminus [10158].	Runned slag (RS)	24.4
10159	Fill of pit [10160].	Runned slag (RS)	17.0
		Tapped slag (TS)	291.8
10163	Fill of pit [10164]. Pit group [10150]- group of pits south end.	Unclassified iron slag, runned slag, flake hammerscale and slag spheres (UIS/ RS/ HS/ SS)	1045.7
10167	Fill of posthole [10168].	Unclassified iron slag (UIS)	13.4
		Iron Age grey (FAS)	28.4
10179	Fill of pit [10180]. Group [10184]. Pits grouped south part of area.	Runned slag (RS)	6.0
		Unclassified iron slag (UIS)	4.9
10185	Fill of posthole [10186]. Pit group [10184]- Pits grouped south part of area.	Unclassified iron slag (UIS)	1.9
10187	Fill of pit [10188]. Pit group [10184]- Pits grouped south part of area.	Runned slag (RS)	0.6
10200	Fill of ditch terminus [10201].	Runned slag (RS)	6.4
10211	Fill of pit [10222], cutting kiln [10030].	Unclassified iron slag (UIS)	8.7
10212	Fill of kiln [10029].	Unclassified iron slag (UIS)	1.3
10237	Fill of kiln [10029].	Runned slag (RS)	0.5
Area 11			
11025	Fill of ditch slot [11026]. Trench 3.	Unclassified iron slag (UIS)	15.9
Area 12			
12007	Fill of ditch slot [12008]. Ditch group [12070].	Natural stone	127.6
12023	Slot in spread [12050/ 12074].	Vitrified ceramic (VC)	7.5
		Unclassified iron slag (UIS)	29.4
12073	Occupational deposit.	Unclassified iron slag (UIS)	681.4
12100	Secondary fill of ditch slot [12102]. Group [12162] Roman boundary ditch.	Natural stone	18.6
12116	Secondary fill of ditch slot [12118]. Boundary ditch Group [12144].	Charcoal	0.1
12263	Fill of gully terminus slot [12264]. Gully group [12265].	Unclassified iron slag (UIS)	149.8

Discussion and statement of significance

The slag and industrial residue assemblage recovered during the archaeological trial trenching and strip, map, and sample exercise at Stour Park comprises 9.5kg of diagnostic metalworking materials as well as 64.7g of materials which are the result of a pyrotechnic process but undiagnostic of a particular craft or industrial process. The material was retrieved from a total of 39 separate contexts across five

excavated areas, and is dominated by materials indicative of iron smelting, likely during the Romano-British period, which is largely confined to the features associated with Area 10. It should be noted that there are very few types of dateable vitrified materials and slags, and in most cases, the establishment of a chronology for the metalworking materials is based on their contextual association with other dateable site assemblages and features. The presence of large quantities of tapped slags (Mass: 3.6kg) is associated with the use of a tapped bloomery furnace, which are generally attributed to the Romano-British period.

The size of the assemblage and materials recovered from Stour Park is suggestive of small-scale smelting practices taking places, and with the high magnetic response given by some of the tapped slags, and high iron content of some of the fragments of UIS, it is likely that some of the smelting events may have been somewhat inefficient in their production of bloom. A large percentage of the assemblage, based on the fragmentary nature and small quantities by mass of the materials recovered, is reflective of residual finds incidentally incorporated within the various feature fills across the site. This is particularly true with regards to all of the materials recovered from Areas 2, 8, 11, and 12, with Area 10 highlighted as the Area where metalworking was clearly taking place. Although no definitive evidence for in situ metalworking was identified within Area 10, it is clear that smelting, and possibly smithing, were both taking place at least in the immediate vicinity.

The quantity of smelting waste from Stour Park is fairly restricted in comparison with other Iron Age/Romano-British slag assemblages (e.g. Westhawk Farm, Kent: Paynter 2007) and this may suggest that the activity was limited in scale or in duration or that the main focus for ironworking activities were taking place outwith the excavation area. A preliminary contextual analysis has identified a number of possible discrete dumps within the open fills of ditches and pits, with the majority of the waste within Area 10 associated with the Roman topsoil deposit (*10015*), the ditch fills (*10021, 10022*), and the pit fill (*10163*). Further research into the contextual units and their identification and relationships will be required in order to more closely identify the full extent and distribution of metalworking activities taking place.

The metalworking waste from Stour Park is worthy of further consideration with the majority of the material having been retrieved from the fills of pits and ditches within Area 10. Investigation of the range of slag classifications that here found in association and the quantities of these materials recovered by feature can help to inform the different types of taphonomic processes at work. The materials can be grouped into two broad categories: those representing limited scatters of residual materials within the features fills, and those that may represent deliberate dumpings of metalworking waste. This latter category includes, for example, almost 3.2kg of material including tapped slag, unclassified iron slags, and runned slags from the fills (*10021*) and (*10022*) of the Roman ditch [*10020*], and over 1kg of small fragments of unclassified iron slag, runed slag, flake hammerscale and slag spheres retrieved from the fill (*10163*) of pit [*10164*] possibly representing the contemporaneous deliberate dumping of metalworking waste into open pit and ditch features during the Romano-British period.

The metalworking waste from Stour Park would benefit from further targeted analysis and inclusion in publication as part of an overarching report on the excavations. Further targeted analysis is recommended, research into local parallels and the production of an updated report.

Recommended further work

Further work is recommended of the slag and industrial residues assemblage. The finds retrieved are considered to be of archaeological significance to a site-specific and local level, with the potential to

provide information on the types of activities taking place on site and to add to our corpus of knowledge of local metalworking practices during the Romano-British period.

Conservation: No specialist conservation is required.

Specialist analysis: Further specialist analysis is required which should include an analysis of the contextual units and distribution patterns associated with the materials from Area 10, along with research into local site parallels followed by the production of a report which incorporated the results of the distribution analysis and parallels.

Illustration: No illustration is merited.

Retention: Apart from the flecks of naturally charcoal and natural stone which should be discarded, the slag and industrial residues assemblage from Stour Park is recommended for retention.

Requirement	Estimate
Distributional analysis of the vitrified materials from Area 10 employing the use of full contextual information, plans, sections, photos etc.	1 day
Research into relevant parallels	1 day
Reporting	1.5 days
Total:	3.5 days

References

Bayley, J., (1985). 'What is ancient technology: an introduction to high-temperature processes', in P Phillips (ed) *The Archaeologist and the Laboratory*, 41-44. London: CBA (=CBA Research Report No. 58).

Bayley, J., Dungworth, D. and Paynter, S., (2001). *Archaeometallurgy*. English Heritage (= CBA Guideline 2001: 01).

Cleere, H., (1971). 'Ironmaking in a Roman Furnace', *Britannia* 2, 203-17.

Crew, P., and Rehren, T., (2002). 'High temperature workshop residues from Tara: iron, bronze, and glass', in H Roche (ed) 'Excavations at Ráith na Ríg , Tara, County Meath, 1997', *Discovery Programme Reports 6,* Royal Irish Academy.

Dungworth, D., (2015). *Archaeometallurgy: Guidelines for best practice*. Historic England, https://historicengland.org.uk/images-books/publications/archaeometallurgy-guidelines-best-practice/heag003-archaeometallurgy-guidelines/. Accessed 11th February 2022

Dungworth, D. and Wilkes, R., (2009). 'Understanding hammerscale: the use of high-speed film and electron microscopy', *Historical Metallurgy,* 43 (1), 33-46.

Heald, A., (2008). 'Metalworking Byproducts' in M Cook and L Dunbar *Rituals, Roundhouses and Romans. Excavations at Kintore, Aberdeenshire 2000-2006*. Volume 1: Forest Road, Edinburgh: STAR.

McDonnell, G., (1994). 'The slag report' in B Ballin-Smith (ed) *Howe: Four Millennia of Orkney Prehistory. Excavations 1978-82*, Society of Antiquaries of Scotland Monograph Series , 9. 228-34. Edinburgh, Society of Antiquaries.

McLaren, D. and Dungworth, D., (2021). 'The manufacture of iron at Culduthel: ferrous metalworking debris and iron metallurgy', in C Hatherley and R Murray *Culduthel: An Iron Age Craft Centre in North-East Scotland*. Edinburgh: Soc Antiq Scot.

Paynter, S., (2007). 'Romano-British workshops for iron smelting and smithing at Westhawk Farm, Kent'. Historical Metallurgy 41, 15–31

Starley, D., (2000) 'Metalworking debris' in K Buxton and C Howard-Davis (eds) *Brementenacum: Excavations at Roman Ribchester 1980, 1989-1990:* 337-47. Lancaster: Lancaster Imprints Series No.9.

Young, T., (2013). 'Assessment of pyrotechnical residues from Eaton Camp, Herefordshire', *GeoArch Report,* 2013/22.

Table B17: Stour Park Slag and Industrial Material by context.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
Bulk 2007	2007	Fill of ditch slot [2008]. Ditch group [2030].	UIS	Unclassified iron slag	1	N	12.9				Y	N	Small fragment with tight vesicular structure. High iron content.
RT 180	6174	Fill of grave [6175], associated with SK 6173.	Stone	Natural stone	1		5.6						Natural stone
Bulk 8008	8008	Ditch group.	UIS	Unclassified iron slag	2	N	143.6				N	N	Amorphous fragments of UIS. Dark brownish black in colour with prominent visible iron grain within though non-magnetic. Likely the product of an inefficient smelt.
Bulk 8161	8161	Primary fill of pit [8162].	VC	Vitrified ceramic	1	N	20.8				N	N	Fragment of vitrified ceramic with slag-attacked face. Reddish orange to black fabric and black glassy slag-attacked undulating surface.
RT 97	8163	Secondary fill of ditch slot [8165]. Drainage/ field boundary ditch group [8060].	Charcoal	Charcoal	1		0.0						Tiny fleck of vitrified charcoal. Possibly naturally occurring.
Bulk 10002/ 10015a	10002/ 10015	Interface between (10002) subsoil and	TS	Tapped slag	17	N	781.6				N	N	Fragments of tapped slag with areas of orange iron corrosion and impressions

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
		Roman topsoil deposit (10015).											from ground surface contact. Possibly associated with an inefficient smelt.
Bulk 10002/ 10015b	10002/ 10015	Interface between (10002) subsoil and Roman topsoil deposit (10015).	UIS	Unclassified iron slag	8	N	485.1				Y/N	N	Amorphous fragments of vesicular slag. Dark reddish brown to purplish-black in colour. Patches of iron corrosion and visible iron grain. Some fragments highly magnetic. Likely the result of an incomplete inefficient smelt. Some appear weathered.
RF 35	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	94.5				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 43	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	5.9				N	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 47	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	24.3				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 50	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	18.3				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 53	10015	Roman Topsoil deposit.	Stone	Natural sandstone	2	N	0.2						Natural sandstone fragments.
RF 66	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	34.8				Y	N	Amorphous fragment. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
													inefficient smelt. Appears weathered.
RF 77	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	50.3				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 78	10015	Roman Topsoil deposit.	UIS	Slag amalgam	1	N	43.1				N	N	Slag amalgam of slag with a runned appearance with an area of glassy fuel-ash slag. Possibly the result of an inefficient smelt
RF 82	10015	Roman Topsoil deposit.	UIS	Slag amalgam	1	N	16.3				Y/N	N	Slag amalgam of fuel-ash slag with an area of dark reddish brown highly magnetic iron-rich slag. Possibly the result of an inefficient smelt
RF 86	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	66.2				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 91	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	59.7				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 92	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	61.1				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 93	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	18.0				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 97	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	156.1				Y	Y	Moderate-sized and dense amorphous fragment. Dark reddish brown in colour and highly magnetic. Likely the

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
													result of an incomplete inefficient smelt. Appears slightly weathered. Possible fuel impressions.
RF 102	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	8.4				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 103	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	26.4				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 110	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	68.1				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 114	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	34.4				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 123	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	9.8				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 139	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	6.7				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 156	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	6.1				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 157	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	7.0				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
RF 164	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	7.3				Y	N	Amorphous fragment. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
													inefficient smelt. Appears weathered.
RF 168	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	6.9				Y	N	Amorphous fragment. Dark reddish brown in colour. Appears weathered.
Bulk 10015	10015	Roman Topsoil deposit.	UIS	Unclassified iron slag	1	N	39.9				Y	N	Amorphous fragment. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete inefficient smelt. Appears weathered.
Bulk 10016	10016	Subsoil slot	TS	Tapped slag	2	N	71.7				N	Y	Fragments with Small inclusions of patches of grey fired clay
RT 363	10019	Fill of pit [10018].	TS	Tapped slag	13	N	64.9				N	N	Small fragments of likely tapped slag.
Bulk 10021a	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	TS	Tapped slag	26	N	2009.6				N	N	Moderate-sized to larger fragments of tapped slag with areas of orange iron corrosion and impressions from ground surface contact. Possibly associated with an inefficient smelt.
Bulk 10021b	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	UIS	Slag amalgam	5	N	591.7				N	N	Moderate to larger-sized fragments of slag amalgam. Areas with a runned appearance and areas of reddish-brown corrosion-like product. Two fragments with vitrified ceramic. Likely

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
													associated with an inefficient smelt.
Bulk 10021c	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	UIS	Unclassified iron slag	6	N	97.1				Y	N	Small amorphous fragments of reddish brown, somewhat weathered UIS. Highly magnetic.
Bulk 10021d	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	UIS	Unclassified iron slag	3	N	41.9				N	N	Small fragments of UIS. Blackish-brown to reddish in colour and lighter grey/ green. Not weathered, vesicular structure, with slight glassiness to the grey green fragment.
RT 353a	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	UIS	Unclassified iron slag	7	N	68.1				Y	N	Amorphous fragments. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete inefficient smelt. Appears weathered.
RT 353b	10021	Lower fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	RS	Runned slag	33	N	151.0				N	N	Small fragments of runned slag. Possible tapped slag. Some with speckles of vitrified ceramic adhered.
Bulk 10022a	10022	Upper/ tertiary fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	TS	Tapped slag	5	N	109.0				N	N	Small to moderate fragments. Some with possible furnace lining/ ground surface adhered.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
Bulk 10022b	10022	Upper/ tertiary fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	UIS	Unclassified iron slag	2	N	54.1				Y	N	Two amorphous fragments. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete inefficient smelt.
RT 354	10022	Upper/ tertiary fill of ditch [10020]. Ditch group [10023]- Roman E-W ditch south end.	RS/ UIS	Runned slag/ unclassified iron slag		N	53.8				N	N	Small fragments of UIS and runned slag possibly identifiable as tapped slag.
RF 122	10023	Roman E-W ditch group. South end.	UIS	Unclassified iron slag	1	N	13.7				N	N	Small amorphous fragment. Purplish-brown to orange in colour with patches of iron corrosion. Areas of visible grain, though not magnetic.
RF 124	10023	Roman E-W ditch group. South end.	PCC	Plano-convex cake	1	N	372.5	92.4	72.1	43.7	N	N	Possible PCC fragment. Likely associated with smithing. Curved edge and two joining straight sides. Plano-convex in shape with a molten-looking base with dripped appearance and an irregular reddish brown corrosion product like face.
RF 130	10023	Roman E-W ditch group. South end.	UIS	Unclassified iron slag	2	N	33.2				Y	N	Amorphous fragments. Dark reddish brown in colour.
RF 131	10023	Roman E-W ditch group. South end.	UIS	Unclassified iron slag	3	N	166.5				Y	N	Amorphous fragments. Dark reddish brown in colour.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
RF 132	10023	Roman E-W ditch group. South end.	UIS	Unclassified iron slag	1	N	113.1				Y	N	Amorphous fragment. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete inefficient smelt. Appears weathered.
Bulk 10047a	10047	Fill of ditch slot [10048].	TS	Tapped slag	8	N	294.7				N	N	Fragments of tapped slag with patches of orangey-brown iron.
Bulk 10047b	10047	Fill of ditch slot [10048].	UIS	Unclassified iron slag	5	N	194.4				N	N	Moderate-sized fragments of UIS. Purplish-brown to orange in colour with patches of iron corrosion. |Glassy runned patches and areas of visible grain, though not magnetic.
Bulk 10047c	10047	Fill of ditch slot [10048].	Stone	Natural stone	2	N	651.3						Natural mudstone fragments.
RF 61	10051	Spread overlying kiln/ corndrier [10029], kiln [10030]	PCC	Plano-convex cake	1	N	330.9	79	72	52.4	N	N	Possible PCC fragment. Likely associated with smithing. Plano-convex in shape with a molten-looking base with dripped appearance and an irregular reddish brown corrosion product like face. Narrow, dished cross-section with vitrified ceramic adhered to one side.
RT 387	10080	Fill of gully terminus [10081].	HS?	Possible flake hammerscale	3	N	0.0				Y	N	Tiny flecks of possible flake hammerscale or shards or magnetic slag.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
		Roman N-S gully group [10079].											
RT 467	10115	Fill containing collapse of flue of kiln [10029].	Stone	Natural stone	4		0.1						Tiny flecks of natural stone
RT 404	10128	Fill of slot [10129]. Group [10125] Ditch for path or foundation or flooring.	FAS	Fuel-ash slag	7	N	8.0				N	N	Small fragments of fuel-ash slag. Greyish white, light, amorphous and vesicular.
RT 483	10136	Fired clay lining of kiln [10027].	Stone	Natural stone	1		0.7						Small natural stone
RT 423	10144	Fill of pit [10145]. Pit group [10150]- group of pits south end.	UIS/ RS	Unclassified iron slag/ runned slag		N	94.6				N	N	Small fragments. Well weathered
RT 424	10146	Fill of pit [10147]. Pit group [10150]- group of pits south end.	UIS/ RS	Unclassified iron slag/ runned slag	5	N	7.3				N	N	Small fragments. Well weathered
RT 425	10148	Fill of gully terminus [10149].	UIS/ RS	Unclassified iron slag/ runned slag	2	N	6.2				N	N	Small fragments.
RT 441	10157	Fill of ditch terminus [10158].	RS	Runned slag	14	N	24.4				N	N	Small fragments of runned slag- possible tapped slag.
Bulk 10159	10159	Fill of pit [10160].	RS	Runned slag	1	N	17.0				N	N	Small run. Possible tapped slag.
RT 428	10159	Fill of pit [10160].	TS	Tapped slag	2	N	291.8				N	N	Moderate-sized fragment of tapped slag. VC inclusions along base along with pockets of iron corrosion

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
													likely from an inefficient smelt. Small fragment of slag and iron corrosion detached from the flow.
RT 429	10163	Fill of pit [10164]. Pit group [10150]- group of pits south end.	UIS/ RS/ HS/ SS	Unclassified iron slag, runned slag, flake hammerscale and slag spheres		N	1045.7				Y/N	N	Small fragments of UIS and runned slag. Larger flake hammerscale and infrequent slag spheres. Possible rake-out and smithing or smelting waste?
RT 431a	10167	Fill of posthole [10168].	FAS	Iron Age Grey	1	N	28.4	48.1	37.7	18.9	N	N	Amorphous fragment, greyish-buff in colour. Molten appearance to base and broken face displaying an irregular vesicular structure.
RT 431b	10167	Fill of posthole [10168].	UIS	Unclassified iron slag	2	N	13.4				Y	N	Amorphous fragments. Dark reddish brown in colour and highly magnetic. Likely the result of an incomplete inefficient smelt. Appears weathered.
Bulk 10179	10179	Fill of pit [10180]. Group [10184]. Pits grouped south part of area.	RS	Runned slag	1	N	6.0				N	N	Small fragment of a run, possible tapped slag. Small stone inclusion on the underside, silvery-grey in colour.
RT 445	10179	Fill of pit [10180]. Group [10184]. Pits grouped	UIS	Unclassified iron slag	1	N	4.9				N	N	Small fragment. Possible fuel impression. Dark orange, brown in colour.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
		south part of area.											
RT 447	10185	Fill of posthole [10186]. Pit group [10184]- Pits grouped south part of area.	UIS	Unclassified iron slag	2	N	1.9				N	N	Small unabraded fragments.
RT 448	10187	Fill of pit [10188]. Pit group [10184]- Pits grouped south part of area.	RS	Runned slag	1	N	0.6				N	N	Small fragment.
RT 456	10200	Fill of ditch terminus [10201].	RS	Runned slag	2	N	6.4				N	N	Two small weathered and abraded fragments of runned slag.
RT 482	10211	Fill of pit [10222], cutting kiln [10030].	UIS	Unclassified iron slag	1	N	8.7				N	N	Small fragment of UIS. Purplish-brown in colour with areas of visible grain, though not magnetic.
RT 485	10212	Fill of kiln [10029].	UIS	Unclassified iron slag	2	N	1.3				N	N	Small unabraded fragments.
RT 493	10237	Fill of kiln [10029].	RS	Runned slag	1	N	0.5				N	N	Small fragment.
Bulk 11025	11025	Fill of ditch slot [11026].	UIS	Unclassified iron slag	1	N	15.9				N	N	Dark reddish black fragment of potential runned slag, though appears weathered.
Bulk 12007	12007	Fill of ditch slot [12008]. Ditch group [12070].	Stone	Natural sandstone	1		127.6						Degraded and possibly heat-affected.

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
Bulk 12023a	12023	Slot in spread [12050/ 12074].	VC	Vitrified ceramic	1	N	7.5				N	N	Fragment of greyish-purple vitrified ceramic with glassy black slag-attacked face with ashy inclusions.
Bulk 12023b	12023	Slot in spread [12050/ 12074].	UIS	Unclassified iron slag	2	N	29.4				N	N	Small fragments of UIS. Blackish-brown to orange in colour with patches of iron corrosion. Not magnetic and appears weathered.
Bulk 12073a	12073	Occupational deposit.	UIS	Unclassified iron slag	5	N	585.3				N	N	Small to larger fragments of UIS. Purplish-black to lighter brownish-orange in colour with a dense, small vesicular structure. Areas of glossy sheen and pockets of vitrified ceramic inclusions and a fuel-ash-like surface along one face. Likely the product of an inefficient smelt.
Bulk 12073b	12073	Occupational deposit.	UIS	Unclassified iron slag	3	N	96.1				N	N	Small to moderate-sized fragments of UIS. Purplish-black to lighter brownish-orange in colour with a dense, small vesicular structure. Areas of a slightly glossy sheen along one face. Likely the product of an inefficient smelt.
Bulk 12100	12100	Secondary fill of ditch slot [12102]. Group [12162]	Stone	Natural stone	1		18.6						Heat-affected fragment

RF/ RT/ Bulk #	Context #	Context description	Short Description	Full Description	Quantity	Intact?	Mass (g):	L (mm):	W (mm):	Th (mm):	Magnetic?	Inclusions?	Notes (1)
		Roman boundary ditch.											
RT 277	12116	Secondary fill of ditch slot [12118]. Boundary ditch Group [12144].	Charcoal	Charcoal			0.1						Tiny flecks of vitrified charcoal. Possibly naturally occurring.
Bulk 12263	12263	Fill of gully terminus slot [12264]. Gully group [12265].	UIS	Unclassified iron slag	1	N	149.8				Y/N	N	Roughly plano-convex in shape with an almost glassy, fuel-ash slag-like upper surface. Non-classifiable. Very slightly magnetic reddish brown lower surface with a dripped/ runned appearance.

The Human Bone Assemblage: an assessment

Mara Tesorieri (AOC Archaeology Group)

Non-Technical Summary

This report details the results of the osteological assessment of human skeletal remains recovered from archaeological excavations at Stour Park, Sevington, Kent. Results of the excavation revealed human activity dating from the Bronze Age into the Early Medieval Period. A total of 14 inhumations were identified, recorded and lifted from the southern extension in Area 6 and Area 5. Eleven Early to Middle Saxon inhumations were roughly set out in a line running southwest to northeast in Area 6. Two probable Roman inhumations were recorded next to a road in Area 6, one isolated, undated individual was uncovered in Area 5 and a cremation was present in Area 7. The assemblage included six males, three females, three adults of indeterminate sex and one nonadult between the ages of 15 to 18 years of age at time of death. All adults were identified as either middle (26-45 yrs) or mature (46+ yrs). Evidence for degenerative joint disease, osteoarthritis, dental enamel hypoplasia, healed fractures and dental pathology including calculus, antemortem tooth-loss, caries and abscess were observed in the assemblage.

It is recommended the skeletal assemblage (both inhumations and cremated bone) undergo full osteological analysis, to accurately produce data on age-at-death, biological sex, stature, pathology and trauma and place the results within their appropriate archaeological and historical context. Site information, including burial position, location relevant to other features/burials and grave goods are to be full integrated to provide a truly holistic view of the population in question.

Introduction

This document has been submitted as a specialist assessment report on the human skeletal remains from Land on the north side of Highfield Lane (Stour Park), Sevington, Kent (NGR 603950 140346). The site covered and area of 49 a, with the majority located in land previously used for arable farming, with a small area in the north-western corner used as pastureland. The site overall was relatively flat, rising slightly at the south-eastern end (WSP 2019).

Excavations were divided into a total of 10 Areas, with high concentrations of archaeological features found primarily in the Southern half of the site; including Areas 12, 8, 7, 10 and 6. These features showed site use to extend over a large period in time, with human activity at the site as early as the Late Bronze Age to the post-medieval period, with a large concentration of features likely dating to the Roman and medieval periods, including kilns as well as a Saxon cemetery in Area 6. The presence of Roman activity and Saxon cemetery is particularly interesting, as previous archaeological investigations within the area primary uncovered early medieval agricultural activity, with little evidence for human occupancy prior to this.

This assessment focuses on the inhumations identified and recorded in Areas 5 and 6 as well as the cremation recovered from Area 7. A minimum number of individuals is determined as well as estimating age-at-death and determining biological sex. Overall assessment of preservation and completeness was undertaken as well as a rapid assessment of pathological conditions, highlighting potential contribution that full osteoarchaeological analysis could provide in interpreting lifestyle and overall health of the population in question.

Methodology

All contexts containing bone material were sent to the author after careful washing of the remains, with any known animal bone, charcoal, or finds removed and sent to the appropriate specialist. Soil samples were recovered (where required) form the skull, hands, pelvis and feet for fragment retrieval. The samples were processed and any additional fragments were placed with the appropriate individual. All methods of cleaning and assessment follow the code of practice laid out by BABAO/IFA (Brickley & McKinley, 2004; Mitchell & Brickley, 2018).

An inventory of the human bone present was compiled using a rapid recording system. The bones of the skull, dentition, torso, pelvis, legs, feet, arms and hands were recorded as present or absent and recorded in an appendix to this report (Table B20).

Bone surface preservation was categorised according to the Museum of London (Powers 2007) recording scheme, using the following criteria:

> 1 = Bone surface is in good condition with no erosion, fine surface detail such a coarse woven bone deposition would be clearly visible (if present) to the naked eye.
>
> 2 = Bone surface is in moderate condition with some post-mortem erosion on long bone shafts, but the margins of the articular surfaces are eroded, and some prominences are eroded.
>
> 3 = Bone surface is in poor condition with extensive post-mortem erosion resulting in pitted and eroded.

The percentage completeness of each skeleton was calculated on the basis that the skull equates to 20% of the skeleton, the upper limbs 20%, the torso 40%, and the lower limbs 20%.

Biological Sex Determination and Age-at-Death Estimation

Determination of biological sex was carried out using standard methodologies as outlined by Buikstra and Ubelaker (1994) and included (where possible) morphological features known to be sexually dimorphic in the pelvic girdle and skull (Buikstra and Ubelaker 1995; Walker 2005). Individuals were classified as male, possible male, indeterminate, possible female or female.

Estimation of age-at-death was determined using methodologies including dental development and eruption (AlQahtani 2009) and epiphyseal fusion (Schaefer *et al.* 2009) for non-adults, and the stage of degradation of the auricular surface (Lovejoy *et al.* 1985), public symphysis (Brooks and Suchey 1990) and dental attrition (Brothwell 1981). For the purposes of osteological assessment, individuals were classified as neonate or infant (0-1 year), juvenile (2-17 years), young adult (18-25 years), middle adult (26-45 years) and mature adult (46+ years).

Osteological Assessment

Preservation and Burial Practice

The natural geology in the area consisted of a mixture of sandstone and limestone, with clay formation present in the southern part of site, with alluvial clays, silts, sands and gravels deposited *c.*2million years ago when the surrounding environment was dominated by rivers (WSP 2019). The predominately clayey soils impacted burials within Area 6 with in varying levels of preservation and completeness across the site. Fragmentation was extremely high for all burials, with most poorly preserved (Grade 3), with only one found to be in good condition (Sk6165) (Table B18).

Despite high fragmentation, most burials were presented by 50% of the skeleton or more (75%-100% - three individuals; 50%-74% - eight individuals); with a total of two individuals (Sk6201 and Sk6204) 10% complete.

Grade	Description	%(n/N)
1	Good condition with no erosion	7% (1/13)
2	Moderate condition with some post-mortem erosion	38% (5/13)
3	Poor condition with extensive post-mortem erosion	46% (6/13)

Table B18: Breakdown of preservation for Stour Park skeletal assemblage

All 13 burials were supine and extended in plan, earth cut graves with most oriented W-E or NW-SE, apart for individuals Sk6156 and Sk6198 who were buried in a E-S position. Sk6201 also shows a possible deviation in burial practice when compared to the rest of the population, with the grave recorded on site as potentially being stone lined. Observing the mid-excavation plan of the grave however, this is unlikely. The burials appeared to be placed in a straight-line oriented SE to NW, with burial [6206] representing the most western burial and [6178] the most eastern. Several burials had associated finds. This included Sk6159, a late middle adult of indeterminate sex, where a small ceramic bead (RF2) was found adjacent to the right wrist and a small fragment of pottery next to the left upper arm. Sk6201 (the individual listed as possibly buried in a stone lined grave) was buried with what appears to be an iron blade (FR16) found next to the left hand along the left femur (which could also be interpreted as indicating the induvial was left-handed). Sk6167, a young middle adult male, was also buried with what appears to have been an iron knife (RF4) in addition to a possible iron spear (RF3), an unidentified copper alloy object (RF6) and a rare buckle (RF9).

Sk 5006 consisted of only the feet of a single, currently undated individual. The bulk of the remains associated with this isolated burial may have been lost to ploughing.

Demography

A total of 14 inhumations were recorded at Stour Park. This included 12 adults and one non-adult; an adolescent between the ages of 15-18 years at time of death (Table B19). Of the 12 adults, six were identified as male or possible male while three were identified as either female or possible female, with the remaining three recorded as indeterminate during the rapid assessment. All adults were tentatively identified as being at least 25 years of age or older at time of death. However, these age-at-death and biological sex categories must be considered tentative at best at this stage, with full osteological analysis providing a more detailed analysis of the demography of the population.

Due to the small number of burials identified and recovered from Stour Park, it is difficult to make any conclusions regarding population structure. It is likely that the excavated Area at Stour Park only revealed a small portion of a much larger burial ground – as the lack of nonadults but the presence of both adult female and males would indicate. For example, it is possible the cemetery in Area 6 extended towards the south-east, although additional burials would be limited as no burials were identified in Area 9, which runs parallel to Area 6 extension.

	Adolescent	Young Adult	Middle Adult	Mature Adult	Adult	TOTAL
Male			2	4		6
Female			1	2		3
Indeterminate			2	1		3
N/A	1					1
TOTAL	1	0	5	7	0	13

Table B19: Breakdown of demography of Stour Park population

Pathology

Evidence for a range of pathological conditions was encountered during the osteological assessment (Table B20). Dental disease occurred most frequently, including dental calculus, antemortem tooth-loss (AMTL), periodontal disease and caries. All 13 individuals had a dentition or part of their dentition present for assessment, only one of which (Sk6167), a middle adult male, was recorded as having no dental disease (although further analysis may alter these results). Dental calculus (mineralised plaque), was found in all 12 dentitions, ranging from slight to severe (Sk6167, Sk6165), caries were also quite common, with four individuals affected, including Sk6171, middle adult female who was affected by a number of large carious lesions in both the upper and lower dentition along the cemento-enamel junction. The individual also suffered from AMTL and moderate to several dental calculus (particularly on the left upper dentition). Sk6165, a mature male, also showed extensive dental disease, including slight to severe calculus, AMTL, and an abscess.

Degenerative joint disease and osteoarthritis were observed in 10 individuals and included the areas of the hips elbows, feet, wrist and vertebral column. Most individuals had several joints affected, such as Sk6173, a mature male who had DJD (osteophytes and pitting) affecting the left hip, right elbow and cervical vertebrae. More severe changes in the form of osteoarthritis (OA) was observed in Sk6165, also a mature male, who showed osteoarthritic changes in the right elbow, right wrist and the entire vertebral column. The vertebral column was the most commonly affected area when observing the population as a whole, specifically the thoracic and lumbar regions (lower back), with Sk6171 (middle adult female) showing the most severe degenerative changes in the form of ankylosis in the lower thoracic vertebrae. The degenerative changes observed in the lower backs of individuals from Stour Park is reflected in the number of individuals with Schmorls' Nodes (five in total); small depressions present on the vertebral bodies, a result of herniation of the intervertebral discs often due to excessive strain being placed on the spine.

Four individuals displayed evidence of traumatic injury to the skeleton. This included a healed fracture to the distal right ulna of Sk6173 (mature adult male), which likely resulted in the degenerative joint disease observed in the right elbow. Sk6091 (mature adult male) was affected by ankylosis (fusion) between the left distal tibia and fibula, with a bone callus on the fibula, suggestive of a healed fracture which resulted in ankylosis with the tibia to stabilise the break. Alternatively, the new bone formation could be a result of soft tissue trauma (myositis ossificans), with further analysis required for a more definitive diagnosis. The individual had also suffered from at least two rib fractures on the right side during their lifetime. A Colle's fracture was tentatively identified on the right radius of Sk6156 (middle adult female), with a small callus formation on the posterior side.

Periods of stress during the years of growth can be identified through a number of osteological indicators observed on both the dentition and skeletal system. This includes dental enamel hypoplasia, a term used to describe inconsistencies in enamel formation (such as lines, pits, grooves) resulting from enamel formation slowing or ceasing altogether due to a lack of nutrients. The lines, pits or grooves are a permanent, as unlike bone, once formed enamel cannot be remodelled. A total of four individuals from Stour Park showed evidence of having undergone a period of malnutrition during their childhood years. This includes two males (Sk6204, Sk6165), one female (Sk6171) and one individual of indeterminate sex (Sk6159).

Cremation

A single cremation was excavated in area 7. The cremation (7036) was recovered from pit [7037] and included a total of 35.49g of cremated bone ranging in colour from blue to cream (poor oxidisation). Most of the fragments were recovered from the 5-10mm sieve, with two tooth fragments identified, at

least one of which belonged to an animal (unburnt). In with 2-5mm sieve (7.88g) a small tooth root fragments identified as belonging to a double rooted tooth (molar) was recovered. It is recommended that the cremated remains undergo full osteological analysis in order to determine if some of the remains are human in nature.

Discussion

The osteological assessment has identified the minimum number of individuals excavated from the Grantham Southern Quadrant Link Road as 13, including 12 adults and 1 nonadult. Of the adults, six were identified as male ore possible male, three as female or possible female, and three of indeterminate biological sex. The nonadult was estimated to have been between the ages of 15 to 18 years at time of death. The majority of burials were at least 50% complete or more, with fragmentation high for all burials. The burials were primarily grouped together within Area 6 of the site, placed within a relatively straight line running southwest to northeast. Only one burial was found to be slightly apart from the rest of the group, Sk6099, identified as mature male.

A number of individuals were buried with grave goods, including two individuals buried with possible knives. Cemetery sites nearby dating to the Anglo-Saxon period have shown a similar pattern of grave good rich burials and low numbers of nonadults. This includes an Anglo-Saxon cemetery in Stowting, East Kent, *c.*7 miles east of Stour Park where over 30 inhumations were recorded. The burials were accompanied by a number of grave goods similar to those found at Stour Park, including knives and spears. Similar graves were found at Tremworth Down, *c.* 8 miles northeast of Stour Park, where 25 individuals, all primarily adult (only two were identified as non-adult) were recorded. Located *c.*8 miles north of Stour Park was a cemetery site at Boughton Aluph, where two adult male burials were recorded, both accompanied by swords and or knives (Harrington and Brookes 2008). It is interesting to note the pattern in both the Stour Park assemblage as well as within the nearby cemetery groups where nonadults are severely under-represented. This could be due to taphonomic reasons, where the more delicate, fragile remains of nonadults are not surviving as well in the clayey soils, or and more likely, cultural factors are at play, where nonadults have been buried in a separate location.

A range of pathological conditions was identified during the osteological assessment, with high rates of dental disease present in the population including dental calculus, caries and antemortem tooth loss, and dental enamel hypoplasia, analysis of which would provide information relating to diet and perhaps economic practices at the site. A high level of degenerative joint disease including osteoarthritis was also observed, particularly within the lower back, suggesting a strenuous and active lifestyle. Fractures to the lower limbs as well as upper limbs (such as the Colle's fracture), likely relate to activity patterns and have been suggested as occurring due to walking across uneven ground and falls onto an outstretched hand.

Recommendations

The assemblage from Stour Park is of local and regional significance and the result of this assessment indicates a high potential for the recovery of detailed osteological information. While the number of inhumations is relatively small, the data which can be obtained from these individuals offers the unique potential to recreate a detailed picture of life and death in Anglo-Saxon Kent. This report recommends that all inhumations (n=13) along with the possible cremation (n=1) undergo full osteological analysis. The aims of the analysis are to:

- *Determine the MNI represented in the Stour Park skeletal assemblage*
- *Provide full demographic details including age-at-death and biological sex*

- *Identify, record and provide differential diagnosis of pathology and trauma*
- *Provide a full discussion on spatial distribution and grave goods, comparing to other known sites*
- *Provide contextual analysis of the population as a whole, including demography, stature, pathology and trauma, providing a clear picture of the bioarchaeological landscape for the region*

Task	Description	No. of days
1	Retent sorting and bagging	0.5
2	Osteological recording (n=13)	5
4	Analysis of data	1
5	Research	3
6	Report writing and editing	4.5
TOTAL		**14**

Bibliography

AlQahtani, S.J., Hector, M.P., and Liversidge, H.M. (2010). Brief Communication: The London atlas of human tooth development and eruption. *American Journal of Physical Anthropology 142*:481-490.

Brickley, M., & McKinley, J. (Eds.). (2004). *Guidelines to the Standards for Recording Human Remains*. Southampton: BABAO, Department of Archaeology, University of Southampton.

Brooks, M., & Suchey, J. M. (1990). Skeletal age determination based on the os pubis: a comparison of the Acsádi-Nemskeri and Suchey-Brooks methods. *Human Evolution, 5*(3), 227-238.

Brothwell, D. R. (1981). *Digging up Bones* (3rd ed.). New York: Cornell University Press.

Buikstra, J. E., & Ubelaker, D. H. (1994). *Standards for data collection from human skeletal remains. Proceedings of a seminar at the Field Museum of Natural History, organized by Jonathan Haas*. Fayetteville: Arkansas Archaeological Survey.

Harrington,S. and Brookes, S. (2008) *Anglo-Saxon Kent Electronic Database (ASKED)* [data-set]. York: Archaeology Data Service [distributor] https://doi.org/10.5284/1000069

Lovejoy, C. O., Meindl, R. S., Pryzbeck, T. R., & Mensforth, R. P. (1985). Chronological metamorphosis of the auricular surface of the ilium: a new method for the determination of adult skeletal age at death. *American Journal of Physical Anthropology, 68*(1), 15-28.

Mitchell, P., & Brickley, M. (Eds.). (2018). *Updated Guidelines to the Standards for Recording Human Remains*: Chartered Institute for Archaeologists.

Powers N. (2007). *A Rapid Method for Recording Human Skeletal Data. Oracle Manual.* Second Edition. Museum of London Archaeology Service/Museum of London.

Schaefer, M., Black, S., & Scheuer, L. (2009). *Juvenile Osteology: A Laboratory and Field Manual*. Oxford: Elsevier Inc.

Walker, P. L. (2005). Greater sciatic notch morphology: sex, age, and population differences. *American Journal of Physical Anthropology, 127*, 385-391.

WSP 2019. *Stour Park, Sevington, Kent.* Written Scheme of Investigation for Archaeological Strip, Map and Sample.

Table B20: Human Bone Assemblage Appendix

Sk no.	Pr	%	Sk	D	T	P	L	F	A	H	Age	Sex	Pathology
6173	3	60	1	1	1	1	1	1	1	1	Mature	Male	Dental: caries, dental calculus Joint: DJD (L.hip, R.elbow, L.Hip, Cervical vertebrae Trauma: Healed fracture to distal R. ulna
6159	3	60	1	1	1	1	1	1	1	1	Late middle adult	ind	Dental: caries, dental calculus, DEH Joint: DJD (S1, r. foot, lumbar vertebrae) Trauma: Schmorl's Nodes
6201	3	10	1	1	0	1	1	1	1	1	middle	ind	Dental: caries, calculus
6162	2	50	1	1	1	1	1	1	1	1	mature	F	Dental: AMTL, calculus, periodontal disease Joint: DJD (vertebral column) Trauma: Schmorl's Nodes
6171	3	70	1	1	1	1	1	1	1	1	Young mid	F	Dental: AMTL, calculus, periodontal disease, caries, LEH Joint: DEJ (L.femur, L. calcaneus) OA (lumbar and thoracic vertebrae – ankylosis present in lower thoracic Trauma: Schmorl's Nodes, fractured R. MC2
6091	3	50	0	1	1	1	1	1	1	1	Mature	M	Dental: caries, calculus Joint: DJD (L.hand, R.elbow) OA (lumbar and thoracic vertebrae Trauma:Schmorl's Nodes, possible healed fracture or myositis ossificans on left fibula.
6156	2	65	1	1	1	1	1	1	1	1	Late mid	f	Dental: AMTL, calculus, periodontal disease Joint: DJD (thoracic and lumbar Trauma:Schmorl's Nodes, possible Colle's fracture to right radius
6198	2	85	1	1	1	1	1	1	1	1	ado	unk	Dental: calculus
6165	1	95	1	1	1	1	1	1	1	1	mature	M	Dental: calculus, abscess, AMTL, LEH Joint: OA (R.elbow) Trauma: Enthesophytes – ligamentum flavum, iliac crest, ischial tuberosity Other: ankylosing spondylolysis
6176	2	50	1	1	1	1	1	1	1	1	Middle - mature	ind	Dental: calculus, caries, AMTL Joint: OA (lumbar vertebrae)
6204	3	10	1	1	1	1	1	1	1	1	mature	ind	Dental: caries, calculus, LEH Metabolic: Porotic hyperostosis

Sk no.	Pr	%	Sk	D	T	P	L	F	A	H	Age	Sex	Pathology
6167	3	65	1	1	1	1	1	0	1	1	Young mid	M	Joint: OA (l. wrist)
6099	2	85	1	1	1	1	1	1	1	1	mature	M	Dental: calculus Joint: DJD (thoracic and lumber vertebrae) OA (cervical vertebrae)

Pr = preservation grade, % = percentage complete, sk = skull, 1 = present, 0 = absent, D = dentition, T = torso, P = pelvis, L = legs, F = feet, A = arms, H = hands, J = juvenile, YA = young adult, MA = middle adult, OA = old adult, M = male, M? = probable male, I = indeterminate sex, F? = probable female, F = female, U = undetermined, AMTL = antemortem tooth loss, NSI = non-specific infection, OA = osteoarthritis, DJD = degenerative joint disease, IVD = intervertebral disc disease

Animal bone

[redacted] freelance specialist

Introduction

2372 hand-collected animal bones and teeth were recovered from 128 contexts spanning the prehistoric to post-medieval periods. Of these 525 fragments could be identified to taxon. Phasing was available in the form of spot dates, which has meant that a large proportion of the assemblage has very broad dating. This report aims to characterise the zooarchaeology present at the site, assess the potential for understanding human-animal interactions in the past and state the significance of the assemblage on a local, regional and national scale.

Summary of Findings

Animal remains were in varied condition, but preservation was generally good (Table B21). Contexts 7042 and 8153 contained bones in both good and poor condition, which implies mixing of deposits from different sources, and contexts 7040, 7042 and 7062 included bones showing signs of weathering, indicating they were exposed to the elements for some time prior to burial. Waterlogged deposits came from contexts 8215, 8249, 12014, 12054, 12056, 12074, 12160 and 12221. Further evidence for delayed burial came from a few contexts containing gnawed bones (Table B21). A few butchered and burnt bones reflect processing practices, although some larger groups of burnt fragments came from prehistoric/ medieval contexts 12023, 12004 and 8010 and Roman/ medieval/ post medieval context 12023. Those from context 8010 were of interest as they included burnt fish and bird bones.

There were no obvious deposits of primary butchery, skin-processing or craft-working waste, and it is likely that the assemblage consists of a mixture of processing and consumption refuse. Two associated bone groups were recovered, which imply primary contexts subject to little post-depositional disturbance:

- Possible medieval animal burial 7057 (context 7056) contained a sheep/ goat skeleton.
- Medieval pit 10214 (contexts 10231 and 10232) contained the remains of at least three pigs, one of which was perinatal.

Phasing remains broad at this stage, as it relies on spot dates. The results by period are provided in Tables B22 and B23, but only the medieval and medieval/ post medieval assemblages have large enough assemblages and relatively tight dating to be considered in detail.

Medieval

Cattle were most commonly recovered, followed by pigs, with fewer sheep/ goat remains (Table B22). A few equids (horse or donkey), canids (dog or fox), cats and deer were also present as well as large quantities of marine shells, mostly oyster and land snails. Deer were represented by antler fragments, one from a red deer in the possible medieval sample included the pedicle, suggesting it was from a hunted animal. Groups of micro-mammal (including mole) and bird (including small passerine) remains were also recovered from the environmental samples (Table B23).

Due to high fragmentation of the assemblage, very little mortality or metrical data were available (Table B24).

Methods

All bones and teeth were recorded, although for some elements a restricted count was employed to reduce fragmentation bias: vertebrae were recorded when the vertebral body was present, and maxilla, zygomatic arch and occipital areas of the skull were identified from skull fragments. A basic recording method was undertaken to assess the potential of the animal bone assemblage. The number of bones and teeth that could be identified to taxon were noted, as well as those used to age the major domesticates (tooth wear and bone fusion). The quantity of bones likely to be useful for metrical data were also recorded. Other information included condition and the incidence of burning, gnawing and butchery marks. All hand-collected fragments were recorded by context including those that could not be identified to taxon. Material from environmental samples was scanned and fragments that could be identified to taxon or group (bird, fish, micro-mammal or frog/ toad) were counted. Recording methods and analysis are based on guidelines from Baker and Worley (2014).

Medieval/ post-medieval

The largest sample of identified remains came from features of medieval/ post-medieval date, of which cattle were dominant (Table B22). A few sheep/ goat, pig, equid, cat and bird bones and teeth were also present, as well as fish and micro-mammals from the samples (Table B23). A large quantity of marine shell was also recorded and smaller amounts of land snails. Due to the quantity of cattle remains, a small amount of mortality and metrical data were recorded that may have potential to inform aspects of the animal economy (Table B24).

Potential and Significance

At this stage the broad phasing provided for much of the assemblage makes it difficult to assess its potential for understanding the diet, economy and status with reference to any specific period. It is likely that once the phasing has been refined the sample sizes for well-defined phases will increase. However, at this stage, it is not possible to know if this will result in better dated prehistoric, Roman, medieval or post-medieval assemblages. High fragmentation of the assemblage further reduces usefulness, reflected by the low numbers of potential mortality and metrical data (Table B24).

As a minimum, the medieval assemblage is worth further consideration on a site level, although this will be restricted to the potential diet and status of inhabitants, as there is not enough mortality data to consider the animal economy. If phasing can be refined it is possible that the large sample dated to the prehistoric/ medieval period may be useful either to increase the data available for the medieval assemblage, or to add a further dimension to understanding of the diet and nature of the prehistoric settlement.

High fragmentation and broad phasing therefore means that the assemblage has little significance on a regional or national level, though will be useful to better understand the story of those living on the site in the past. There is not enough data to add significantly to the specific project aims, with the possible exception of identifying specific socio-economic activities in the archaeological record.

Recommendations and timetable for further work

Further work is recommended for well-dated contexts. As a minimum this will require full recording of the medieval assemblage to answer the following basic research questions:

- What was the meat diet of those living at the site in the past? Quantification of taxa and anatomical elements can be used to imply the role of livestock and wild animals in the diet.
- What was the socio-economic status of those living at the site? Evidence for redistribution of carcass parts can be useful to imply the mode of production e.g. self-sufficient, consumer or producer.

Task	Description	Time
Recording	Fully catalogue hand-collected and sieved samples from well-dated contexts	10–31
Analysis	Tabulate or otherwise illustrate species and carcass part representation, taphonomic and mortality data	5–10
Interpretation	Consider the findings in relation to the research questions defined above	5–10
	Total	20–51

References

Baker, P and Worley, F (2014). *Animal Bones and Archaeology: Guidelines for Best Practice*. Portsmouth: English Heritage

Worked Wood

[redacted] (AOC Archaeology Group)

Introduction

The assemblage consists of waterlogged wood recovered from 18 contexts, most of them ditch fills. Individual timbers were collected as well as bulk samples of woody debris (Table 1).

Context	S. no	SF. No	Description	Dims (l x w x th)	Species IDs		No tree-rings	Cons
6167		3	Mineralised rw wood frag	diam 17	Oak	/		
8041	134		c. 35 rw frags + debris	diam 4 - 12	Willow x5	/		
8099	103		1 rw splinter, dressed on one side, poss. chop mark on one end	180 x 28 x 21	Oak	/		
8106	82		c. 20 rw frags, some with bark attached	diam 7 - 22	Cherry x 2; Ash x2	A		
			4 x rs plank frags	th 12	Oak x4	D		
			1 x stake tip		Cherry	A		
			1 x frag single facet down one face		Cherry	A		
8171	87		6 rw frags	diam 3 - 15	Willow x2	A		
			4 x rs plank frags		Oak x4	D		
8171	87		2 rw frags with bark attached	diam 9 - 25	Maple x1	/		
8200	139		c. 30 fragmented, decayed rw frags + debris	diam 4 - 34	Ash x5	/		
8207			1 rw frag	diam 2.7, th 15	Willow	A		
			4 X rs plank frags, decayed		Oak x4	D		
8215			1 rw frag, very dessicated	diam 6		/		
8215		184	Plank, split along dowel line, dowel still present	320 x 136 x 9	Oak	D1	12 per cm = 150	
			dowel	diam 8 mm	Birch	D1		
8227			Rw frag, decayed	diam 10	Oak	/		
8248	156		c. 50 rw frags, some with bark attached	diam 11 - 42	Willow x3; Birch x4	/		
			1 stake? tip with oblique chop mark		Willow			
8248			1 x rs lath, poss stave	445 x 64 x 6	Oak	D1		
8249		191	coopered stave, complete, croze groove at base	516 x 130 x 18	Oak	D	5-6 per cm = 65	
8249		186	coopered barrel stave, incomplete	490 x 135 x 11	Oak	D	3 per cm = 35	
8249		192	coopered stave, two dowel holes - dowels *in situ*	169 x 118 x 15	Oak	D	5 per cm = 50	
8249		188	coopered stave, incomplete - nailhole?	280 x 115 x 11	Oak	D	3 per cm = 30	
8249		187	coopered stave, incomplete	145 x 105 x 12	Oak	D	6 per cm = 60	
8249		185	Plank - sawn, evidence for reuse	530 x 205 x 19	Oak	CT	2-3 per cm	
8249		189	Plank offcut - sawn? Oblique chopmark across 1 end	228 x 91 x 16	Oak	T	2 per cm	
8249		193	plank frag with bevelled edge	190 x 30 x 17	Oak	D		
8249		190	stake cleft from rs plank - tip shaped by 2 oblique chops	440 x 60 x 40	Oak	D	4 per cm	
8249		194	stake - rw - tip shaped to square cross-section	460 x 52	Oak	A		
8249		183	Bowl - c 50% surviving in 9 frags	diam 320/ hght 106	Beech	/		*
8249								
8280	128		6 rw frags		Maple x2	A		
			7 oak rs plank frags,	th 8 - 14	Oak x 7	D		
12015			rs plank frag	th 7	Oak	A		
12074		15	3 frags: 1 rs half log? very eroded + 2 rs plank	th 5 - 30	Oak x3	B		
12093	279		2 x rs plank frags, very decayed	th 0.8	Oak x2	A		
12104			2 bark frags	th 1 - 4	/	/		
12114			7 rw frags	diam 4 - 26	Ash x2	/		
?	?	?	Rs plank, squarely dressed at both ends, one end stepped, tapered e	970 x 310 x 32	Oak	D		

Table B25; the waterlogged wood assemblage

Methodology

The wood was all gently washed to remove the clay adhering to the surfaces. The bulk samples were separated out into categories, primarily small fragments of oak planking and unworked roundwood. Minimum and maximum diameters of the roundwood were recorded and a sub-sample was identified as to species. The individual timbers were fully recorded.

The assemblage

The bulk of the assemblage consisted of unworked roundwood, often with bark still attached. A mixture of species was present, mostly willow (*Salix* sp.) and ash (*Fraxinus excelsior*) but also cherry (*Prunus* sp.), birch (*Betula* sp.) and maple (*Acer campestre*). Some of the contexts also contained small fragments of radially-split oak planking, usually very decayed and consequently displaying no woodworking evidence. There were occasional pieces of worked wood, such as the trimmed roundwood from [8106] and [8248] which could represent small stake tips.

Almost all the significant structural and artefactual wood came from one deposit, [8249] the primary ditch fill. This produced 11 items, consisting of five coopered stave fragments, three plank fragments, two stakes and a bowl. There was also a worked plank from [8215]. These items are described individually below.

SF184; plank

SF184 is a fragment of radially-split oak plank, some 9 mm in thickness and at least 136 mm at its widest. One edge is completely decayed but the other edge has been neatly squared. A small birch dowel, 8 mm in diameter has been inserted into this edge to a depth of at least 25 mm. The plank has split apart along the dowel-hole so the dowel may have been longer.

SF191; stave

SF191 is a complete stave of radially-split oak. It is 516 mm long and tapers in width from 135 mm at the top to 128 mm at the base. Some 25 mm above its bottom edge is the croze groove. 5 mm thick into which the base would have been inserted. The upper edge is bevelled on its inner face. There is no surviving evidence on the external surface, in the form of indentations or discolourations, for the hoops which would have bound the vessel. This stave is likely to have come from a coopered tub.

SF186; stave

SF186 is an incomplete stave of radially-split oak. Both ends have broken off but it is still 490 mm long so it may originally have been the same length as SF191 above. It displays a similar taper from 135 mm to 125 mm along its surviving length. On the external surface roughly midway along its length there is an indentation which may represent the original position of a hoop.

SF192; stave

SF192 is an incomplete stave of radially-split oak. A length of only 169 mm survives but the upper edge of the stave is present and it is bevelled on its inner face, like SF191. Some 65 mm and 75 mm below the upper edge two dowels, still *in situ* and both 8 mm in diameter, penetrate the stave.

SF188; stave

SF188 is an incomplete stave of radially-split oak. A length of 280 mm survives including one end. However, there is no bevelled edge to suggest that it is the upper end, nor is there a croze groove to distinguish the bottom end. On the interior face the thickness has been reduced to half at one end by a sharp cut while at the opposite end the external surface appears to have decayed away. There is a possible nailhole some 50 mm up from the bottom edge.

SF187; stave

SF187 is a small fragment of a radially-split oak stave. A length of only 145 mm survives and it bears no distinguishing features.

SF185; plank

SF185 is a large oak plank which has been sawn, the cutmarks of the saw just visible on the surfaces. The long edges have been dressed square as has one of the ends; but the other end is decayed. It has been chopped up for other purposes. At the squared end, a square p130 mm square has been cut out of one corner, leaving a cutmark in the inner angle. There is a chopmark across one half of the decayed end.

SF189; plank offcut

SF189 is an offcut from an oak plank similar to SF185 in terms of thickness and squared edges. The surfaces are too decayed to detect any sawmarks but the conversion, a tangential cut suggests that it was probably sawn too. There is an oblique chop across one end.

SF193; plank offcut

SF193 is a small fragment split off a larger oak plank, one of similar thickness to 1 & 9. The surviving edge has been neatly shaped to a quadrant profile.

SF190; stake

SF190 is a radially cleft oak stake. The two wider opposing faces have been cleft while the narrower sides have been trimmed square and the tip has been fashioned by chopmarks on the opposing faces.

SF194; stake

SF194 is a stake which has been fashioned from a length of oak roundwood. The tip is roughly square in cross-section, 40 x 35 mm, fashioned by four facets. The bark has survived along one edge.

SF183; the bowl

Some nine fragments comprising roughly 50% of a wooden bowl were retrieved (Table B26). It had been made from a half-log of fast-grown beech (*Fagus sylvatica*) and despite the fragmentation is in good condition.

Fragments 1 to 5 can be joined together (Figure B5). These include large fragments of the rim and some of the base showing that the original profile was a shallow, open bowl with walls gently sloping to a flat base. It was 320 mm in diameter and stood to a height of 106 mm. The rim was square in profile, 17 mm thick and tapering to walls 12 mm in thickness. On the external face there is a decorative band some 39 mm below the rim. This band consists of two incised lines 4 mm apart leaving a slightly raised ridge between. On the interior there is a single incised line some 8 mm below the rim.

The surfaces of the bowl have been finished to a smooth patina so that there are no obvious toolmarks denoting whether it was carved or lathe-turned. However, the very regular thickness of the walls across all fragments suggests that it was lathe-turned. The wide growth rings are very visible. On the exterior there is a single large facet taken out of the surface at the rim; this probably represents an axemark made during the roughing out process.

Frag	Component	Max dims (w x h) mm	
1	rim & wall	260 x 100	x2 small frags broken off
2	base & wall	120 x 110	
3	rim & wall	110 x 50	
4	wall	90 x 35	
5	wall	40 x 70	
6	wall	90 x 80	
7	wall	90 x 80	
8	wall	92 x 30	in 2 pieces
9	wall	98 x 25	in 2 pieces

Table B26: SF183 bowl fragments

Figure B5: conjoining fragments 1 - 5

Discussion and statement of significance

The assemblage from context [8249] is characteristic of domestic debris thrown into a ditch, comprising broken vessels and woodworking offcuts. It seems most probable that the five staves came from the same vessel, the complete stave SF191 suggesting that it had been a tub just over 0.5 m in height. The large shallow bowl, SF183 was well-made and the surfaces smoothly finished but the remains of a roughing-out axemark on the external surface suggests that it was not a high-status piece but intended for ordinary every-day use.

Recommended further work

Recommendations for further work are presented below by type.

Dendrochronology

The items of oak in the assemblage were assessed for their dendrochronological potential; the estimated number of growth-rings on each item is presented in Table B25. Most of the oak planks and stave fragments in context [8249] were all fast-grown and none have sufficient growth-rings for dendro analysis. The only viable candidate is plank SF184 which retains an estimated 150 growth-rings. However, it has been trimmed of all its outermost rings so analysis would provide at most a *terminus post quem* for felling and use.

Illustration

The following items should be illustrated;

SF183; the bowl

SF191; the complete stave

SF185; the re-used plank

SF184; the plank with dowel *in situ*

Conservation

The following items should be conserved;

SF183; the bowl

SF191; the complete stave

SF185; the re-used plank

SF184; the plank with dowel *in situ*

Research

A literature search is needed to identify comparable assemblages and objects and contextualise the finds from Stour Park.

Macroplant and Charcoal

Jackaline Robertson (AOC Archaeology Group)

Introduction and quantification

A total of 413 washover samples were submitted for environmental assessment in February 2022 from the archaeological works undertaken at Stour Park, Kent. The samples were collected from a series of burials, cremation pits, enclosure ditches, pits, ditches, gullies, kilns, pits, postholes and subsoil. These archaeological features derived from a multi-phase site in use from the prehistoric to the post medieval period. From these samples both carbonised macroplant and charcoal were recovered. The main aim of this report was to assess the archaeological potential of these two ecofact assemblages for further study and their suitability for radiocarbon dating.

Methodology

The bulk samples were processed at both the London and Edinburgh offices in their entirety in laboratory conditions using a floatation method designed to retrieve both ecofacts and artefacts (Kenward *et al* 1980). The sediment was composed of a silty clay and it was necessary to pre-soak a number of samples for 24 to 48 hours prior to processing. The wash overs were scanned using a high-powered microscope at x10-x40 magnification. The residue was separated using a stack system of 4mm, 2mm and 1mm sieves and each fraction was scanned by eye and with a magnet.

The plant macrofossils were examined at magnifications of x10 and up to x450. Macroplant identifications were confirmed using modern reference material and seed atlases stored at AOC Edinburgh (Cappers *et al* 2006; Jacomet 2006). Taxonomy and nomenclature for plants follows Stace (2010). The macroplant assemblage was assessed in full except for 12 samples that were found to be rich in cereal remains. The results from these 12 deposits collected from a ditch and kiln were semi-quantified during this stage of the assessment.

Charcoal fragments larger than 4mm were retained for species identification. Only those contexts that had more than 4.0g of charcoal were chosen for study at this stage of the assessment. A maximum of ten fragments were identified to species per sample. The charcoal identifications were confirmed by analysing the transverse, tangential and radial sections at x70-x450 magnification and using keys and texts stored at AOC Edinburgh (Hather 2000; Schweingruber 1990).

Results and observations

The macroplant

A minimum of 4580 carbonised macroplant were assesseds from 178 samples collected from 145 contexts. The assemblage was composed of cereals, nuts, fruits, vegetables, woodland remains and weeds. Cereal caryopses formed the largest component of the plant assemblage with chaff, nuts, fruits, vegetables, woodland finds and weeds only a minor inclusion. Preservation of the macroplant remains ranged from mostly poor to adequate with a smaller number recorded as good to excellent.

Cereal remains were recovered from 174 samples. During this assessment 4138 cereal remains composed of 4129 caryopses, four glumes and five culm nodes were fully assessed from162 samples. The remaining 12 samples were rich in cereal and the results were semi-quantified. The cereal species were oat (*Avena* sp), six-row hulled barley (*Hordeum vulgare* L), two-row hulled barley, naked barley (*Hordeum* var *Nudum* L), rye (Secale sp), bread/club wheat (*Triticum aestivum*/*compactum* L), spelt (*Triticum spelta* L) and emmer/spelt (*Triticum dicoccum*/*spelta* L). A rapid assessment of the cereal indicates that bread/club wheat was dominant with oat and six-row hulled barley having a more secondary role. Two-row barley, naked barley, spelt, emmer/spelt and rye were only present in smaller quantities and their contribution to this economy and diet was negligible. Other evidence of cultivated crops was flax (*Linum usitatissimum* L) but only a single seed was noted.

Other food resources were formed of nuts, fruits and vegetables. These were identified as 25 hazelnut (*Corylus avellana* L) shell fragments, two blackberry (*Rubus fruticosus* L), seven blackthorn (*Prunus spinosa* L) and 118 garden peas (Pisum sativum L). The presence of 55 tufted vetch (*Vicia cracca* L)

was also recorded, and this species has been cultivated as animal fodder. A total of 52 smooth tare (*Vicia tetrasperma* L) were noted but if this plant had any dietary role is unclear.

Two buds were identified within pit [8162] and these are likely accidental inclusions introduced to the site as a by-product of the wood used for fuel and building.

The 66 weeds so far identified are a mix of corncockle (*Agrostemma githago* L), cabbage (*Brassica* sp), bromes (*Bromus* sp), sedge (*Carex* sp), goosefoot (Chenopodium sp), black bindweed (*Fallopia convolvulus* L), hemp-nettles (*Galeopsis* L), cleavers (*Galium aparine* L), autumn hawkbit (*Leontodon autumnalis* L), pale persicaria (*Persicaria lapathifolia* L), ribwort plantain (*Plantago lanceolata* L), grass (*Poaceae* sp), dock (*Rumex* sp), elderberry (*Sambucus nigra* L) and stonecrops (cf. *Sedum* sp). The weeds were only a minor inclusion within this assemblage.

The charcoal

Charcoal fragments (624.8g) suitable for analysis were recovered from 266 samples collected from 244 contexts. Only those contexts which had 4.0g more of charcoal were selected for further study at this stage of the assessment A total of 410 fragments (426.2g) were identified to species from 41 samples from 39 contexts. The remaining fragments (198.6g) were scattered among the other 225 samples in small quantities and these were not identified. The species were alder (*Alnus glutinosa* L), birch (*Betula* sp), hazel (*Corylus avellana* L), ash (*Fraxinus* sp), apple/pear/hawthorn/rowan (*Maloideae*/*sorbus* sp), blackthorn (*Prunus spinosa* L), cherry (*Prunus* sp), oak (*Quercus* sp), willow (*Salix* sp) and elm (*Ulmus* sp). Preservation of the fragments ranged from poor to good. Those described as poor were noticeably vitrified and abraded.

Modern contamination

Modern contamination was noted in all the samples and was composed of roots, wood, weeds, terrestrial snails and insects. Several samples had large quantities of modern plant and insect remains suggesting some bioturbation of the deposits has occurred that may affect the archaeological security of some of the ecofact assemblage.

Distribution

The macroplant

The cereal assemblage was clearly concentrated within twelve samples. These were two samples from ditch [8176], nine deposits sampled from kiln [10027] and one kiln spread [10140]. The cereal from these 12 samples were semi-quantified and the results so far obtained revealed that large quantities bread/club wheat followed by oat and barley were all present. The finds from ditch [8176] have likely derived from the deliberate disposal of food waste. The material recovered from the kiln samples is from grain dried within this structure.

The cereal from the remaining 162 samples were collected from the animal burial, human burials, cremation pits, ditches, pits and postholes. This material was mostly scattered among these deposits

in small quantities with no evidence of selective of deliberate disposal. However, where larger quantities of cereal were noted, these tended to be from deposits associated with the kiln structures and it is probable this material is re-deposited waste from these features.

The rest of the macroplant assemblage; flax, nuts, fruits, vegetables, woodland and weeds were scattered throughout the site with no obvious evidence of selective or deliberate disposal.

The charcoal

From the 41 samples so far assessed the charcoal was focussed in 12 features (253.5g) described as ditches [8011], [8216], [12099], [12102], gully [12061], kiln [10027], pits [7043], [12063], pit/ditches [12195], [12197] and spread [12074]. The charcoal identified from the 41 samples is more likely to have derived from archaeologically secure deposits. This material has derived mostly from fuel debris alongside some remnants of structural remains. The charcoal in the remaining 225 samples is probably formed of small quantities of re-deposited fuel debris.

Discussion and statement of significance

Crops

The cereal assemblage from Stour Park was clearly concentrated within a ditch and the kiln features. The species so far identified have been cultivated in this area from the prehistoric to the late medieval period. Initial analysis indicates that bread/club wheat was economically the more important crop with oat and six-row hulled barley of secondary importance. The role of two-row hulled barley, naked barley, rye, spelt and emmer/spelt is currently unclear as it is possible these could have been cultivated on a small scale or were weeds of the main crops that were accidently introduced to the site.

The near absence of chaff indicates that cereal processing such as threshing and winnowing did not occur on this site or if it did the debris was disposed of out with the excavated area. The presence of grain within a kiln structure indicates that crops were dried for a period during the occupation of this site. The large number and variety of cereal crops recovered from Stour Park has the potential for furthering understanding of the agricultural husbandry practised throughout the occupation of this site and if this changed over time.

Nuts, fruits and vegetables

The recovery of hazel, blackberry, blackthorn, garden pea and tufted vetch indicate that these food resources also had a dietary role at this site. Hazel is a common find at most archaeological sites as this resource is easily exploited from the surrounding landscape as a food resource and the shell is typically recycled for kindling. The small size of both the fruit and vegetable assemblage is not unsurprising. Fruits and vegetables due to their fragile structure tend to be underrepresented within most carbonised archaeobotanical assemblages (Zohary et al 1993, 181).

The blackberry and blackthorn were probably gathered when seasonally available. It was noted that two of the blackthorn seeds had been chewed by rodents. Blackthorn was identified within the charcoal

assemblage, and it is possible these fruits were introduced accidentally along with the wood used for fuel, but it is logical to assume the population would exploit all available resources. It appears that vegetables in the form of garden pea were cultivated and consumed at this site. The tufted vetch could have been either a weed or was deliberately cultivated as fodder for livestock. Species such as smooth tare are edible and have been used as a food resource but its economic role at Stour Park if any is currently unclear.

Woodland

The inclusion of the two buds within pit (8161) were probably accidental and were introduced as a by-product of the wood used a fuel resource. The buds are of little interpretive value.

Weeds

The weed species so far identified tend to grow in agricultural fields, disturbed waste ground and damp landscapes. The presence of corncockle is of note as this plant which typically grows alongside crops is poisonous to both humans and animals if consumed. Several the weeds at Stour Park may have been gathered deliberately and used as a food resource or for building material. Species such as cabbage, goosefoot, black bindweed, pale persicaria and dock are all edible and have been collected to supplement both human and animal diets. Sedge has been used to provide flooring material, thatching and bedding. Given the small size of the weed assemblage what economic role if any these plants may have had is unclear. However, analysis of the weed species will reveal further information about the surrounding landscape and if this changed as the site developed.

The charcoal

The tree species are all common finds from throughout Britain. Alder, birch and willow favour more damp habitats whereas hazel, ash, apple/pear/hawthorn/rowan, blackthorn, cherry and elm are usually found in hedgerows, scrub or more open woods and oak is adaptable to a variety of growing and soil conditions (Stace 2010, Linford 2009). The charcoal assemblage has mostly derived from fuel debris although there is evidence of a wattle screen and some small discrete posts. The remnants of a wattle screen constructed from hazel and oak were observed in one deposit in kiln [10027]. The possible remains of oak posts were noted in pits [12063] and pit/ditches [12195] and [12197].

Recommendations for retention or discard

The washover samples, carbonised macroplant and charcoal are currently stored at AOC archaeology in a dry and stable condition and are suitable for long term storage. Once the analysis has been completed the washovers which have been fully sorted are recommend for discard. The carbonised macroplant and charcoal should be retained for inclusion within the site archive.

Potential for analysis of plant remains

Both the macroplant and charcoal assemblage have the potential to answer important research questions concerning the exploitation of both cultivated and wild plant resources at Stour Park from the prehistoric to the late medieval period.

If ecofacts are needed for radiocarbon dating, then the cereal caryopses, hazelnuts and charcoal are suitable. If Charcoal is selected for dating, oak should be avoided as it is a slow growing species which can prove unreliable. Once the chronology of this site and features have been confirmed then a full analysis report focussing on the following research questions is recommended.

- What cereal crops were cultivated, which species if any was more economically important and did this change over an archaeologically recognised time period.
- Are the crops representative of a processing, consumer or mixed economy.
- Is there surviving evidence of deliberate spatial deposition of plant remains within specific deposits and locations within the excavated area.
- Is there evidence for the exploitation and economic role of wild plants for use as food, fuel and building material within this site and did this change.
- What information can be gathered from the weed assemblage concerning the surrounding landscape.
- What wood species were collected for use on site as fuel and which for building. Is there evidence that exploitation of wood species changed over time.
- What information can be gathered from the ecofact assemblage concerning on site-activities.
- How do the results from Stour Park compare to other sites of a similar date in this region of England.

To answer these research questions additional time to fully assess the macroplant and charcoal assemblage is required. To identify the remaining ecofacts to species will take six days to complete. Creation of a analysis report drawing on comparisons with other sites in this location will take five days. In total 11 days are required to complete both the species identification of the ecofacts and the full environmental analysis report.

Bibliography

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006). *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

Hather, J G, (2000). *The identification of the Northern European Woods: a guide for archaeologists and conservators*. London.

Jacomet, S. (2006). Identification of cereal remains from archaeological sites. (2nd ed) Archaeobotany Lab IPAS, Basel University.

Kenward, H. K., Hall, A.R. and Jones, A.K.G (1980). A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits. Science and Archaeology 22, 3-15.

Linford, J (2009). *A concise guide to trees.* Baker and Taylor (UK)Ltd, Bicester, Oxfordshire.

Stace, C. (2010). *New Flora of the British Isles*. 3rd Edition. Cambridge University Press.

Schweingruber, F H, (1990). *Microscopic wood anatomy*. Birmensdorf.

Zohary, D & Hopf, M. (1993). Domestication of plants in the old world. (2nd ed) Oxford University Press.

Soils and Sediments

[redacted] (AOC Archaeology Group)

Introduction

This assessment report presents the results of preliminary analysis of six kubiena samples collected as part of the Stour Park project in Kent. The site is located on the north side of Highfield Lane, Sevington, in Ashford Borough Council in Kent (NGR 603950 140346). The majority of site was previously in arable agricultural use, with two small fields in the north-west and one field in the south in use as pasture.

The British Geological Survey indicates that the geology of the area of the site is mixed. The bedrock geology across much of the site is Hythe Formation, comprising sandstone and limestone, sedimentary bedrock formed approximately 112 to 125 million years ago in the Cretaceous Period when the local environment was dominated by shallow seas. Atherfield Clay Formation a Cretaceous bedrock is mapped present in the south of the site (BGS 2021)

The superficial deposits at the site are alluvial clays, silts, sands and gravels deposited up to 2 million years ago during the Quaternary Period when the local environment was dominated by rivers (BGS 2021).

The date of the archaeology across the Stour Park site is mixed. The earliest date of features appears to be Bronze Age although there may be earlier residual flint work. Iron Age material is present along with Roman on multi phased sites. Roman kilns or ovens have been noted, although their dating is uncertain. The six kubiena samples were removed from within kiln [10029]. The kiln was hypothesised to be of Roman date as it appeared to have been excavated into a Roman date subsoil and subsequently covered over by topsoil, also hypothesised to be of Roman date. The kiln was found to be roughly oval in shape although it was broader (1.5m in width) in the northern half when compared to the southern half (1m in width). Ragstone found within the northern half of the kiln was found to be burned and this was interpreted as evidence that the wider northern end of the kiln was the firing chamber and that the narrower southern half of the kiln was the flue. No recuts or differential cuts were observed, and the kiln was thought to represent a single phase of use. The kiln was found to cut enclosure [10125] and was thus hypothesised to be part of a second phase of industrial activity within this part of the site (AOC 2020).

The kubiena samples were taken through the accumulated sediment which comprised the fill of a collapsed kiln. The samples were taken to assist in assessing deposit formation processes (the deposit may contain both naturally accumulated and dumped material), to further understand spatial variations within the composition of the infill sediment and what it may tell us about the use of the kiln and also to assess the potential for retrieving stratified material suitable for paleoenvironmental analysis or dating.

The kiln [10029] was excavated in six segments (Q1-Q6) and kubiena samples were removed from fills of Q3-Q6.

The main objective of the assessment of the sediment samples was to characterise the deposits within each sample and identify the main formation processes that these sediments represent.

An assessment of the potential for further micromorphological analysis has also been undertaken.

Methodology

Each kubiena sample was cleaned prior to recording and was visually examined and described using a simplified version of the Troels-Smith system of sediment classification (Troels-Smith, 1955; Table B27), and a Munsell soil chart (Munsell, 2000), with any distinguishing features or stratigraphic layers being recorded. This is an objective method of sediment classification to identify each lithostratigraphic context. The presence of any inclusions such as macrofossils and charcoal, or wood was also noted. The descriptions were recorded on a proforma. Each sample was photographed to provide a permanent record of the stratigraphy.

Table B27: Modified Troels-Smith system of sediment description.

Physical Features	
Degree of darkness	Varies from 0 in the lightest occurring shades (e.g., clear (Nigror) quartz sand and lake marl), through 1 (eg. calcareous clay), 2 (e.g., fresh swamp peat), 3 (e.g., partly humified peat) to 4 in the darkest sediments (e.g. completely disintegrated peat).
Degree of stratification	Visual or structural horizontal banding or layering. Varies (Stratification) from 0 where the deposit is completely homogeneous or breaks in all directions, to 4 which consists of clear thin layers or bands.
Degree of elasticity	The sediment's ability to regain its shape after being (Elasticitas) squeezed or bent. Varies from 0 in plastic clay, sand, disintegrated peat etc. to 4 in fresh peat.
Degree of dryness	Deposits fall between 0 (clear water) and 4 (air dry material). (Siccitas) 1 indicates very wet runny sediment such as surface lake muds, 2 represents saturated sediments, the normal condition below the water table, while sicc. 3 indicates moist, unsaturated sediments.
Colour	Best determined by reference to Munsell soil colour charts. Changes in colour with exposure to air should be noted.
Structure	The dominant structural feature (eg. fibrous, homogeneous)
Sharpness of boundary	The boundary can be diffuse (> 1cm: lim. 0), very gradual (Limes superior)(<1cm to > 2mm: lim. 1), gradual (< 2mm to >1mm: lim. 2), sharp (<1mm to > 0.5mm) or very sharp (< 0.5mm).
Humicity	The degree of humification or disintegration of organic (Humicitas) substances. It is measured by determination of the nature and amount of material passing through the fingers on squeezing; 0 (fresh peat yielding clear water), 1 (slightly decomposed peat yielding dark coloured, turbid water), 2 (decomposed peat yielding half its mass), 3 (very decomposed peat yielding three-quarters of its mass) and 4 (totally decomposed peat yielding almost all its mass).
Components	

Mosses	Sphagnum is the most common peat former.
Woody plants (Turfa lignosa)	Roots of trees and shrubs together with attached stumps and branches, frequently in growth position.
Herbs (Turfa herbacea)	Roots of herbaceous plants together with attached stems and leaves, frequently in growth position.
Woody detritus (Detritus	Fragments of woody plants >2mm.
Components	
Herb detritus (Detritus	Fragments of herbaceous plants >2mm.
Fine detritus (Detritus	Fragments of woody or herbaceous plants <2mm.
Charcoal	Carbonised fragments of predominantly woody plants.
Organic lake mud	Homogeneous organic lake sediment composed of remains (Limus detrituosus) of microplankton and humified remains of macrophytes.
Humus (Substantia	Completely disintegrated organic substances and precipitated humic acids.
Organosilicates (Limus siliceous)	Siliceous skeletons or skeleton fragments of diatoms, sponges etc.
Carbonates (Limus	Calcium carbonate or marl. Similar in colour and texture to L. siliceous but soluble in hydrochloric acid.
Iron oxides (Limus	Iron oxides of various types and colours.
Clay (Argilla steatodes)	Mineral particles <0.002mm
Silt (Argilla granosa)	Mineral particles 0.002-0.06mm
Sand (Grana minora)	Mineral particles 0.06 - 2mm.
Gravel (Grana majora)	Mineral particles >2mm.

The assemblage

The six samples cover six contexts identified within the kiln fill:

- **(10196)**: Sampled in <457> in Q6 and described as a loose dark reddish brown sandy silt containing large proportions of CBM. When examined in the laboratory it was found to be a pale brown (10YR 6/3) very dense sandy silt. Few patches of possible burned sediment were observed towards the base of the sample as well as rare possible ash patches. Few fibrous organic inclusions including rare ferruginous examples were also observed as were occasional rounded and angular stones. There is a void at the top of the sample which has allowed for sediment movement and the upper part of the sample is thus disturbed, loose and not in situ.
- **(10114):** Sampled in <462> Q3 and described in the field as a dark greyish brown clayey silt overlying the kiln base. It was hypothesised as representative of the original collapse of the flue and noted to contain CBM relating to the flue's construction. When examined in the laboratory it was found to be a brown heterogenous sandy silt with occasional inclusions of whiteish grey CBM. A clear boundary with the overlying (10117) was observed

- **(10173):** Sampled in <458> Q6 and described as a yellowish grey silty sand containing masonry relating to the collapse of the kiln. In the laboratory it was found to comprise a light yellowish brown (10YR 6/4) silty clay. It is friable and becomes increasingly friable upwards. Sharp boundaries with CBM and other matrix fabrics were observed. Common charcoal generally c1mm. Patches of yellowish red (5YR 5/6) CBM and dark yellowish brown (10YR 4/6) silty sand.
- **(10170):** Sampled in <459> Q5 and described in the field as a mid brownish grey clayey silt containing frequent flecks of charcoal and burnt CBM. Fragments of bone were also observed. Noted as very similar to (10173). In the laboratory it was found to comprise a brown (10YR 3/3) sandy clay with patches of clayey silt. Frequent inclusion of pale yellow (2.5Y7/4) CBM and yellowish red (5YR 4/6) CBM. Friable (increasingly friable upwards) with a very weakly developed crumb structure. Frequent modern rootlets.
- **(10118):** Sampled in <460> Q4 and described in the field as a yellowish grey silty sand similar to (10117) to the south. When examined in the laboratory it was found to comprise a light yellowish brown (10YR 6/4) to yellowish red (5YR 5/6) silty sand. Sharp internal boundaries with matrix material were observed and may indicate dumping of mixed deposits. Few very small (<1mm) rounded stones. Very few rootlets. Occasional reddish brown CBM. Rare charcoal inclusions increasing in quantity and size upwards. Compacted and well preserved.
- **(10117):** Sampled in <461> and at the top of <462> Q3 and described as a greyish brown silty sand containing large fragments of CBM which it was hypothesised related to the collapse of the kiln. When examined in the laboratory in <461> this was found to comprise a very dark brown to black (10YR 2/1) sediment. Within <462> to be a light yellowish brown (10YR 6/4) to dark yellowish brown (10YR 4/4) sandy silt. Sharp internal boundaries with matrix material were observed. Occasional fragments of CBM Few very small (<1mm) rounded stones are present as are very few rootlets. Rare charcoal inclusions increase in quantity and size upwards. Compacted and well preserved. This was described as an upper fill deposit overlying the primary collapsed flue deposit (10114).

Discussion and statement of significance

Three fills were found within the flue of kiln [10029]. The lower fill (10196) and (10114) was a yellowish-brown sandy silt containing occasional to frequent CBM. It was found to overly the masonry base of the kiln which displayed evidence for heat affected stone. The middle fill (10173) (10170) (10118) and (10117) had a similarly silty matrix but contained fewer CBM fragments and higher proportions of charcoal as well as rare bone fragments. This fill was frequently heterogenous with patches of sandy CBM rich material with which sharp boundaries were observed. Preservation of sharp boundaries may be indicative of rapid accumulation/dumping of at least part of this fill. The upper fill (10053) was not sampled for micromorphology but was described in the field as moderately compact silty clay and hypothesised as the upper fill of the kiln features dumped into the kiln following its use as a rubbish pit (AOC 2020). The kiln fill is a heterogenous soil containing a mixture of both upper and lower parts of the kiln infill. It appears that both burned and unburned soil fragments are present here and that these have been thoroughly mixed by subsequent earthworm activity. Coarse charcoal is common in the upper fills, sometimes with burned topsoil attached, and much appears to be breaking up *in situ*. The inclusions of charcoal suggests that infill may have been derived in part by domestic waste. During

excavation it was hypothesised that the upper fill represented deliberate dumping of waste and use of the kiln as a rubbish pit. The lower fill was observed to contain fragments of what may have been a yellow clay lining and was thought to represent the primary abandonment infill.

There is no evidence of *in situ* burning and it is clear that these infills were formed following the abandonment of the kiln.

Further work will have to be undertaken before of the elements of this deposit can be identified, along with any indications of evidence of material fired within the kiln.

Recommended further Work

Four of the kubiena samples were taken form the centre of the middle kiln fill across four quadrants ad were presumably sampled in an attempt to identify spatial difference in the kiln infill through the flue. Examination of these samples under laboratory conditions has revealed that the variations are unlikely to be sufficiently significant to allow for differentiation of these deposits and they all appear to have been formed through accumulation of similar debris material. It is therefore concluded that further analysis of the spatial relationship along the flue would not be beneficial.

The upper fill of the stratigraphic sequence sampled in Q6 was found to be disturbed with large voids within the sample tin precluding any further useful analysis of this sequence. The stratigraphic sequence in Q3 however appears to be intact and further appears to preserve the boundary between the lower (10114) and upper (10117) fills of the kiln. Analysis of theses two samples could help to differentiate between the depositional processes responsible for the kiln infill and also to further characterise the inclusions in the base of the fill which may in turn further inform us about the use of the kiln itself. It is therefore advised that two samples are submitted for micromorphological analysis which should aim to answer the following research questions:

- *What site formation processes were responsible for the kiln infilling*
- *How do the lower and upper kiln infills differ and is this a reflection of differing depositional environments?*
- *Do post-depositional alterations to the infilled eposist tell us anything about wider environmental conditions at this site?*
- *What can the inclusions in the lower fill tell us about the material used to construct the kiln and materials that may have been burned within it?*
- *What can the conclusions in the upper fill tell us about wider domestic activity on this site?*
- *How do the kiln infills compare with other examples of Roman kilns studied micromorphologically?*

The proposed sample locations are detailed below and have been selected according to relationships between deposits of most interest and those that appeared to best preserved. As no discernible difference could be identified spatially within the kiln further analysis is limited to a single stratigraphic sequence.

Specialist Task	Sample/Context
Micromorphological Analysis	<462> (10114/10117)
Micromorphological Analysis	<461> (10117)

References

AOC 2020 Land on the north side of Highfield Lane, Sevington, Kent Stour Park. Unpublished excavation records and context sheets.

British Geological Survey (BGS) (2020). Geology of Britain Viewer. URL: www.bgs.ac.uk/geologyofbritain . Date accessed: 27th September 2021.

Tröels-Smith, J. 1955 Karakterisering af løse jordater (Characterisation of unconsolidated sediments), Danm. Geol. Unders., Ser IV 3, 73.

Table B28: Soils and Sediments Appendix of Sediment Characteristics

Note: Deposits are described from the base up in order of sediment deposition and then from north to south

Sample	Context	Darkness	Stratification	Elasticity	Dryness	Structure	Boundary	Description
Sample 457	10196	3	2	3	3	Homogenous	-	10YR 6/3 Pale Brown. Very dense sandy silt. Few patches of possible burned sediment towards base of samples as well as possible ash patches. Few fibrous organic inclusions including rare ferruginous examples. Rare charcoal inclusions. Occasional rounded and angular stones. Occasional roots. There is a void at the top of the sample which has allowed for sediment movement and the upper part of the sample is thus disturbed, loosed and not in situ.
Sample 462	10114	3	2	3	3	Heterogeneous	Clear	10YR 3/3 Brown. Sandy silt. Occasional white CBM fragments 2-5mm. Few fe/mn mottles towards base of unit and at interface with overlying. Few fibrous organic inclusions including rare rootlets. Rare charcoal inclusions.
Sample 462	10114/ 10017	3	2	3	3	Homogenous	-	10YR 2/1 Black. Sandy silt. Few fibrous organic inclusions including roots. Few very small <1mm) rounded stones. Rare charcoal inclusions increasing in quantity and size upwards).
Sample 458	10173	2/3	1	2	2	Homogenous	-	10YR 6/4 Light yellowish brown. Silty Clay. Friable (increasingly friable upwards). Sharp boundaries with CBM and other matrix fabrics. Common charcoal generally c1mm. Patches of 5Yr 5/6 yellowish red CBM.
Sample 459	10170	2/3	2	0	4	Homogenous	Diffuse	10YR 3/3 Brown with patches of 2.5y7/4 pale yellow CBM and 5YR 4/6 yellowish red CBM. Sandy Clay with patches of Clayey Silt. Friable (increasingly friable upwards). Very weakly developed crumb structure. Presence of > 5mm packing voids/very loose structure. Frequent modern rootlets.

Sample	Context	Darkness	Stratification	Elasticity	Dryness	Structure	Boundary	Description
Sample 460	10118	3	2	3	3	Heterogeneous, fissured	-	10YR 6/4 Light yellowish brown to 5YR 5/6 yellowish red. Silty sand. Sharp internal boundaries with matrix material. Few very small (<1mm) rounded stones. Very few rootlets. Occasional reddish brown CBM. Rare charcoal inclusions increasing in quantity and size upwards. Compacted and well preserved.
Sample 461	10117	3	2	3	3	Heterogeneous	-	10YR 6/4 Light yellowish brown to 10YR 4/4 Dark yellowish brown. Sandy silt. Sharp internal boundaries with matrix material. Few very small <1mm) rounded stones. Very few rootlets. Rare charcoal inclusions increasing in quantity and size upwards). Compacted and well preserved.

Palaeoenvironmental Assessment

[redacted]

Introduction

Palaeoenvironmental assessment was carried out on 18 subsamples from 3 monolith samples, which cover two sequences from within archaeological features. Assessment of the subsamples included investigation of diatoms, ostracods, and pollen samples, in order to further understand the depositional environments and palaeoecological context of the features.

A possible pond feature, [8042], with one fill (8041) has been sampled <Tin 2> to produce six subsamples for palaeoenvironmental assessment and two radiocarbon dates.

Feature [8209] represents a ditch terminus with five recorded fills, the lower three of which were sampled within tins <3> and <4>. Throughout the sequence, 12 subsamples for palaeoenvironmental assessment and 2 radiocarbon dating samples have been taken.

A fourth monolith sample, <Tin 1>, was taken from a spread deposit (6148), associated with cut [6149], comprising a friable, mid-dark brown, slightly sandy, clayey silt. Inclusions within the deposit included very occasional small pieces of flagstone, occasional fragments of pottery and animal bone, and a registered small find (1) of a decorative copper item. The deposit was recorded as being 0.25m in thickness, and roughly 5.35m by 8m in lateral extent, with a very irregular surface, irregular to flat base, and gradual sloped sides. It truncates two ditch features, [6146] to the northeast and [6041] to the southwest. No palaeoenvironmental assessment or radiocarbon dating was carried out on this sample.

Table B29: A summary of the palaeoenvironmental subsamples

Context	Tin	Subsample	Depth from Top (m)	Top Elevation (m OD)
(8204) [8209]	<3>	1	0.03-0.04	
(8204) [8209]	<3>	2	0.10-0.11	
(8204) [8209]	<3>	3	0.19-0.20	
(8204) [8209]	<3>	4	0.28-0.29	
(8207) [8209]	<3>	5	0.36-0.37	
(8207) [8209]	<3>	6	0.46-0.47	
(8207) [8209]	<4>	7	0.08-0.09	
(8208) [8209]	<4>	8	0.15-0.16	
(8208) [8209]	<4>	9	0.23-0.24	
(8208) [8209]	<4>	10	0.32-0.33	
(8208) [8209]	<4>	11	0.45-0.46	
(8208) [8209]	<4>	12	0.47-0.48	
(8041) [8042]	<2>	13	0.02-0.03	49.87
(8041) [8042]	<2>	14	0.15-0.16	49.79
(8041) [8042]	<2>	15	0.21-0.22	49.68
(8041) [8042]	<2>	16	0.30-0.31	49.59
(8041) [8042]	<2>	17	0.38-0.39	49.51
(8041) [8042]	<2>	18	0.46-0.47	49.43

Table B30: A list of the radiocarbon dating samples

Context	Tin	Number	Depth from Top (m)	Top Elevation (m OD)
(8204) [8209]	<3>	RC1	0.02-0.03	
(8208) [8209]	<4>	RC2	0.46-0.47	
(8041) [8042]	<2>	RC3	0.02-0.14	49.87
(8041) [8042]	<2>	RC4	0.39-0.41	49.50

The samples from these features will provide details for the environments of deposition for each phase of infilling and illustrate changes in the local and regional palaeoecology with dates provided for the earliest and latest points in the deposition of these units.

Possible Pond feature [8048]

One monolith sample <Tin 2> was recovered from the sole fill (8042) of possible pond feature [8048], from which six subsamples and two radiocarbon dates were obtained.

A tabulated summary of the results from the pollen assessment, ostracod assessment, diatom assessment, and radiocarbon dating is presented in Table B29).

Table B31: Summary of palaeoenvironmental results from sample <499>, Tin 2

Sample No.						Sub samples								Deposit Descriptions
	Deposit Context Number	Top depth (m)	Base depth (m)	Top Elevation (m OD)	Base Elevation (m OD)	Pollen		Ostracods		Diatoms		Radiocarbon dating		
						No. (e.g. P1)	Assessment result	No. (e.g. O1)	Assessment result	No. (e.g. D1)	Assessment result	No.	Assessment result	
														(8041) [8042] Soft and humic. Dark brown/ black. Humic sandy clay and peat formation. Lenses of pale brown sand and slick blue/grey clay. Frequent wood fragments, moderate dense organics. Occasional CE and CBM frags, and animal bones. Decayed organic peat accumulation within a waterlogged area - possible POND
499/Tin 2	8041	0.02	0.03	49.87	49.86	P13	Useful results were obtained from all subsamples, though relatively poorly preserved. The on-site habitat was likely a localised willow (*Salix*) carr occupying a damp depression, with ground flora of grasses, sedges, and some other fen herbs. The surrounding dryland was utilised for mixed agricultural practices of cultivation and predominantly pasture. Aside from willow, there are relatively low values of other arboreal types, which are considered to have been growing in the wider region.	O13	The assemblage contained common caddis fly cases, seeds, some beetle fragments, and occasional fish bones and teeth. Rare bivalve fragments were present in the upper sample (0.02-0.03m) and a gastropod fragment was identified within the lower sample (0.15-0.16m). Indicative of a range freshwater environment, most likely streams and ponds fed by springs.	D13	Absent			
499/Tin 2	8041	0.02	0.14	49.87	49.75							RC3	695 +/- 24 years BP 1273-1384 cal AD (GU59039)	
499/Tin 2	8041	0.15	0.16	49.74	49.73	P14		O14		D14	Absent			
499/Tin 2	8041	0.21	0.22	49.68	49.67	P15		O15	Absent	D15	Absent			
499/Tin 2	8041	0.30	0.31	49.59	49.58	P16		O16	Absent	D16	Absent			
499/Tin 2	8041	0.38	0.39	49.51	49.50	P17		O17	Absent	D17	Absent			
499/Tin 2	8041	0.39	0.41	49.50	49.49							RC4	534 +/- 24 years BP 1327-1437 cal AD (GU59040)	
499/Tin 2	8041	0.46	o.47	49.43	49.42	P18		O18	Absent	D18	Absent			

The deposit is described as a fairly soft and humus rich, dark brown to black, sandy clay and peat formation with lenses of pale brown sand and blue to grey clay. Inclusions recorded include lots of fragments of wood and some dense organic materials, as well as few ceramic and CBM fragments and animal bones. Together with the sediment description, these suggest anthropic influence over the sediment accumulation, likely the result of surface run off with continuous high moisture levels. It was recorded to be 0.56m thick. The description suggests a continuous phase of infilling, with little variation in depositional conditions.

Pollen assessment carried out on the monolith sample was conducted on six subsamples. All samples provided viable pollen samples, though low in numbers and poorly preserved. The lower samples provided higher numbers and better preservation. The profile is broadly homogenous, with no local pollen assemblage zones specified, suggesting an overall stable environment over the period of sediment accumulation at this location (*c.* 1327-1384calAD, GU59040), further supported by the undifferentiated fill of the feature. Overall, the assemblage demonstrates a herb dominated local environment, whereby herbs comprise up to 87% of the total pollen values. Trees and shrubs are generally only present in small quantities, with a maximum presence (40%) within the upper profile at P14 (0.15-0.16m), which is due to a peak in willow (Salix) pollen. Ferns or identified in small quantities within the lower part of the profile, at up to 22% (0.21-0.22m).

On site vegetation throughout the period of deposition likely included Willow (Salix), due to the nature of the pollen whereby it is generally poorly represented in pollen assemblages without strong local or on-site growth. Accompanying willow on site were species of marsh herbs from fen ground flora, including sedges (Cyperaceae), some of the identified grasses (Poaceae), hemlock water dropwort (Oenanthe sp.), meadowsweet (Filipendula ulmaria), and greater burnet (Sanguisorba officinalis).

The presence of willow carr on this site likely had the affected the accumulation of pollen from the broader region, though the assemblage does allow for broad interpretation. Regional vegetation between (*c.* 1327-1384calAD, GU59040) as indicated by the pollen assemblage was likely broadly open agricultural land with few trees, with greater presence of pastoral indicators than of cereal pollen and associated arable weed species. This suggests the region to have been utilised for mixed agricultural economy. Notably, cannabis type pollen is recorded throughout, with highest count in the upper sequence, possibly from cultivated hemp (Cannabis sativa) or hop (Humulus lupulus).

Ostracod assessment resulted in assemblages from only the upper sequence (O13 and O14) and provided a varied assemblage indicating a range freshwater environment, most likely consisting of streams and ponds fed by springs. This ties in with the pollen assemblage which suggested a waterlogged local environment of willow carr at (1273-1384 cal AD, GU59039).

No viable diatoms were identified within this sequence.

Ditch Terminus [8209]

Tin 3 (subsamples 1-6) and 4 (subsamples 7-10) takes from three deposits (8204), (8207), (8208) from a sequence within the terminus of a ditch feature [8212], slot number [8209].

The stratigraphy and placement of the sample tin is illustrated in Figure 23, Section 112.1.

A tabulated summary of the results from the pollen assessment, ostracod assessment, diatom assessment, and radiocarbon dating for the sequence is presented in Table B30 and B31.

Table B32: Summary of palaeoenvironmental results from sample <500>, Tin 3

Sample No.		Sub samples												Deposit Descriptions
	Deposit Context Number	Top depth (m)	Base depth (m)	Top Elevation (m OD)	Base Elevation (m OD)	Pollen		Ostracods		Diatoms		Radiocarbon dating		
						No. (eg P1)	Assessment result	No. (eg O1)	Assessment result	No. (eg D1)	Assessment result	No.	Assessment result	
														(8204) (8207) [8209] DITCH TERMINUS
500/Tin 3	8204	0.02	0.03									RC1	364 +/- 21 years BP 1457-1631 cal AD (GU59037)	(8204) Soft but friable clayey SAND, mid greyish brown in colour with flecks of orange. Inclusions of small fragments of CBM and rooting. Upper fill of feature, with stone and CBM found near the interface between the deposit and the wider geology. Worked wood found at lower boundary.
500/Tin 3	8204	0.03	0.04			P1	Poor preservation. Onsite open grassland, with some wetter areas of slow-flowing or standing water from 0.28m, possibly indicating areas of herb fen. Surrounding terrestrial zone of general paucity of tree and shrub pollen suggesting an open environment, with evidence of both pastoral and arable agriculture.	O1	Absent	D1	Absent			
500/Tin 3	8204	0.1	0.11			P2		O2	Absent	D2	Absent			
500/Tin 3	8204	0.19	0.20			P3		O3	Absent	D3	Absent			
500/Tin 3	8204	0.28	0.29			P4		O4	Absent	D4	Absent			
500/Tin 3	8207	0.36	0.37			P5		O5	Absent	D5	Absent			(8207) Soft light yellowish brown silty SAND containing inclusions of CBM and a worked wooden plank.
500/Tin 3	8207	0.46	0.47			P6		O6	Absent	D6	Absent			

Table B33: Summary of palaeoenvironmental results from sample <501>, Tin 4

Sample No.	Sub samples													Deposit Descriptions
	Deposit Context Number	Top depth (m)	Base depth (m)	Top Elevation (m OD)	Base Elevation (m OD)	Pollen		Ostracods		Diatoms		Radiocarbon dating		
						No. (eg P1)	Assessment result	No. (eg O1)	Assessment result	No. (eg D1)	Assessment result	No.	Assessment result	
														Cut [8209] P/o feature [8212]. DITCH TERMINUS
501/Tin 4	8207	0.08	0.09			P7	General paucity of tree and shrub pollen. Open landscape with varied herbs and some cereal.	O7	Absent	D7	Absent			(8207) Soft light yellowish brown silty SAND containing inclusions of CBM and a worked wooden plank.
501/Tin 4	8208	0.15	0.16			P8		O8	Absent	D8	Absent			(8208) is a very soft, mid-dark grey clayey sand with rooting and ecofacts. Wet. Lowest known fill of [8209]. Primary fill of ditch. Large volume of eco deposits within this fill.
501/Tin 4	8208	0.23	0.24			P9		O9	Absent	D9	Absent			
501/Tin 4	8208	0.32	0.33			P10	Large grass presence (45%) which drops significantly (20%) as a simultaneous increase in *Cannabis* or possible hop *Humulus* type pollen (15% to nearly 60%). Possibly indicative of local cultivation and processing. Overall open on-site environment with small areas of grass / sedge fen, and possible willow (*Salix*) woodland. Trees and shrubs sparse. Evidence of an open agricultural landscape with arable farming close to the site.	O10	The presence of small numbers of several species in various life stages indicates the assemblage to be in-situ. Together the taxa indicate a range of freshwater environments, but most likely streams and ponds fed by springs.	D10	Absent			
501/Tin 4	8208	0.45	0.46			P11		O11		D11	One single, very poorly preserved diatom valve fragment which is probably from the non-planktonic species *Gomphonema angustatum*, a shallow water species that has tolerance of a wide range of freshwater quality.			
501/Tin 4	8208	0.46	0.47									RC2	453 +/- 21 years BP 1423-1459 cal AD (GU59038)	
501/Tin 4	8208	0.47	0.48			P12		O12		D12	Absent			

The primary fill (8208) is described as a very soft, saturated, mid-dark grey clayey sand with inclusions of rooting and frequent ecofacts. It has been measured to a minimum of 0.20m thickness. The secondary deposit (8207) is described as a soft, light yellowish brown, silty sand which inclusions of CBM and a worked wooden plank. It is approximately 0.15m thick. The tertiary deposit included within these samples is (8204), a soft but friable clayey SAND, mid greyish brown in colour with flecks of orange. Inclusions of small fragments of CBM and rooting. Upper fill of feature, with stone and CBM found near the interface between the deposit and the wider geology. Worked wood found at lower boundary. The descriptions of the deposits suggest that the initial phase of infilling was one led by natural surface runoff and consistent high moisture content, with locally increasing anthropogenic influence and drier conditions over time.

The lower deposit within this ditch fill sequence (8208) has provided the most comprehensive set of palaeoenvironmental evidence and proxies, with viable pollen, ostracod, and diatom assemblages identified, with palaeoenvironmental remains generally becoming less well preserved and less prevalent with higher elevation.

The pollen identified within the lowest sequence from (8208) to (8207) <Tin 4> has been separated into two phases, demonstrating a general open landscape with possible on-site or local cultivation and processing of Cannabis or possible hop (Humulus) species, and small areas of grass / sedge fen and possible willow woodland.

The lower sequence, Zone 1 (P10-P12) dates to roughly 1423-1459 cal AD, and demonstrates an environment initially dominated by grass (Poaceae) species at around 45%, which declines to *c.* 20% by the end of the zone This is accompanied by a significant increase in the presence of Cannabis type pollen from 15% to almost 60%. Tree pollen is found in low quantities, though a peak of Corylus avellana (Hazel) type pollen is identified at the base of the zone at 20%. A variety of herbs and grasses are present throughout, including cereal types. The assemblage suggests a mixture of vegetation, including grass/sedge fen and Salix woodland, as well as damp ground and ditches. This zone provided significantly greater pollen values than the upper zone.

The upper sequence, Zone 2 (P7-P9), is characterised by a steady dominance of grasses at around 40% of the assemblages. As in Zone 1, tree and shrub pollen has been identified in small quantities. The herb assemblage is more diverse, and cereal type pollen is recorded throughout with a small peak to 4% at 0.15m (P8). Evidence of a marsh environment is also observed within this assemblage.

Pollen retrieved from the six subsamples of <Tin 3> was low in numbers and poorly preserved, suggesting similar environment of deposition continues from (8207) to (8204) with lesser preservation potential. The assemblages remain similar throughout the later sequence, resulting in presentation of a single pollen zone suggesting a stable environment over the recorded depositional period up to (1457-1631 cal AD). General trends in the assemblage include a dominance of Poaceae (grass) pollen between 30%-80%. Herb pollen is most prevalent, with Lactucoideae (dandelion) declining through the sequence from 35% to 5% toward the later deposit. There is a general paucity of tree and shrub pollen, with Salix (willow) the only species recorded throughout (2-5%). The pollen has accumulated from both on-site vegetation and via other factors of pollen transport such as airborne or fluvial modes from the wider environment.

Moving into the upper sequence from (8207) to (8204), the pollen assemblage suggests the on-site landscape continues to be one of open grassland with areas of slow flowing or standing water prevalent from 0.47 -0.28m (P4), evidenced by the presence of small numbers of sedges (Cyperaceae) and bulrush/ bur reed (Typha angustifolia/Spaganium). This may indicate areas of herb fen, which may also

be the origin of some of the grass pollen within the assemblage. Unidentified trilete spores have also been identified, which may have been derived from a pre-Quaternary source, or perhaps were part of the onsite vegetation. Their presence in association with dandelion types (Lactuoideae) at initial values of 35% may suggest the spores to be present due to differential preservation or reworking of older sediments.

The surrounding terrestrial zone has been evidenced to be an open environment with mixed agricultural economy including both pastoral and arable practices. Cereal type pollen is present throughout at relatively low levels, with arable weed types also identified within the assemblage, suggesting arable farming to have taken place within the wider landscape. Diversity of herbs increases toward the end of the sequence, with the emergence of Cannabis type (Humulus/hop) pollen possibly suggesting its cultivation in the wider landscape. Tree and shrub pollen is present only in very small numbers, most likely derived from long distance transportation. This suggests trees were growing only in small numbers in the wider landscape. A peak in trees and shrubs identified at 0.19m (P3) may be due to the low pollen count and poor preservation within this subsample, likely resulting from percentage effect rather than increasing prevalence in the landscape.

In summary, this sequence identifies a transition from a local environment dominated by a mosaic of grassland, willow (Salix) woodland, and sedge fen, toward one of grasses, cultivated cereals, fewer trees and shrubs, and reduced wet ground.

Ostracod assemblages identified within subsamples contingent with pollen Zone 1, and (8208), indicate a range of freshwater environments, most likely streams and ponds fed by springs. This supports the pollen evidence suggesting the presence of areas of damp ground and ditches, which may have been utilised in the suggested crop processing. No viable ostracods were identified above 0.32m depth within the sample (O10), or from (8207) or (8204).

Diatom evidence also relates to subsamples parallel with pollen Zone 2 and supports the presence of shallow freshwater features on site. (8207) and (8204) suggest drier conditions in the later phases of infilling, with no viable diatoms identified above 0.45m depth within the sample (D11).

Conclusions and Recommendations

Earlier samples suggest that from around 1327calAD the site was inhabited by an ecological mosaic of Salix (willow) woodland, grasses, sedges, and other fen herbs. Freshwater, likely of steams and ponds, was present within the local area. Mixed agricultural practices occupied the surrounding environment, which were predominantly of pastural activity from *c.* 1327-1384cal AD. From *c.* 1423calAD arable farming is evident close to the Site, with a recorded drop in grasses and significant increase (15% to 60%) in the presence of Cannabis or Humulus. Streams and ponds continued to be prevalent on site, evidenced from ostracods and diatoms of preference for a range of freshwater environments, which may have been utilised within the cultivational processing activities relating to the increased crop presence in the record. Between *c*. 1423-1681 cal AD, trees including willow became scarcer, with evidence of both pastoral and arable agriculture locally. Some wetter areas of slow-flowing or standing water remained.

Further work may be suggested for the earliest fill (8208) of ditch feature [8209]. There is significant presence of anthropogenic pollen, specifically Cannabis type pollen which could be attributable to a retting pit or hop production. Increased sampling resolution in the key areas of the profile may be beneficial to the record. Further pollen assessment has not been recommended from other locations.

No further diatom assessment is recommended due to their very poor preservation.

No further ostracod assessment is recommended due to poor preservation.

APPENDIX C: OASIS DATA COLLECTION FORM

Summary for aocarcha1-507058

OASIS ID (UID)	aocarcha1-507058
Project Name	Strip Map And Sample at Stour Park, Sevington, Kent
Sitename	
Activity type	Strip Map And Sample
Project Identifier(s)	
Planning Id	
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	AOC Archaeology Group
Project Dates	01-Aug-2020 - 23-Dec-2020
Location	Stour Park, Sevington, Kent NGR : TR 03950 40346 LL : 51.1260750218452, 0.913236210180305 12 Fig : 603950,140346
Administrative Areas	Country : England County : Kent District : Ashford Parish : Sevington
Project Methodology	5.7Machine stripping of the proposed archaeological investigation area was carried out under archaeological direction by a 360° tracked excavator fitted with an appropriate toothless ditching bucket (Plate 1). Undifferentiated topsoil overburden of recent origin was removed to the upper-most level of any identified archaeological features, or the natural geology, whichever was encountered first. Following monitoring of the preliminary stripping, archaeological excavation and recording within the area commenced under supervision by a fully qualified Archaeological Project Officer/Supervisor.5.9Where archaeological horizons were encountered, subsequent excavations were undertaken by hand. All excavated sections were drawn at a scale deemed appropriate for the task, usually 1:10 or 1: 20. All plans and sections were located to the Ordnance Survey (OS) grid and Ordnance Datum (OD) heights were established for all strata and features through the use of the Global Positioning System (GPS).5.10Archaeological features were sample excavated in accord with the methodology as set out in the WSI .

Project Results	The results indicate the presence of Late Bronze Age to Early / Middle Iron Age and Late Iron Age to Early Roman farmland and settlement activity within the confines of the site. This included a road, a trackway, two associated inhumations, field boundaries, enclosures and possible structures including three roundhouses. Early to Middle Saxon activity, perhaps pertaining to the 6th century, took the form of a small inhumation cemetery of 11 individuals in the eastern part of the site. One individual, a young to middle-aged adult male, was buried with a spear, a knife and an unusual buckle. Late Saxon or earlier activity also occurred in the eastern part of the site in the form of a field boundary, a collection of pits or postholes, two fence lines and six probable corn drying kilns, which could alternatively pertain to the Roman period. A possible post-built structure with the same dimensions as a Late Saxon long hall was also present but is poorly dated and not well understood. Medieval to early post-medieval activity was nucleated in the south-west corner of the site, closer to the current village of Sevington, thus suggesting a change of focus between the Late Saxon and later medieval periods. Two farmland boundary ditches that may date to the 17th to 19th centuries were also present. The finds collected from the site included prehistoric and Roman pottery, post-Roman pottery, ceramic building materials (CBM), post-Roman glass, fired clay, clay tobacco pipe, metals, a single coin, worked and burnt flint, worked leather, worked wood and slag and industrial residues. Ecofacts included diatoms, ostracods, pollen, macroplants, charcoal, cremated bone of uncertain origin, animal bone and human bone. The prehistoric to Late Saxon results are deemed to be regionally significant, while the medieval to post-medieval remains are of local importance.

Keywords	Road - ROMAN - FISH Thesaurus of Monument Types Trackway - ROMAN - FISH Thesaurus of Monument Types Round House (Domestic) - IRON AGE - FISH Thesaurus of Monument Types Corn Drying Kiln - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Boundary Ditch - LATE BRONZE AGE - FISH Thesaurus of Monument Types Rectangular Enclosure - ROMAN - FISH Thesaurus of Monument Types Square Enclosure - ROMAN - FISH Thesaurus of Monument Types Inhumation Cemetery - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Cremation Burial - EARLY IRON AGE - FISH Thesaurus of Monument Types Building - ROMAN - FISH Thesaurus of Monument Types Blunging Pit - POST MEDIEVAL - FISH Thesaurus of Monument Types Rubbish Pit - IRON AGE - FISH Thesaurus of Monument Types Extractive Pit - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Fence - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Structure - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Round House (Domestic) - ROMAN - FISH Thesaurus of Monument Types Extended Inhumation - ROMAN - FISH Thesaurus of Monument Types Rubbish Pit - EARLY IRON AGE - FISH Thesaurus of Monument Types Rubbish Pit - ROMAN - FISH Thesaurus of Monument Types Field Boundary - LATE IRON AGE - FISH Thesaurus of Monument Types Field Boundary - ROMAN - FISH Thesaurus of Monument Types Field Boundary - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Field Boundary - MEDIEVAL - FISH Thesaurus of Monument Types Field Boundary - POST MEDIEVAL - FISH Thesaurus of Monument Types
Funder	
HER	Kent HER - unRev - STANDARD
Person Responsible for work	
HER Identifiers	
Archives	









AOC Archaeology Group, **Unit 7, St Margarets Business Centre,**

Moor Mead Road, Twickenham TW1 1JS

tel: **020 8843 7380** | fax: **020 8829 0549** | e-mail: **london@aocarchaeology.com**

AOC Archaeology Group

Appendix 4: List of Potential Cumulative Schemes

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (16/10/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
1	16/00125/AS	Land south of Captains Wood, Land at Cheesemans Green, Cheesemans Green Lane, Kingsnorth, Kent	Construction of 326 new dwellings with associated access, parking, landscaped areas including a neighbourhood play area, internal roads for the development, details of distributor roads E and F, Waterbrook Link Road, a district play area north of Captain's Wood and surface water drainage measures.	28/04/2016		Development underway	Non-material amendment submitted 2024	0.98 (SW)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
n/a	18/01822/AS	Land at Court Lodge, Pound Lane, Kingsnorth, Kent	Construction of up to 1000 new homes (C3), local centre comprising retail uses (up to 450 sqm A1-A5) flexible office space (up to 350 sqm B1) and community facilities including a primary school (2.4ha), a combined community hall and site management suite (upto 650 sqm D1). New means of vehicular accesses onto Pound Lane, Long Length, Magpie Hall Road, new pedestrian and cycle routes laying out of green infrastructure, including allotment gardens and areas if ecological habitats. Drainage infrastructure, earthworks and ancillary infrastructure. *Note this is an EIA application accompanied by an Environmental Statement.		19/12/2018	Not started	Determination level: planning committee. Pre-application discussions taken place in parallel with preparation of new Local Plan (which includes site as proposed allocation).	**3.69 (SW)**	Planning approval has not yet been granted for this scheme. It is dependent upon the outcome of the Local Plan, as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment
2a	18/00098/AS	Waterbrook Park, Waterbrook Avenue, Sevington, Kent	Hybrid planning application for mixed-use development comprising (1) application for full planning permission for the construction and operation of a 600-space truck stop; a 2,162 sqm GIA service building providing 1,734 sqm GIA of ancillary truck stop service facilities and 878 sqm GIA of B1 offices; buildings providing 6,308 sqm GIA B1 (b and c only), B2 and B8 floorspace for small and medium enterprises; associated access, parking and landscaping, including highway infrastructure works to Waterbrook Avenue and (2) Application for outline planning permission (with all matters reserved) for 8.9ha of employment uses comprising uses falling within use classes B1, B2 and B8, a class A1 superstore of up to 2,323 sqm, drive-through restaurants (use classes A3/A5), a petrol filling station and ancillary convenience store, and car showrooms (sui generis); and up to 400 residential dwellings, with class A1, A3 and A5 neighbourhood retail uses, associated drainage, parking, landscaping and infrastructure	17/04/2018		Development underway		0.8 (S)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
2b	PA/2024/0260	Waterbrook Park, Waterbrook Avenue, Sevington	Mixed-use application comprising 144 dwellings, a convenience/farm shop/cafe building, wetland area, landscaping, open space, drainage, parking, and other associated infrastructure with access from Waterbrook Avenue	09/10/2024		Not started	Determination level: Planning Committee (Resolution to Grant)		This RMA (Charter's Edge) is associated with the above **CUMULATIVE SCHEME** and will be considered in the EIA.
3	19/00025/AS	Land between railway line and, Willesborough Road, Kennington, Kent	(i) Outline planning permission (all matters reserved except for points of access) for up to 437 dwellings; formal and informal open space incorporating SuDS; and associated services, infrastructure and groundworks; and (ii) full planning permission for the erection of 288 dwellings; the creation of serviced plot of land to facilitate the delivery by Kent County Council of a two-form entry primary school with associated outdoor space and vehicle parking; a new Bowls Centre including a clubhouse of 292 sq m, ancillary buildings and a bowling green; a local centre to provide 280 sq m of A1 (retail), 180 sq m of A1 (retail foodstore) , 100 sqm A3 (café), 75 sq m A5 (takeaway), 190 sq m D2 (gym/fitness studio space), open space incorporating SuDS; vehicle parking; and associated services, structural landscaping, infrastructure and groundworks.	21/05/2020		Development underway		**2.9 (NW)**	It is understood that construction has commenced on site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
4	19/01476/AS	Newtown Railway Works, Newtown Road, Ashford, Kent, TN24 0PN	Detailed application for a mixed-use development comprising;- film/ TV Studios with associated post-production offices and workshop and media village (18,845 sqm) (Use Class B1); a hotel (Use Class C1) including ancillary space and circa 62 serviced apartments (Use Class C3) (max. 112m AOD); a multi-storey carpark (max. 62m AOD); change of use, internal and external alterations to the listed Locomotive Shed buildings, including	01/09/2020		Development underway		1.7 (W)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (16/10/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
			increasing the height by an additional two-storeys (max. 62m AOD), to provide flexible commercial floorspace (7,185 sqm) for use in connection with the film/TV studios (Use Class B1/ D1) including 265 sqm café (Use Class A3) and circa 302 residential units (Use Class C3) and internal parking spaces; change of use, internal and external alterations to listed Engine Shed building, including increasing the height by an additional two storeys (max.53m AOD) , to provide (2,605 sqm) flexible commercial space (Use Class B1/ D2/A3) and; change of use, internal and external alterations of the Paint Shop building, Acetylene Store and Clock Tower listed buildings to provide ancillary uses to the film/TV studios (Use Class B1); plus associated infrastructure including open space, landscape and public realm provision, external parking, servicing, pedestrian and vehicular access and associated engineering, utilities and infrastructure works.						
n/a	19/01597/AS	Home Plus, Beaver Road, Ashford, Kent, TN23 7RR	The erection of 216 residential units comprising 207 apartments and 9 townhouses (C3) and commercial floorspace comprising 3 commercial units (Units A, B and C) for a flexible range of uses (A1, A3, A4, A5, B1, D1 and D2) and roof top restaurant, with associated access and landscaping.		14/11/2019	Not started	Application status: under consultation. Determination level: delegated decision. Latest decision date: 16/10/2024	**2.8 (NW)**	Planning approval has not yet been granted for this scheme. The decision date is overdue (16/10/2024), as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment.
n/a	14/00906/AS	Land On The North Side Of, Highfield Lane, Sevington, Kent	Development to provide an employment led mixed use scheme, to include site clearance, the alteration of highways, engineering works and construction of new buildings and structures of up to 157,616 sq m comprising: up to 140,000 sq m Class B8 (storage and distribution) use; up to 23,500 sq m of B1a/B1c Business (of which a maximum of 20,000 sq m of B1a); up to 15,000 sq m of B2 (general industry); up to 250 sq m of A1 (retail shops) and 5,500 sq m of sui generis to accommodate Kent Wool Growers together with ancillary and associated development including utilities and transport infrastructure, car parking and landscaping.	13/09/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	16/01722/AS	Land between Hinxhill Road and, Hythe Road, Willesborough, Kent	Full planning application for a new link road to the rear of the William Harvey Hospital from the A20 and 192 dwellings together with associated open space, play equipment, landscaping, drainage, infrastructure and earthworks.	20/09/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	10/01277/AS	Land at Cheesemans Green, Cheesemans Green Lane, Kingsnorth, Kent	Construction of 245 new dwellings with associated parking, landscaped areas and internal roads for the residential development, amendments to Distributor Roads A and B, details of Distributor Road C and surface water drainage measures (Green Street phase)	14/08/2013		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	17/00354/AS	South Kent College, Jemmett Road, Ashford, Kent, TN23 4RJ	Reserved Matters application for the development of 160 dwellings together with access roads, footpaths, drainage, associated car/bicycle parking provision, groundworks, landscaping, open space and infrastructure (pursuant to outline approval 11/00405/AS)	23/05/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
5	18/00652/AS	Land south of Park Farm East, Hamstreet Bypass, Kingsnorth, Kent	Full planning application for 353 dwellings, new accesses from Finn Farm Road, Cheeseman's Green Lane and Brockman's Lane and creation of a T junction between Finn Farm Road and Rutledge Avenue. Creation of a new access serving 1, 3, 5, 7 and 9 Finn Farm Road. On site highway works together with associated parking, infrastructure, drainage, open space, landscaping and earthworks.	26/09/2019		Development underway		**2.45 (SW)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
6	12/01245/AS	Conningbrook, Willesborough Road, Kennington, Kent	Creation of a country park for recreational and water-sports purposes with a range of associated facilities including an activity centre, a public house/restaurant, change of use of Manor to offices, car parks and other ancillary works and structures including works to the Julie Rose Stadium; construction of 300 dwelling residential development with associated infrastructure	24/10/2014		Development underway	This constitutes the first phase of the development, phase 2 is outlined in Local Plan	1.7 (N)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (16/10/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
			and landscaping; and provision of an aggregates storage and distribution facility ** SUBJECT TO AN ENVIRONMENTAL IMPACT ASSESSMENT**						
7	22/00131/AS	Mineral Depot, Conningbrook, Willesborough Road, Kennington, Ashford, Kent, TN24 9QP	Outline application for residential development of up to 170no. dwellings including details of access (all other matters reserved for future consideration). AMENDED PLANS RECEIVED.	09/10/2024		Not started	Determination level: Planning Committee (Resolution to Grant)	**2.4 (N)**	A resolution to grant was made at the October 2024 planning committee. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
n/a	EN010135	Land at Aldington, southeast of Ashford in Kent	Stonestreet Green Solar. Solar photovoltaic array plus energy storage with associated infrastructure		11/06/2024	Not started	Pre-examination currently underway	**2.8 (SE)**	Planning approval has not yet been granted for this scheme. The NSIP application is currently undergoing pre-examination. As there is no certainty that this scheme will come forward, it is proposed that it is **EXCLUDED** from the cumulative assessment.
n/a	21/00298/AS	William Harvey Hospital, Kennington Road, Willesborough, Ashford, Kent, TN24 0LZ	Erection of a part two, part three-storey ITU (intensive treatment unit) building	31/03/2021		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	PA/2024/1087	Land north of M20 Coastbound south of, Kennington Road, Willesborough	Outline application for up to 180 dwellings with associated infrastructure, engineering works, and open space with all matters reserved except for access from Kennington Road		12/06/2024	Not started	Determination level: Planning Committee	1.8 (NW)	Planning approval has not yet been granted for this scheme. The decision date is overdue (17/09/2024), as such there is no certainty that this scheme will come forward. As such, it is proposed that this scheme is **EXCLUDED** from the cumulative assessment.
n/a	PA/2022/2772	Land south of Asda, Kimberley Way, Ashford	Application for outline planning permission for up to 46,000 sqm of employment floorspace (Use Class E and B2) with all matters reserved except access (excluding internal circulation routes and links to pedestrian and cycle network) and change of use of land to parkland including flood storage area.		31/10/2022	Not started	Determination level: Planning Committee	**2.1 (W)**	Planning approval has not yet been granted for this scheme. The decision date is overdue (30/04/2024), as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment.

Appendix 2.2

Further Evidence for Scoping

[redacted]

From: [redacted]
Sent: 18 December 2024 17:08
To: [redacted]
Cc: [redacted]
Subject: Sevington - EIA Scoping Meeting - Applicant Responses (Cumulative Schemes) [Filed 18 Dec 2024 17:08]
Attachments: 023_List of Potential Cumulative Schemes_P02.02.docx

Categories: Filed by Mail Manager

Hi [redacted]

Following on from my email yesterday, and in line with the comments made in the draft EIA Scoping Review, please find attached the updated list of potential cumulative schemes (P02.02). This list has been updated to reflect:

- a request to extend the search area, for potential cumulative schemes, from 2km to 5km from the Sevington IBF site boundary;
- those planning applications which have been submitted, but not yet approved, subject to them being considered by ABC as being 'reasonably foreseeable'.

Would politely request agreement on the list of cumulative schemes, and in particular, ABC's determination on those schemes they consider to be reasonably foreseeable.

Kind regards

[redacted]
Principal Consultant (EIA)
Waterman Infrastructure & Environment Ltd
[redacted]

From: [redacted]
Sent: 17 December 2024 11:59
To: [redacted]
Cc: [redacted]
Subject: Sevington - EIA Scoping Meeting - Applicant Responses [Filed 17 Dec 2024 11:59]

Hi [redacted]

Thank you both for your time yesterday afternoon, it was helpful to chat through some of the points raised in the draft Scoping Review Report. The table below sets out the Applicant's response to the points discussed and what was subsequently agreed.

Section / Paragraph of the Draft EIA Scoping Review Report	Temple Request	Applicant Response
Sub-section 3.3: Construction Information		
Para 3.3.1	It is understood that the construction phase effects were considered and assessed as part of the SDO application. The Scoping Report makes reference to these reports in Appendix 2; however, these were not available at the time of this review.	The EIA Scoping Report that was submitted to ABC was inclusive of the environmental reports, providing the construction and operational assessments, for the SDO application (Appendix 2). It was subsequently understood that ABC did not provide Temple with the documents within Appendix 2 as some of the reports being shared have been redacted on account of them containing confidential content. However for the record, ABC confirmed that Appendix 2 had been submitted and received with the EIA Scoping Request Report. Temple confirmed that it had reviewed the EIA Scoping, and responded in good faith that the construction assessment would be appended to the ES. Waterman confirmed that the EIA Scoping Request Report will be appended to the ES, together with the EIA Scoping Opinion (including the Scoping Review Report). Temple confirmed that it was now in receipt of some redacted reports, from Appendix 2, but not all. It was discussed and agreed that, in the interest of time and budget, the redacted reports would not be reviewed. Instead, Temple agreed to review the wording in the draft Scoping Review report to acknowledge that Appendix 2 of the Scoping Request was not missing, but would be appended to the ES, within the EIA Scoping Request Report.
Para 3.3.2	As no additional construction effects are anticipated as a result of the Development, the Applicant proposes to scope out the assessment of construction impacts. Since construction assessments were submitted for the SDO application, this approach is considered sensible. However, the Applicant should ensure that these reports are appended to the ES and include a summary of their findings (i.e. the identified construction effects) within the body of the ES.	
Sub-section 4.5: Cumulative Effects		
Para 4.5.1	As there may be schemes that were brought forward since the baseline year (2019 at the earliest), committed development for which construction began in 2019 / 202 should be included in the baseline conditions. The committed developments to be included in the cumulative assessment should comprise all schemes that have either:	As discussed and agreed, there is no certainty regarding the planning applications where no permission or S106 / Resolution to Grant has been given. To include those applications that have been submitted, but no decision made, could potentially skew the cumulative / future baseline assessment. Those scheme which are considered to be 'reasonably foreseeable' would be included. ABC

	• Been approved through the planning system post-2020 or prior to this where construction is not yet substantially progressed; or • Are currently being considered in the planning system.	should confirm / identify schemes, currently in planning, that it considers to be reasonable and foreseeable. ***'Reasonably foreseeable'*** *is interpreted to include other projects that are 'committed'. These should include (but not necessarily be limited to) development projects with valid planning permissions as granted by the Local Planning Authority, and for which formal EIA is a requirement or for which non-statutory environmental impact assessment has been undertaken, but the projects have not been constructed.*
Para 4.5.2	The Scoping Report correctly identifies the thresholds for developments with a great enough magnitude to warrant inclusion within the cumulative assessment. However, the distance of potential cumulative schemes to be considered has been noted as between 2 km and 4 km. It is advised that the ES considers schemes within a 5 km radius to the Site due to the semi-rural nature of the area.	This is accepted – a 5km radius will be adopted.
Para 4.5.4	It is noted that the Applicant proposes to only consider schemes that are existing and / or approved. In order for the list to remain up to date at the time of submission, submitted applications for up to two years prior to the submission of the planning application should be considered	It is accepted that the list of potential cumulative schemes will be reviewed and will include applications made within the last 2 years to submission. As set out above, a scheme will only be considered if it has been granted planning permission, has a resolution to grant, or is considered reasonably foreseeable by the ABC.
Para 4.5.6	The Applicant should additionally include the following schemes: • OTH/2022/2589 - Former Gas Works Site, Gasworks Lane, Ashford, Kent. • OTH/2024/0427 - Land north of M20 Coastbound south of, Kennington Road, Willesborough	Consideration has been given to the additional schemes suggested: • **OTH/2022/2589** - Former Gas Works Site, Gasworks Lane, Ashford, Kent – this is a request for an EIA Screening Opinion (October 2022). ABC determined that an EIA would not be required. It is understood that a planning application has not been made in the intervening period. As such, this is not considered to be a reasonably foreseeable development and is therefore **EXCLUDED** from the assessment of cumulative effects. Furthermore, the EIA Screening Report contains scant information regarding the detail of the proposals

		making it difficult to undertake an assessment of the cumulative effects. • **OTH/2024/0427** - Land north of M20 Coastbound south of, Kennington Road, Willesborough – this is a request for an EIA Screening Opinion (February 2024), which ABC determined would not require an EIA. A planning application was submitted in June 2024 (PA/2024/1087) and is currently under consultation (decision overdue), together with a second associated application (PA/2024/1146). This scheme is included on the list of potential cumulative schemes but was initially discounted on grounds of it not having permission or a resolution to grant. **We would request that ABC confirm whether it considers this scheme to be 'reasonably foreseeable' (for the purpose of the cumulative assessment).**
Sub-section 5.8: Landscape and Visual		
Change to approach	n/a	As discussed with Temple, it has not been possible to obtain the baseline views and / or photography referred to in the LVIA for the SDO application. As such, Waterman have suggested an alternative approach to that proposed within the EIA Scoping Request Report - to use the baseline photography for the Stour Park outline application. A review of the viewpoint locations has revealed that many of the SDO viewpoint locations align with those included for Stour Park. Whilst the Stour Park baseline images date to 2015, they are considered to provide sufficient representation of the baseline views likely to have existing in 2019/2020 (pre-IBF). Without fixed co-ordinates of the Stour Park viewpoints, best efforts have been made to obtain current day representative views from the same positions to enable comparison and assessment.
Para 5.8.9	Whilst viewpoint locations are listed in the Scoping Report, there is no reference to accurate visual representations (AVRs) being prepared for inclusion within the ES. It is expected that AVRs will be	No AVRs were proposed, given that the IBF is built and operational. The current baseline photography, for the representative viewpoints, have been taken with the built scheme in place -

	included in the ES; the AVRs should be produced at a level of detail appropriate to the particular view in question. The presentation of AVRs should reference the latest Landscape Institute Guidance on visualisations (TGN 06/19) and should include a detailed description of the AVR production methodology.	therefore negating the need to produce AVR images.

Should you have any questions or queries following review of the above, please do not hesitate to give me a call.

Kind regards

[redacted]
MA, BSc, PIEMA
Principal Consultant (EIA)
Waterman Infrastructure & Environment Ltd

6th Floor | Trinity Court | 16 John Dalton Street | Manchester M2 6HY
t[redacted]

[redacted]

Appendix 2.3: List of Potential Cumulative Schemes

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (18/12/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
1	16/00125/AS	Land south of Captains Wood, Land at Cheesemans Green, Cheesemans Green Lane, Kingsnorth, Kent	Construction of 326 new dwellings with associated access, parking, landscaped areas including a neighbourhood play area, internal roads for the development, details of distributor roads E and F, Waterbrook Link Road, a district play area north of Captain's Wood and surface water drainage measures.	28/04/2016		Development underway	Non-material amendment submitted 2024	0.98 (SW)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	18/01822/AS	Land at Court Lodge, Pound Lane, Kingsnorth, Kent	Construction of up to 1000 new homes (C3), local centre comprising retail uses (up to 450 sqm A1-A5) flexible office space (up to 350 sqm B1) and community facilities including a primary school (2.4ha), a combined community hall and site management suite (upto 650 sqm D1). New means of vehicular accesses onto Pound Lane, Long Length, Magpie Hall Road, new pedestrian and cycle routes laying out of green infrastructure, including allotment gardens and areas if ecological habitats. Drainage infrastructure, earthworks and ancillary infrastructure. *Note this is an EIA application accompanied by an Environmental Statement.		19/12/2018	Not started	Determination level: planning committee. Pre-application discussions taken place in parallel with preparation of new Local Plan (which includes site as proposed allocation).	**3.69 (SW)**	Planning approval has not yet been granted for this scheme. The decision date (09/10/2024) and consultation deadline date (12/11/2024) are both overdue. It is dependent upon the outcome of the Local Plan, as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment [ABC to confirm whether this should be considered 'reasonably foreseeable]
2a	18/00098/AS	Waterbrook Park, Waterbrook Avenue, Sevington, Kent	Hybrid planning application for mixed-use development comprising (1) application for full planning permission for the construction and operation of a 600-space truck stop; a 2,162 sqm GIA service building providing 1,734 sqm GIA of ancillary truck stop service facilities and 878 sqm GIA of B1 offices; buildings providing 6,308 sqm GIA B1 (b and c only), B2 and B8 floorspace for small and medium enterprises; associated access, parking and landscaping, including highway infrastructure works to Waterbrook Avenue and (2) Application for outline planning permission (with all matters reserved) for 8.9ha of employment uses comprising uses falling within use classes B1, B2 and B8, a class A1 superstore of up to 2,323 sqm, drive-through restaurants (use classes A3/A5), a petrol filling station and ancillary convenience store, and car showrooms (sui generis); and up to 400 residential dwellings, with class A1, A3 and A5 neighbourhood retail uses, associated drainage, parking, landscaping and infrastructure	17/04/2018		Development underway		0.8 (S)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
2b	PA/2024/0260	Waterbrook Park, Waterbrook Avenue, Sevington	Mixed-use application comprising 144 dwellings, a convenience/farm shop/cafe building, wetland area, landscaping, open space, drainage, parking, and other associated infrastructure with access from Waterbrook Avenue	09/10/2024		Not started	Determination level: Planning Committee (Resolution to Grant)		This RMA (Charter's Edge) is associated with the above **CUMULATIVE SCHEME** and will be considered in the EIA.
3	19/00025/AS	Land between railway line and, Willesborough Road, Kennington, Kent	(i) Outline planning permission (all matters reserved except for points of access) for up to 437 dwellings; formal and informal open space incorporating SuDS; and associated services, infrastructure and groundworks; and (ii) full planning permission for the erection of 288 dwellings; the creation of serviced plot of land to facilitate the delivery by Kent County Council of a two-form entry primary school with associated outdoor space and vehicle parking; a new Bowls Centre including a clubhouse of 292 sq m, ancillary buildings and a bowling green; a local centre to provide 280 sq m of A1 (retail), 180 sq m of A1 (retail foodstore) , 100 sqm A3 (café), 75 sq m A5 (takeaway), 190 sq m D2 (gym/fitness studio space), open space incorporating SuDS; vehicle parking; and associated services, structural landscaping, infrastructure and groundworks.	21/05/2020		Development underway		**2.9 (NW)**	It is understood that construction has commenced on site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
4	19/01476/AS	Newtown Railway Works, Newtown Road, Ashford, Kent, TN24 0PN	Detailed application for a mixed-use development comprising;- film/ TV Studios with associated post-production offices and workshop and media village (18,845 sqm) (Use Class B1); a hotel (Use Class C1) including ancillary space and circa 62	01/09/2020		Development underway		1.7 (W)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (18/12/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
			serviced apartments (Use Class C3) (max. 112m AOD); a multi-storey carpark (max. 62m AOD); change of use, internal and external alterations to the listed Locomotive Shed buildings, including increasing the height by an additional two-storeys (max. 62m AOD), to provide flexible commercial floorspace (7,185 sqm) for use in connection with the film/TV studios (Use Class B1/ D1) including 265 sqm café (Use Class A3) and circa 302 residential units (Use Class C3) and internal parking spaces; change of use, internal and external alterations to listed Engine Shed building, including increasing the height by an additional two storeys (max.53m AOD) , to provide (2,605 sqm) flexible commercial space (Use Class B1/ D2/A3) and; change of use, internal and external alterations of the Paint Shop building, Acetylene Store and Clock Tower listed buildings to provide ancillary uses to the film/TV studios (Use Class B1); plus associated infrastructure including open space, landscape and public realm provision, external parking, servicing, pedestrian and vehicular access and associated engineering, utilities and infrastructure works.						considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	19/01597/AS	Home Plus, Beaver Road, Ashford, Kent, TN23 7RR	The erection of 216 residential units comprising 207 apartments and 9 townhouses (C3) and commercial floorspace comprising 3 commercial units (Units A, B and C) for a flexible range of uses (A1, A3, A4, A5, B1, D1 and D2) and roof top restaurant, with associated access and landscaping.		14/11/2019	Not started	Application status: under consultation. Determination level: delegated decision. Latest decision date: 16/10/2024	**2.8 (NW)**	Planning approval has not yet been granted for this scheme. The decision date is overdue (16/10/2024), as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment. [ABC to confirm whether this should be considered 'reasonably foreseeable]
n/a	14/00906/AS	Land On The North Side Of, Highfield Lane, Sevington, Kent	Development to provide an employment led mixed use scheme, to include site clearance, the alteration of highways, engineering works and construction of new buildings and structures of up to 157,616 sq m comprising: up to 140,000 sq m Class B8 (storage and distribution) use; up to 23,500 sq m of B1a/B1c Business (of which a maximum of 20,000 sq m of B1a); up to 15,000 sq m of B2 (general industry); up to 250 sq m of A1 (retail shops) and 5,500 sq m of sui generis to accommodate Kent Wool Growers together with ancillary and associated development including utilities and transport infrastructure, car parking and landscaping.	13/09/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	16/01722/AS	Land between Hinxhill Road and, Hythe Road, Willesborough, Kent	Full planning application for a new link road to the rear of the William Harvey Hospital from the A20 and 192 dwellings together with associated open space, play equipment, landscaping, drainage, infrastructure and earthworks.	20/09/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	10/01277/AS	Land at Cheesemans Green, Cheesemans Green Lane, Kingsnorth, Kent	Construction of 245 new dwellings with associated parking, landscaped areas and internal roads for the residential development, amendments to Distributor Roads A and B, details of Distributor Road C and surface water drainage measures (Green Street phase)	14/08/2013		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
n/a	17/00354/AS	South Kent College, Jemmett Road, Ashford, Kent, TN23 4RJ	Reserved Matters application for the development of 160 dwellings together with access roads, footpaths, drainage, associated car/bicycle parking provision, groundworks, landscaping, open space and infrastructure (pursuant to outline approval 11/00405/AS)	23/05/2017		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
5	18/00652/AS	Land south of Park Farm East, Hamstreet Bypass, Kingsnorth, Kent	Full planning application for 353 dwellings, new accesses from Finn Farm Road, Cheeseman's Green Lane and Brockman's Lane and creation of a T junction between Finn Farm Road and Rutledge Avenue. Creation of a new access serving 1, 3, 5, 7 and 9 Finn Farm Road. On site highway works together with	26/09/2019		Development underway		**2.45 (SW)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (18/12/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
			associated parking, infrastructure, drainage, open space, landscaping and earthworks.						
6	12/01245/AS	Conningbrook, Willesborough Road, Kennington, Kent	Creation of a country park for recreational and water-sports purposes with a range of associated facilities including an activity centre, a public house/restaurant, change of use of Manor to offices, car parks and other ancillary works and structures including works to the Julie Rose Stadium; construction of 300 dwelling residential development with associated infrastructure and landscaping; and provision of an aggregates storage and distribution facility ** SUBJECT TO AN ENVIRONMENTAL IMPACT ASSESSMENT**	24/10/2014		Development underway	This constitutes the first phase of the development, phase 2 is outlined in Local Plan	1.7 (N)	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
7	22/00131/AS	Mineral Depot, Conningbrook, Willesborough Road, Kennington, Ashford, Kent, TN24 9QP	Outline application for residential development of up to 170no. dwellings including details of access (all other matters reserved for future consideration). AMENDED PLANS RECEIVED.	09/10/2024		Not started	Determination level: Planning Committee (Resolution to Grant)	**2.4 (N)**	A resolution to grant was made at the October 2024 planning committee. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
n/a	EN010135	Land at Aldington, southeast of Ashford in Kent	Stonestreet Green Solar. Solar photovoltaic array plus energy storage with associated infrastructure		11/06/2024	Not started	Pre-examination currently underway	**2.8 (SE)**	Planning approval has not yet been granted for this scheme. The NSIP application is currently undergoing pre-examination. As there is no certainty that this scheme will come forward, it is proposed that it is **EXCLUDED** from the cumulative assessment.
n/a	21/00298/AS	William Harvey Hospital, Kennington Road, Willesborough, Ashford, Kent, TN24 0LZ	Erection of a part two, part three-storey ITU (intensive treatment unit) building	31/03/2021		Development complete			This scheme is complete and operational, it forms part of the **BASELINE** and, for this reason, is **EXCLUDED** from the cumulative assessment.
TBC	PA/2024/1087	Land north of M20 Coastbound south of, Kennington Road, Willesborough	Outline application for up to 180 dwellings with associated infrastructure, engineering works, and open space with all matters reserved except for access from Kennington Road		12/06/2024	Not started	Determination level: Planning Committee	1.8 (NW)	Planning approval has not yet been granted for this scheme. The decision date has been extended (21/02/2025), as such there is no certainty that this scheme will come forward. As such, it is proposed that this scheme is **EXCLUDED** from the cumulative assessment. [ABC to confirm whether this should be considered 'reasonably foreseeable]
TBC	PA/2022/2772	Land south of Asda, Kimberley Way, Ashford	Application for outline planning permission for up to 46,000 sqm of employment floorspace (Use Class E and B2) with all matters reserved except access (excluding internal circulation routes and links to pedestrian and cycle network) and change of use of land to parkland including flood storage area.		31/10/2022	Not started	Determination level: Planning Committee	**2.1 (W)**	Planning approval has not yet been granted for this scheme. The decision date has been extended (21/02/2025), as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment. [ABC to confirm whether this should be considered 'reasonably foreseeable]
ADDITIONAL POTENTIAL CUMULATIVE SCHEMES IDENTIFIED FOLLOWING RECEIPT OF THE DRAFT EIA SCOPING REVIEW REPORT (10/12/2024)									
n/a	OTH/2022/2589	Former Gas Works Site, Gasworks Lane, Ashford, Kent	Request for an Environmental Impact Assessment Screening Opinion under Regulation 6(1) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) for a project of up to 660 apartments and 700sqm of commercial space.	21/10/2022			ABC determined that the development would not require an EIA. No planning application submitted to date.		The EIA Screening Opinion was provided in 2022. No planning application has been brought forward, as such there is no certainty that this scheme will come forward. As such, it is proposed that this scheme is

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (18/12/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
									EXCLUDED from the cumulative assessment.
TBC	19/01701/AS	Land east of Ham Street By-Pass and south west of, Brockmans Lane, Kingsnorth	Outline planning application for residential development of up to 100 dwellings with all matters reserved except for the main access point off Brockmans Lane into the site.		03/12/2019	Not started	Determination level: Planning Committee	**3.4 (SW)**	Planning approval has not yet been granted for this scheme. The decision date (12/12/2024) is overdue, as such there is no certainty that this scheme will come forward. It is proposed that this scheme is **EXCLUDED** from the cumulative assessment. [ABC to confirm whether this should be considered 'reasonably foreseeable]
TBC	PA/2022/2851	Land East of Ashford Road, Kingsnorth	Outline application for up to 15 dwellings, a replacement Medical Centre and Pharmacy, together with all necessary infrastructure to consider access.	26/10/2023		Not started	Planning consent granted on appeal (ref APP/E2205/W/23/3322574)	**4.1 (SW)**	Granted on appeal, as such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	15/00856/AS	Land at Pound Lane, Magpie Hall Road, Bond Lane and, Ashford Road, Kingsnorth, Kent	Outline application for a development comprising of up to 550 dwellings in a mix of size, type and tenure. Provision of local recycling facilities. Provision of areas of formal and informal open space. Installation of utilities, infrastructure to serve the development including flood attenuation, surface water attenuation, water supply, waste water facilities, gas supply, electricity supply (including sub-station, telecommunications infrastructure and renewable energy). Transport infrastructure including highway improvements in the vicinity of Ashford Road/Magpie Hall Road/Steeds Lane, Pound Lane and Bond Lane, plus an internal network of roads and junctions, footpaths and cycle routes. New planting and landscaping both within the proposed development and on its boundaries as well as ecological enhancement works. Associated groundworks.	06/11/2023		Not started	Planning consent granted on appeal (ref APP/E2205/W/23/3320146)	**4.1 (SW)**	Granted on appeal, as such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	19/01032/AS	Parcel R, Land at Chilmington Green, Ashford Road, Great Chart, Kent	Reserved matters for the development of 82 residential dwellings within Parcel R, Main Phase AAP 1 including associated roads, parking, landscaping, open space and infrastructure pursuant to outline permission granted under 12/00400/AS.	04/05/2020		Development underway		**4.9 (W)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	15/01671/AS	Former Powergen site, Victoria Road, Ashford, Kent	Hybrid application for five plots comprising: (1) Full and detailed application for plots 1 and 2 comprising: erection of 400 dwellings, a retail kiosk/cafe unit (Use class A1/A3) and associated parking, public surface car park, plant and storage; together with landscaping and access works. (2) Outline application with appearance and landscaping reserved with parameters for plots 3, 4 and 5 comprising: demolition of existing buildings/structures and erection of up to 260 dwellings, associated parking, plant and storage together with landscaping and access works.	24/11/2016		Development underway		**3.8 (NW)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	15/01282/AS	Land opposite, 1-8 Elwick Road, Ashford, Kent	Outline application for residential development of up to 200 units within Class C2 (residential institution) and Class C3 (dwellinghouses) uses and associated access arrangements (Phase 2).	22/02/2019		Development underway		**3.5 (NW)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.
TBC	12/00400/AS	Land at Chilmington Green, Ashford Road, Great Chart, Kent	Outline application for a Comprehensive Mixed-Use Development comprising: Up to 5,750 residential units, in a mix of sizes, types and tenures; Up to 10,000 m² (gross external floor space) of Class Bl use; Up to 9,000 m² (gross external floorspace) of Class Al to A5 uses;	06/01/2017		Development underway	Reserved matters application 22/00024/AS received on 10/01/2022. Determination level: delegated decision. Latest decision date is overdue (15/11/2024)	**5 (W)**	There is ongoing construction at the site, with completion likely at a date beyond December 2025. As such this scheme will be considered as a **CUMULATIVE SCHEME** in the EIA.

Item No.	Planning Reference	Address	Description of Development	Date Approved	Date Received (if not approved)	Development Progress (18/12/2024)	Comments	Approximate Distance & Direction from the Application Site (km)	Will this Potential Cumulative Scheme be considered within the EIA
			Education (including a secondary school of up to 8 ha and up to four primary schools of up to 2.1 ha each); Community Uses (class DI) up to 7,000 m² (gross external floorspace); Leisure Uses (class D2) up to 6,000 m² (gross external floorspace); Provision of local recycling facilities; Provision of areas of formal and informal open space; Installation of appropriate utilities infrastructure as required to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure (including CHP in the District Centre); Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road I Cuckoo Lane, other connections on to the local road network, and a network of internal roads, footpaths and cycle routes; New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and Associated groundworks.						

Appendix 2.3

EIA Scoping Opinion

19 December 2024

[redacted]
JLL
30 Warwick Street
London
W1B 5NH

Civic Centre
Tannery Lane
Ashford
Kent TN23 1PL
01233 331111
www.ashford.gov.uk

NOTIFICATION OF DECISION OF THE LOCAL PLANNING AUTHORITY

Case Reference	**OTH/2024/2051**
Site Address	**Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE**
Proposal	**Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)**

DECISION: The Local Planning Authority ADOPTS the Environmental Impact Assessment Scoping Report Review dated 19th December 2024 by Temple Group as its formal scoping opinion.

Signed

[redacted]
Assistant Director - Planning and Development

Ashford Borough Council

EIA Scoping Report Review

Sevington Border Facility

19th December 2024

EIA SCOPING REPORT REVIEW

temple

Prepared for:

[redacted]

Ashford Borough Council

Civic Centre
Tannery Lane
Ashford
TN23 1PL

Prepared by:

[redacted]

Senior Consultant

Temple Chambers
3-7 Temple Avenue
London
EC4Y 0DT

www.templegroup.co.uk

Document Control

Version No.	Date	Author	Reviewed	Approved
D1.0	29/11/2024	[redacted]	[redacted]	[redacted]
D1.1	9/12/2024	[redacted]	[redacted]	[redacted]
V1.0	19/12/2024	[redacted]	[redacted]	[redacted]

Contents

1 Introduction

1.1 Document Overview

1.1.1 Temple Group Limited ('Temple') has been commissioned by Ashford Borough Council (ABC) to review the EIA Scoping Report submitted in support of a request for a Scoping Opinion.

1.1.2 During this formal process, statutory consultees will be consulted in line with the process set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (hereafter referred to as the 'EIA Regulations').

1.1.3 The EIA Regulations require that for certain planning applications, an Environmental Impact Assessment (EIA) is undertaken, and an Environmental Statement (ES) produced. EIA is a procedure which serves to provide information about the likely effects of proposed projects on the environment, so as to inform the process of decision making as to whether the development should be allowed to proceed, and if so, on what terms (Carroll and Turpin, 2009).

1.1.4 Schedule 1 of the EIA Regulations lists developments that always require EIA, and Schedule 2 lists developments that may require EIA if it is considered that they could give rise to significant effects by virtue of factors such as its nature, size or location.

1.1.5 Where a proposed development is determined to be an 'EIA development', the Applicant can ask the relevant planning authority for advice on the scope of the EIA (an EIA Scoping Opinion). This would be informed by consultation with statutory consultees.

1.1.6 The Applicant is intending to submit a full planning application for the retention of the existing Inland Border Facility and Border Control Post (IBF) which comprises: goods vehicle parking for up to 855 vehicles, including 42 entry lanes with a capacity of up to 260 goods vehicles, 24 refrigerated semi-trailers and 357 staff car parking spaces; border checking facilities; security fencing; noise attenuation bunds and fences; CCTV and lighting columns; drainage; and all associated engineering and landscaping works.

1.1.7 This report sets out the findings of Temple's review of the Scoping Report. The report outlines Temple's opinion of the proposed scope of the EIA (based on the information that has been provided to date) and identifies any suggested amendments or concerns.

1.1.8 The issue of the Scoping Opinion does not prevent the planning authority from requesting 'further information' at a later stage under Regulation 25 of the EIA Regulations.

1.1.9 No indication of the likely success of an application for planning permission for the Proposed Development is implied in the expression of this Scoping Report Review.

1.1.10 Matters and topic chapters are not scoped out unless confirmed as being scoped out by ABC. Where ABC has not agreed to scope out certain matters or topics, it is considered that their may be some flexibility in this and the Applicant may be able to subsequently agree with relevant consultees that matters can be scoped out of the ES, where further evidence has been provided to justify this approach. However, the ES should clearly explain the reasoning for scoping out such matters and justify the approach taken.

2 Consultation

2.1.1 The EIA Regulations require that local planning authorities consult relevant stakeholders prior to issuing a Scoping Opinion. Responses have been received from the following stakeholders:

- ABC Transport;
- KCC Highways & Transportation;
- KCC PROW;
- KCC Heritage Conservation;
- KCC Ecology;
- KCC Flood Authority;
- KCC Minerals & Waste;
- The Environment Agency; and
- National Highways.

2.1.2 Where relevant to the scope of the ES, the responses received are discussed within the main text of this report under each relevant topic section. A complete set of responses for consideration by the Applicant is appended to this report in **Appendix A**.

3 The Proposed Development and Site Context

3.1 The Site

3.1.1 The Site is 48 hectares (ha) and is situated within Ashford and is bound to the north by the A2070; to the east by greenfield space which is additional land owned by the Applicant; to the south by a railway line and to the west by St Mary's Church with the A2070 beyond.

3.1.2 The Site currently comprises the temporary and operational Sevington Inland Boarder Facility, split by a strip of landscaping into a northern and southern parcel. It is understood that the Site comprises a mixture of landscaped and hardstanding areas, with the hardstanding consisting of the internal road network and parking facilities. The only build forms on-site are the 'Inland Border Facility' toward the south of the northern parcel and the 'Border Control Point' toward the west of the southern parcel.

3.1.3 The Applicant has helpfully provided a narrative on the planning history of the Site from the previous 'Stour Park' permissions (Outline and Phase 1A of the Reserved Matters Application) before the land was acquired under a Special Development Order (SDO).

3.1.4 It is understood that pre-development site conditions will be used as the baseline for each topic chapter. This would include the Site with the implementation of the Phase 1A works, which comprises:

The estate roads, the Sustainable Urban Drainage systems (SUDS) (embedded within open space) and the landscaping and layout of that open space (including measures specifically designed for ecological/biodiversity enhancement purposes within that open space) pursuant to the extant planning permission (reference 19/00579/AS) which were already in place prior to the Inland Border Facility (IBF).

3.1.5 This is agreed. While it would be useful to understand how far progressed the Phase 1A works were before the land was acquired by the Applicant, the proposed baseline is accepted as it will be supported with the SDO 2020 reports.

3.2 The Development

3.2.1 The Applicant is intending to submit a full planning application for the retention of the existing Inland Border Facility and Border Control Post (IBF) which would result in the facility becoming permanent, as under the current SDO the permission would expire in December 2025.

3.2.2 It is understood that the IBF comprises: goods vehicle parking for up to 855 vehicles, including 42 entry lanes with a capacity of up to 260 goods vehicles, 24 refrigerated semi-trailers and 357 staff car parking spaces; border checking facilities; security fencing; noise attenuation bunds and fences; CCTV and lighting columns; drainage; and all associated engineering and landscaping works.

3.2.3 The Scoping Report states that the IBF will continue to be used as a HGV parking and border check facility for a variety of governing bodies including Her Majesty's Government (HMG); DfT; HMRC including Border Force as its operational agent; and Defra, including the Port Health Authority (PHA) and Animal and Plant Health Agency (APHA).

3.2.4 Building footprints and heights have been provided for the built forms on-site and it is clearly stated that all buildings and structures do not exceed 12 m in height. Security fencing has a maximum height of 2.1 m, noise attenuation bunds and fences has a maximum height of 5 m and lighting columns have a maximum height of 12 m.

3.2.5 Vehicle access will be retained as per the existing access points, with staff vehicles entering and exiting via the A2070 (Bad Munstereifel Road) and Church Road in the southwestern corner of the Site. HGV primary and secondary access points are provided towards the north, connecting to the A2070 link road which feeds directly onto the M20.

3.2.6 The description of the Development as set out in the Scoping Report is sufficient to determine the potential for effects of the scheme for the purposes of agreeing the scope of the assessment.

3.3 Construction Information

3.3.1 It is understood that the construction phase effects were considered and assessed as part of the SDO application and these are to be provided as part of the ES appendices, within the Scoping Report appendix.

3.3.2 As no additional construction effects are anticipated as a result of the Development, the Applicant proposes to scope out the assessment of construction impacts. Since construction assessments were submitted for the SDO application, this approach is considered sensible. However, the Applicant should include a summary of their findings (i.e. the identified construction effects) within the body of the ES and signpost where in the appendices these reports can be found.

3.3.3 On the assumption that the above is provided within the ES, the approach outlined in the Scoping Report is agreed and construction phase impacts can be scoped out of individual topic chapters.

4 Approach to EIA and Methodology

4.1 Compliance and Regulations

4.1.1 The Scoping Report is compliant with Regulation 15 of the EIA Regulations 2017, in that it provides:

- A plan sufficient to identify the land;
- A brief description of the nature and purpose of the development and its possible effects on the environment; and
- An explanation of the likely significant effects of the development on the environment.

4.2 Approach to the EIA

4.2.1 Section 4 of the Scoping Report outline the general approach to the EIA. The Applicant proposes to only assess the operational phase effects and scope out construction phase effects. As stated above, this approach is agreed as the construction assessment reports will be appended to the ES Scoping Report appendix and a summary of their findings (i.e. the identified construction effects) is to be included within the main body of the ES.

4.2.2 It is understood that the baseline will assume a 'pre-development' baseline for the Site (which comprises the years 2019/2020) utilising pre-development surveys and studies completed in relation to the SDO application. The Scoping Report notes that the baseline will comprise:

- Extant planning permission (Phase 1A) – including the estate roads, the Sustainable Urban Drainage systems (SuDS) and the landscaping / layout of the open space (inclusive of measures designed for ecological/biodiversity enhancement) pursuant to the extant planning permission for the Site (planning reference: 19/00579/AS); and
- Environmental conditions presented in the SDO reports (2020).

4.2.3 While it is agreed that this would be an appropriate baseline broadly, specific topics will need to individually consider their baseline considerations. This has been discussed further in **Section 5** of this review.

4.2.4 The Applicant must ensure all guidance used is relevant, up to date and clearly referenced. A reference list detailing the sources used for the descriptions and assessments must be included in the ES.

4.2.5 In accordance with Schedule 4 (3) of the EIA Regulations, the ES should consider how the environmental baseline would have been likely to evolve if the

Development did not proceed i.e. the future baseline. It is reasonable to assume that the future baseline would have consisted of the implementation of the extant permissions and therefore it is important that the ES provides a comparison of the impacts between the Stour Park proposed development and the Development currently onsite.

4.2.6 The ES will assess design information, including a description of the Development, plans, planning application drawings and accompanying area and accommodation schedules. Furthermore, this will include the assessment of any 'associated development' that will be required for the continued operations of the IBF.

4.2.7 The ES must include a reference list that clearly states which documents / figures / drawings have been relied upon for the description and assessment included in the ES, and where these are located. It is also important for the ES to stipulate whether the information relied upon is for approval, or if it is for information purposes only (e.g. Design and Access Statement (DAS)). This is important so that the reader is aware of what is secured through the planning application, and what would need to be secured through a planning condition and / or financial contribution.

4.2.8 The Scoping Report confirms that significance will be based on relevant criteria which may include magnitude, duration, permanence, nature, whether the effect occurs in isolation, cumulative or interactive, performance against relevant standards, sensitivity and compatibility with relevant policies. The Applicant identifies the methodology in which these will be used to determine significance which stems from relevant guidance for technical chapters where appropriate. It is advised that the Applicant presents this information within the ES in the form of a matrix. Any topics that deviate from this methodology should be explained in the relevant topic chapters. A minor, moderate and major level of significance should be considered.

4.2.9 It is the reviewer's preference that a list of all sensitive receptors is provided within the ES.

4.3 Spatial and Temporal Scope

4.3.1 The study area for each topic should be clearly stated in the ES and fully justified. This should be supported by a figure for ease of understanding. It is noted that the study area for matters assessed within each topic may differ; where this applies, it should be clearly stated.

4.3.2 The temporal scope will include the operational phase of the Development as this is agreed, provided that the construction phase assessments are appended

to the ES Scoping Report appendix and a summary of their findings is included within the body of the ES.

4.4 Requirements of the EIA Regulations

4.4.1 The ES, as proposed within the Scoping Report, would meet the requirements of the EIA Regulations.

4.4.2 The ES should include statements of competence which will identify individual team members responsible for each topic section and their experience.

4.5 Cumulative Effects

4.5.1 As there may be schemes that were brought forward since the baseline year (2019 at the earliest), committed development for which construction began in 2019 / 2020 should be included in the baseline conditions. The committed developments to be included in the cumulative assessment should comprise all schemes that have either:

- Been approved through the planning system post-2020 or prior to this where construction is not yet substantially progressed; or
- Are currently being considered in the planning system.

4.5.2 The Scoping Report correctly identifies the thresholds for developments with a great enough magnitude to warrant inclusion within the cumulative assessment. However, the distance of potential cumulative schemes to be considered has been noted as between 2 km and 4 km. It is advised that the ES considers schemes within a 5 km radius to the Site due to the semi-rural nature of the area.

4.5.3 The Applicant should also consider some flexibility in the type and size of developments particularly the inclusion of slightly smaller developments than the size thresholds where they are sensitive or particularly close to the Site, if applicable.

4.5.4 It is noted that the Applicant proposes to only consider schemes that are existing and / or approved. In order for the list to remain up to date at the time of submission, submitted applications for up to two years prior to the submission of the planning application should be considered.

4.5.5 The Applicant is reminded that ABC needs to have sufficient understanding of cumulative effects at the point of determination, and the list of committed developments should be revised throughout the EIA process.

4.5.6 The Applicant should additionally include the following schemes:

- 18/01822/AS - Land at Court Lodge, Pound Lane, Kingsnorth, Kent
- 19/01597/AS - Home Plus, Beaver Road, Ashford, Kent, TN23 7RR

- PA/2024/1087 - Land north of M20 Coastbound south of, Kennington Road, Willesborough
- PA/2022/2772 - Land south of Asda, Kimberley Way, Ashford
- 19/01701/AS - Land east of Ham Street By-Pass and south west of, Brockmans Lane, Kingsnorth

4.5.7 The list is otherwise considered appropriate at this point.

4.5.8 The Scoping Report commits to assessing interactive effects and defines it appropriately as when there are effects associated with more than one EIA topic acting on a single receptor. It is therefore understood that interactive effects will be assessed on a receptor-by-receptor basis. However, this should not just be limited to identified significant effects, noting that the interaction between a number of non-significant effects on a single receptor can result in significant effects. Due consideration should be provided to the duration of effects when undertaking the interactive effects assessment.

4.6 Alternatives

4.6.1 Section 4.5 of the Scoping Report states that Alternatives will be considered. The Report confirms that in accordance with EIA Regulations this will include the following:

- Consideration of the 'no development' scenario, in which the extant planning permission (planning reference: 19/00579/AS) is built out;
- Explanation as to why development at alternative sites has not been pursued (subject to confidentiality); and
- Consideration of earlier iterations of the Proposed Development.

4.6.2 The ES should also include a comparison of environmental effects between the different iterations of the Development and, furthermore, justify changes to the Development that have come about as a result of environmental assessments.

4.7 Mitigation

4.7.1 The ES should apply the significance criteria to potential environmental effects both before and after additional mitigation measures have been considered.

4.7.2 Furthermore, it would be useful for the ES to present a summary of mitigation measures which encompasses all measures across all topics, including those relied upon to scope topics out of the EIA. The summary should indicate whether the mitigation is considered to be embedded or additional, and the mechanism by which it will be secured (e.g. by planning condition).

4.8 Limitations and Assumptions

4.8.1 The ES should include the limitations and assumptions made throughout the EIA process including those for the construction and operational phase. This should be outlined in each technical topic as appropriate.

4.9 Environmental Statement Format

4.9.1 The format for the ES is provided in Section 10 of the Scoping Report. This is logical and considered acceptable.

4.9.2 The Non-Technical Summary (NTS) must present key information from the EIA in non-technical language. The NTS will be produced as a stand-alone document in a format suitable for the public. The NTS must summarise all of the information required under points 1-8 of Schedule 4 of the EIA Regulations. We recommend the use of figures and illustrations, wherever possible, in the NTS to aid understanding and to avoid the need to cross-refer to other documents.

4.9.3 Section 10.1 states that Volume 3 will comprise the LVIA and Volume 4 will contain the technical appendices, however sections 10.4 and 10.5 state the opposite. It is advised that the volume containing the appendices should follow the volume containing the LVIA.

4.9.4 The volume comprising the appendices should include any reports, calculations or figures necessary for the methodology and findings of the ES to be interrogated. The main volume of the ES should be readable as a standalone document.

4.9.5 Likewise, information given in documents submitted with the planning application should be summarised in the ES where this is necessary to understand the Development and its likely effects. The ES should not rely on reference to other documents.

4.9.6 We recommend for ease of reading that figures are included within the text of the main volume of the ES and not in separate documents.

5 Scope of the EIA

5.1 Topics Proposed to be Scoped into the EIA

5.1.1 The following topics were proposed to be scoped into the EIA.

- Socio-Economics;
- Transport and Access;
- Air Quality;
- Noise and Vibration;
- Cultural (Archaeology and above-ground Built) Heritage;
- Ecology and Biodiversity; and
- Landscape and Visual Impact.

5.2 Socio-Economics

5.2.1 It is advised that a 2021 baseline is utilised for this Chapter as a 2019/2020 baseline would be based on census data from 2011 (which would not be considered an appropriate dataset). A 2021 baseline would ensure that most data is drawn from the 2021 census, which would provide a more accurate representation of the local area during this time.

5.2.2 The Scoping Report adequately justifies scoping out social effects, such as impacts on social infrastructure (housing, education and primary healthcare), due to the non-residential nature of the Development. It is also noted that significant effects due to a demand for housing and facilities by the operational workforce are not anticipated due to the workforce being drawn from the local labour market. Due to the above and the recognition by the reviewer that the extant permission is also strictly commercial, it is agreed that these elements of socio-economics should be scoped out.

5.2.3 As discussed in a pre-application meeting with the Applicant, the ES should contain a direct comparison between the number of Full Time Equivalent (FTE) jobs generated by the Development and the number of FTE jobs that would have been generated from the full implementation of the extant permission (this being the 'future baseline'). As a Socio-Economics Chapter has been scoped into the ES, it is logical for this comparison to feature here.

5.2.4 This should be in addition to any assessment of the Proposed Development against the current (2021) baseline.

5.3 Transportation and Access

5.3.1 The Scoping Report states that the Chapter will assess the standard elements of a traffic chapter, including severance; driver delay; pedestrian and cyclist amenity; fear and intimidation; and accidents and safety.

5.3.2 The Site benefits from ease of access to the M20 and the A2070 Bad Munstereifel Road, which prevents traffic from reaching high levels within the Willesborough area.

5.3.3 It is understood that the pre-development baseline previously used for the SDO applications will be utilised from the 'do minimum' scenarios put forward for the SDO application for 2020 and 2022; therefore, a baseline year of 2022 has been applied. This is agreed with, on the proviso that the baseline data concerned excludes the traffic flows associated with the IBF. The ES should confirm this assumption by providing a justification for the baseline year and the data relied upon to inform the baseline should be appended to the ES.

5.3.4 The Scoping Report provides a list of roads that will inform the study network to be assessed, and it is recognised that this has been agreed with ABC through pre-application discussions. The following operational scenarios have been scoped into the Chapter:

- Baseline 2022
- Opening Year Baseline 2026 without the Development
- Opening Year Baseline 2026 with the Development
- Horizon Year Baseline 2036 without the Development
- Horizon Year 2036 with the Development

5.3.5 While the horizon years may be required for the Transport Assessment, there is no requirement to include these within the EIA and it is advised that these are scoped out in order to keep the Chapter concise.

5.3.6 Provided that the 2022 baseline is explained within the ES, the scenarios and years scoped in for assessment are considered reasonable. Given the roads scoped in for consideration and the local highway network around the Site, the roads to be assessed should be determined in line with the criteria included in the Institute of Environmental Management and Assessment's (IEMA's) Guidelines: Environmental Assessment of Traffic and Movement (i.e. highway links where traffic flows will increase by more than 30 % should be assessed or highway links of high sensitivity where traffic flows will increase by 10 % or more should be assessed.

5.3.7 The Applicant should note that statutory consultee comments have been received and contain the following points:

- ABC Transport have requested that Church Road (Sevington South) and The Street/Kingsford Street in Mersham be included in the study network to be assessed;
- Kent County Council PRoW & Access Service have requested appropriate consideration of Public Rights of Way by obtaining the Definitive Map and Statement from the PRoW & Access Team at Kent County Council;
- Kent County Council Highways and Transportation have specified the importance of assessing the impact on both the local road network (A20 and A292) as well as major roads (A2070 and M20 Junctions 10 and 10A); and
- National Highways have specified that the submitted documents should demonstrate how the experience of operating the site to-date will feed into its operation and any evolution in the future. Additionally, for comparison purposes, the implications of the maximum past and likely future combined use(s) of the site should be set out.

5.3.8 The details of these are included in **Appendix A** of this review.

5.4 Air Quality

5.4.1 It is noted that while the Site is not located within an air quality management area (AQMA), the potential for significant effects on air quality would arise from operational traffic and operational plant.

5.4.2 The Scoping Report states that further consultation will take place with the Environmental Health Officer to confirm the methodology for the air quality assessment. The air quality assessment would be undertaken in line with relevant guidance.

5.4.3 Operational traffic and plant emissions should be screened against IAQM guidance and dispersion modelling undertaken where IAQM screening thresholds are exceeded. The full details of the screening assessment should be presented within the ES.

5.4.4 The assessment approach outlined in the Report is agreed. The following operational scenarios have been scoped into the Chapter:

- Baseline – 2022
- Opening year (2026) 'without development'
- Opening year (2026) 'with development'

5.4.5 However it is plausible that a 2022 baseline will be affected by emissions associated with operation of the Proposed Development. It would be preferable to use a 2019 baseline to provide a worst-case assessment comparison.

5.4.6 The Scoping Report notes that data for baseline conditions will be obtained from sources including relevant KCC / ABC air quality data / assessment documents and data from the KCC / ABC monitoring network. This is generally considered appropriate. Sources of background air quality information should be fully detailed and justified within the ES, as should the verification factor used in any modelling.

5.4.7 The Applicant should note that ABC Transport have requested that the air quality assessment include Cheesemans Green Lane in the road network to be assessed. Additionally, Kent County Council PRoW & Access Service have requested appropriate consideration of Public Rights of Way users.

5.4.8 The details of these are included in **Appendix A** of this review.

5.5 Noise and Vibration

5.5.1 The scope of the Noise and Vibration Chapter would include assessment of operational traffic noise and operational activity (including plant) noise.

5.5.2 As Junction 10a on the M20 was not built out and operational in 2019, a baseline year of 2022 has been selected; this should not include traffic data associated with the IBF as noted above, otherwise an earlier baseline year should be used. Since there is no noise survey data available from 2022 at the Site, the Scoping Report sets out the methodology for building a '2022 baseline model':

- 2022 traffic flows obtained from the transport consultant will be inputted into CadnaA.
- The road noise level will be calibrated within the model using two unattended measurements, which will be taken along the A2070.
- An unattended source noise measurement will be taken adjacent to the railway line located to the south of the Site and this will be inputted into CadnaA – this is based on the premise that the railway noise level would likely remain unchanged.

5.5.3 One of the road measurements should be along the A2070 slip road onto the M20 and the other should be along the dual carriageway portion, near Church Road. It should be noted that there is a risk that the 2022 traffic flows and the road noise survey results will not align and therefore the model will not be sufficiently calibrated. Should this occur, the ES must provide a third check and the justification of this would need to be provided.

5.5.4 As mentioned in **Section 5.3** of this review, it should be clarified within the ES how these 2022 traffic flows have been calculated and it should be demonstrated how the baseline data avoids inclusion of traffic associated with the IBF.

5.5.5 The approach outlined to obtain the '2022 baseline model' is accepted as it is recognised as the most practical method given the lack of accurate baseline data available.

5.5.6 The Scoping Report identifies potential receptors along key roads surrounding the Site and these are agreed. The following assessments have been scoped into the Chapter:

- Permanent noise effects from fixed external and building services plant.
- Permanent noise effects from external operations, including HGV and vehicle movements within the Site.
- Permanent noise effect from car park.
- Permanent change in road traffic noise on the local road network due to vehicles associated with IBF.

5.5.7 The above assessments are considered appropriate.

5.5.8 The proposed consideration of building services plant noise and operational traffic noise is considered appropriate. On the basis that the Development will not introduce sources of vibration, it is agreed that operational vibration can be scoped out of the assessment.

5.5.9 The standards and guidance proposed for consideration are deemed appropriate. Both building services plant and IBF operational noise (such as HGV movements) are proposed to be considered using the methodology set out in BS 4142. This is agreed and it is advised that a limit of 5 dB below the background noise level would be appropriate. CRN and CRTN assessment methodologies should be used as appropriate.

5.5.10 In summary, the proposed methodology and approach are considered acceptable.

5.5.11 The Applicant should note that Kent County Council PRoW & Access Service have requested appropriate consideration of Public Rights of Way users. The details of this are included in **Appendix A** of this review.

5.6 Cultural Heritage

5.6.1 The Scoping Report highlights that a Cultural Heritage Assessment was prepared for the Site by Mott MacDonald in 2020. On this basis, it has been identified that there are no designated heritage assets or Conservation Areas within the Site; however, there is a non-designated heritage asset located within the Site: the Royal Observer Corps Monitoring Post. The Site also falls within the setting of a number of heritage receptors that are located within the 1.5 km study area that was applied within the Cultural Heritage Assessment (2020).

5.6.2 Following the identification of baseline conditions, Section 6.5.2 discusses the potential likely significant effects of the Proposed Development, noting that there could be significant indirect effects on the setting of designated heritage assets, including Listed Buildings. As such, the potential effect of the Proposed Development on the value of heritage receptors will be assessed. Given that a definitive list of heritage assets to be taken into account is not provided within the Scoping Report, the ES should clearly outline all heritage assets which will be considered as part of the assessment (including a map of the heritage assets in respect of the Site) and sufficient justification should be provided with regards to the heritage assets which will be scoped out of the assessment.

5.6.3 Section 6.5.2 of the Scoping Report also states that the potential significant effects of the Proposed Development on the landscape character and views will also be assessed, within a separate Landscape and Visual ES chapter. This is deemed to be acceptable.

5.6.4 The Scoping Report (Section 6.5.2) notes that the Cultural Heritage Assessment (2020) summarises the potential and known archaeological remains and identifies the potential for significant effects. The assessment concluded that non-designated heritage assets and unknown archaeology was anticipated to experience a negligible-minor adverse impact, due to a programme of archaeological investigation undertaken in 2020. Mitigation, however, was recommended (including sample and trial trenching, in accordance with an agreed Written Scheme of Investigation (WSI) provided on the Stour Park Development). As a result, the impacts were considered to be not significant. The Scoping Report continues to state that any effects of the SDO application on the archaeology within the Site would have occurred during the construction phase. Therefore, given the nature of the works on-site, the operation of the Proposed Development is not anticipated to cause additional effects beyond those identified during the construction phase of the SDO application, as no significant groundworks are planned. This section concludes that effects from construction will not be considered further, and an Archaeological Statement will be appended to the Cultural Heritage ES chapter.

5.6.5 However the Applicant should note the response from KCC Heritage Conservation raising concern about the extent of archaeological investigation undertaken to date. It is noting that post-excavation reporting is ongoing. Therefore the Proposed Development should be assessed for construction phase archaeology impacts to acknowledge any potential significant or non-significant effects that may have already occurred as well as to identify whether the mitigation still underway is sufficient for the assessment or whether any other post-excavation activities would be of further use.

5.6.6 Whilst not specifically stated within the Scoping Report, it is assumed that the potential effects of the operational Proposed Development on archaeology is to be scoped out of the assessment, given that that any effects of the SDO application on the archaeology within the Site would have occurred during the construction phase. The Applicant should, however, refer to KCC Heritage Conservation's comments on the potential for indirect operational impacts on the Bronze Age Barrow, surviving parts of the Anglo-Saxon Cemetery, and the ROC structure. An operational phase assessment should be scoped in or further scoping out text should be provided in the ES.

5.6.7 The Cultural Heritage assessment should identify all national, regional and local planning policy and guidance relevant to the Proposed Development. The ES chapter should clearly identify the receptors considered within the assessment and their sensitivity to the operation of the Proposed Development. This should be supported by a clear map outlining the receptors and study area.

5.6.8 The ES should make explicit reference to the requirements of the NPPF, in terms of the assessment of impacts on the setting and significance of heritage assets, and the assessment should correlate levels of harm with the criteria set out in the NPPF.

5.6.9 As noted by KCC Heritage Conservation, indirect effects on heritage assets are not just related to visibility – effects associated with additional M20 traffic, operational noise and vibration and light pollution should also be considered.

5.6.10 The cumulative effects assessment should consider the combined effect of the Proposed Development and other cumulative schemes on heritage assets, and should not be limited to whether the presence of cumulative schemes would reduce the presence of the Proposed Development in the setting of heritage assets.

5.6.11 The ES should also consider the current joint Institute of Environmental Management and Assessment (IEMA) / Chartered Institute for Archaeologists (CiFA) / Institute of Historic Building Conservation (IHBC) guidance document 'Principles of Cultural Heritage Impact Assessment in the UK' (July 2021).

5.7 Ecology and Biodiversity

5.7.1 The Scoping Report states that an ecological assessment was prepared by Mott MacDonald to support the SDO application (referenced as Appendix H of Appendix 2 of the Scoping Report) and that this assessment, together with a Site verification survey in 2024, will form the baseline against which the Proposed Development will be assessed. This is considered to be acceptable, as it will include any changes that have occurred on the Site since the preparation of the ecological assessment to support the SDO application. For the purposes of

demonstrating the baseline conditions against which the Proposed Development will be assessed, the ecological assessment prepared to support the SDO application will be provided as part of the ES within the Scoping Report appendices.

5.7.2 The Scoping Report identifies the following Important Ecological Feature (IEFs), which were identified by the surveys which informed the SDO application and surveys for the outline permission for Stour Park, dated back to 2015:

- Sites: Ashford Green Corridors Local Nature Reserve, an additional 7 no. designated sites (Special Areas of Conservation (SACs) and Sites of Special Scientific Interest (SSSI)).
- Habitats: hedgerows, plantation woodland, ditches and mature scattered trees.
- Species: badger, bats (foraging and commuting), breeding birds (farmland), dormouse and reptiles.

5.7.3 The above is acceptable, though the relevant survey reports which identify the above and scope out other sites, habitats and species which support the Ecology and Biodiversity assessment should be appended to the ES.

5.7.4 Whilst the ecological assessment prepared for the SDO application (2020) stated that likely significant effects on the below listed sites could not be excluded, and an Appropriate Assessment was necessary, the Ecology and Biodiversity assessment should consider all potential European sites (SACs, SPAs and Ramsar sites) which could be affected by the Proposed Development (e.g. Wye & Crundale Downs SAC; Parkgate Down SAC; Dungeness SAC; and Dungeness, Romney Marsh and Rye Bay Ramsar site) and whether they need to be included in an Habitat Regulations Assessment (HRA): Stage 1 Screening.

- Folkestone to Etchinghill Escarpment SAC; and
- Stodmarsh SAC, SPA and Ramsar site.

5.7.5 The outcome of the 2020 ecological assessment, subsequent monitoring surveys and the latest findings are summarised in the Scoping Report, as follows:

- Sites: An HRA Stage 1 Screening is proposed for Folkestone to Etchinghill Escarpment SAC and Stodmarsh SAC, SPA and Ramsar Site. Only Ashford Green Corridors LNR was identified as likely to result in slight adverse effects at construction and neutral effects during operation, so this would be re-assessed.
- Habitats: Ditches would result in neutral impacts during operation; Hedgerows and scattered trees would result in slight beneficial impacts during operation.
- Species:

- Breeding birds and wintering birds would result in slight adverse effects during operation.
- Badger would result in neutral effects during operation.
- Water vole would result in neutral effects during operation.
- Bats would result in slight adverse effects during operation.
- Reptiles would result in slight beneficial effects during operation as a result of a translocation scheme.
- Terrestrial invertebrates would result in slight beneficial effects during operation as a result of habitat creation within the SDO site.
- Dormice would result in slight adverse effects during operation.

5.7.6 All of the above listed effects were considered to be not significant for all the identified IEFs for the SDO application. For the Proposed Development, the Scoping Report notes that those features subject to a planning condition / obligation or that were subject to mitigation and / or enhancement measures would be taken forward as IEFs within the Ecology and Biodiversity assessment. This is considered to be acceptable.

5.7.7 The Scoping Report states that the likely significant effects are discussed under the key issues described in Section 6.6.1; however, the key issues described under Section 6.6.1 do not specify the likely potential significant effect. The Ecology and Biodiversity assessment should clearly identify what the likely potential significant effects are, not just the key issues.

5.7.8 Section 6.6.4 of the Scoping Report states that the conceivable Zone of Influence (ZoI) is unlikely to be greater than 2 km for the Site for the majority of ecological features but may extend up to 10 km for Statutory Designated Sites. Therefore, these buffer zones have been used as the desk study data search area. This is considered to be acceptable, though should the HRA Stage 1 Screening identify the potential for adverse effects, an HRA Stage 2 Assessment will be required (i.e. a Shadow HRA to support Ashford in their appropriate assessment).

5.7.9 Enhancement measures, where proposed, should also be set out and assessed in the ES, and should be consistent with the BNG Assessment.

5.7.10 The Applicant should note that Kent County Council Ecology Advice Service have requested the following:

- Confirmation of what habitats and species are currently on site;
- Clarification of what mitigation was carried out to implement the current works on site; and
- Assessment of Great Crested Newts should be included.

5.7.11 The details of this are included in **Appendix A** of this review.

5.8 Landscape and Visual Impact

5.8.1 The Landscape and Visual Impact Assessment (LVIA) section of the Scoping Report states that there are a number of designations and sensitive landscape features within the area of the Site, including:

- Kent Downs National Landscape;
- Hatch Park Grade II Listed Registered Park and Garden;
- Various Listed Buildings;
- Two Scheduled Monuments;
- Ashford Green Corridors Local Nature Reserve;
- Three Conservation Areas;
- National Cycle Network Route 18; and
- Various Public Rights of Way (PRoWs).

5.8.2 The Scoping Report states that the LVIA will consider the effects of the Proposed Development on the character of the landscape and identified viewpoints, which will align with those assessed within the LVIA submitted as part of the SDO application. It is understood from subsequent conversations with the Applicant and ABC that it has not been possible to obtain the baseline views and / or photography referred to in the LVIA for the SDO application. Therefore, it has been agreed that baseline photography for the Stour Park outline application will be used instead as a review of the viewpoint locations has revealed that many of the SDO viewpoint locations align with those included for Stour Park. This is acceptable as it agreed that while the images date to 2015, they are considered to provide sufficient representation of the baseline views likely to have existing in 2019/2020 (pre-IBF).

5.8.3 The Scoping Report refers to a Zone of Theoretical Visibility (ZTV) having been carried out to assist in selecting viewpoint locations, both of which are referred to as being provided as Appendix F within Appendix 2 of the Scoping Report. The viewpoint locations and ZTV will be provided as part of the Scoping Report appendices within the ES to demonstrate that the viewpoint locations chosen for the LVIA prepared for the SDO and Stour Park application are sufficient for assessing the Proposed Development against.

5.8.4 It is acknowledged that no fixed co-ordinates are available for the Stour Park viewpoints, and some may be inaccessible due to vegetation overgrowth. It is agreed that best efforts will be made to obtain current day representative views from the same positions to enable comparison and assessment.

5.8.5 The Scoping Report states that as a result of the Site, PRoW AE672 has been diverted and instead of passing through the central part of the Site, it now passes around outside of the Site to the south-west, west and north-west boundaries. Small sections of this pass within the Site to the south-west and north-west corners. As a result of this diversion, Viewpoint 6, which was representative of footpath users crossing through the central part of the Site has been omitted. This is considered to be acceptable.

5.8.6 The LVIA section of the Scoping Report states that the general approach and methodology of the assessment will be based on Guidelines for Landscape and Visual Impact Assessment Third Edition (2013) (GLVIA 3). ABC expects that the assessment will be undertaken on this basis. It is, therefore, understood that the assessment will highlight the 'residual' likely significant effects for landscape and views (those effects which remain following the implementation of suitable mitigation / iterative design measures).

5.8.7 Effects which are moderate and above (beneficial of adverse) will be considered as significant. This is acceptable; however, care must be taken in assigning minor-to-moderate significance, ensuring that this is in line with the approach set out for consideration of magnitude and sensitivity and that professional judgement is sufficiently justified.

5.8.8 It is noted that Section 6.7.3 of the Scoping Report refers to a study area of 1 km. Sufficient justification should be provided alongside the ZTV to be appended to the ES Scoping Report, to demonstrate that there was no need for a greater study area to be considered.

5.8.9 The assessment should identify all national, regional and local planning policy and guidance relevant to the Proposed Development. The ES should clearly identify the receptors considered within the assessment and their sensitivity to the operation of the Proposed Development. This should be supported by a clear map outlining the receptors and study area.

5.8.10 The assessment of landscape character should have regard to the location and sensitivity of affected landscape related receptors, such as the Kent Downs National Landscape. This should be explicitly referenced in the LVIA.

5.8.11 Given that the IBF is built and operational, current baseline photography for the representative viewpoint locations will be used for the assessment, with the built scheme in place rather than accurate visual representations (AVRs). This is acceptable providing that the current views are verified (hereby referred to as Verified Views) images and in compliance with the latest Landscape Institute Guidance on visualisations (TGN 06/19). The Verified Views should be consistent with Type 3 wherever possible and information concerning camera set-up and lens type should also be provided. The Verified Views should be as close as possible to the baseline photography to ensure appropriate assessment, and the

coordinates of the Verified Views should be provided. Should any landscaping that may change, as a result of making the Development permanent, be shown in the close Verified Views then it is anticipated this will be appropriately detailed through the Year 15 assessment.

5.8.12 Winter photography should be used where vegetation may have a significant impact on visibility.

5.8.13 ABC expects detailed information to be provided on the choice of viewpoints, focal lengths of lenses to be used, in addition to a map of proposed viewpoint locations.

5.8.14 The ES should contain a detailed methodology, which provides sufficient information to enable understanding of the assessor's conclusion and demonstrates that views can be relied on as a fair representation of impacts of the Proposed Development. The assessment should not focus on only any beneficial effects of the Proposed Development.

5.8.15 All judgements on the significance and direction of effects on views and landscape receptors need to be fully explained and justified within the ES.

5.8.16 It should be noted that whilst landscape and views and built heritage are interrelated, each matter should be clearly defined and dealt with appropriately in order to comply with the current guidelines e.g. its own methodology and effects identified. Some guidance on links to cultural heritage assessments is provided at paragraphs 5.7-5.11 of GLVIA 3. The LVIA should be informed by the cultural heritage assessment, especially in relation to the sensitivity and value of heritage assets and provide clear cross-referencing as appropriate.

5.8.17 All cumulative schemes identified for assessment should be clearly identified on a plan within the ES, showing their location relative to the Proposed Development and for each viewpoint by an AVR illustration where they would be in view.

5.8.18 It is expected that an assessment of the operational effects will be made for each landscape receptor and viewpoint. The latter should be described alongside the Verified Views for the Proposed Development and the cumulative scenarios.

5.8.19 The Applicant should note that Kent County Council PRoW & Access Service have requested appropriate consideration of Public Rights of Way users. The details of this are included in **Appendix A** of this review.

6 Topics Proposed to be 'Scoped Out' of the EIA as Standalone Chapters

6.1.1 The following topics are either proposed to be scoped out of the EIA as standalone topic chapters by the Applicant, or not mentioned in the Scoping Report.

- Human Health;
- Ground Conditions and Contamination;
- Agriculture and Soils;
- Climate Change;
- Daylight, Sunlight and Overshadowing and Solar Glare;
- Light Pollution;
- Risk(s) of Major Accidents and / or Disasters;
- Waste;
- Wind Microclimate; and
- Flood Risk and Drainage.

6.2 Human Health

6.2.1 The Scoping Report states that while Human Health will not feature as a standalone topic chapter, it will instead be considered where appropriate in the relevant specialist topics, such as air quality and noise. This is considered appropriate and therefore it is agreed that **a human health chapter can be scoped out of the ES provided that it is adequately discussed in the relevant topic chapters.**

6.3 Ground Conditions and Contamination

6.3.1 The Scoping Report makes reference to a Geotechnical and Geo-environmental Desk Study that supported the SDO application, which is to be submitted as part of the appendix to the Scoping Report appendix within the ES.

6.3.2 The Report contains a summary of the baseline conditions which are based on an intrusive ground investigation undertaken in 2012. It also confirms that the Site has remained as agricultural land historically with no notable built structures or surface features, prior to the implementation of Phase 1A and then the Development.

6.3.3 The ground investigation consisted of 4 boreholes, 7 window samples, 21 trial pits and 21 dynamic probe tests. The results found that the Site was broadly divided into two separate zones; the northern two-thirds encountered substantial thicknesses of the Hythe Formation (10m thick) and the southern third has a reduced thickness of the Hythe Formation (2.7 – 8.1m thick). Overall, the Hythe Formation was overlain by topsoil 0.2 – 0.9m thick and underlain by the Atherfield Clay Formation.

6.3.4 Based on the ground investigation results and analysis the following conclusions were drawn:

- Low risk to future end users from existing contamination, with significant contamination unlikely to be encountered during development.
- Low risk from ground gas was present and mitigation measures would not be required.
- Low risk to groundwater and moderate/low risk to surface water given the low likelihood of existing contamination and measures included in the surface water drainage strategy (lined attenuation ponds and no infiltration to ground).
- Low risk to buried structures or infrastructure.
- Low risk to construction workers on the assumption workers would adhere to a site specific risk assessment and method statement.

6.3.5 While a 2012 ground investigation is quite dated to be relied upon now, given the lack of change in the site history it is probable that the risks associated with ground conditions and contamination are likely to be low.

6.3.6 It is also recognised that since the Development has already been built, the potential for risk is reduced. The Scoping Report confirms that no major groundworks are proposed as part of the application, only minor landscaping in response to any potential effects identified through the EIA.

6.3.7 A new Preliminary Risk Assessment will be undertaken and submitted as part of the planning application. All of the documents relied upon to scope out ground conditions will be provided with the ES Scoping Report appendices.

6.3.8 On the basis of the above, **it is agreed that ground conditions and contamination can be scoped out of the ES**.

6.4 Agriculture and Soils

6.4.1 As discussed in the pre-application meeting with the Applicant, scoping out text for agriculture has been provided and this is welcomed. The Scoping Report confirms that a permanent loss of Grade 2, Grade 3a and Grade 3b agricultural land was faced.

6.4.2 The Report states that this loss is not considered to be significant due to the availability of Grade 2 land in the wider area. Additionally, it is noted that construction works under the extant permission (Phase 1A) has already commenced prior to the implementation of the Development. As such, the site was no longer an arable field prior to the SDO consent due to the agricultural resource lost to facilitate the Phase 1A works.

6.4.3 While it remains uncertain the extent to which the Phase 1A works were completed prior to the SDO application, given that it is reasonable to presume the extant permissions would have been fully implemented should the Site not have been repurposed, **it is acceptable to scope out agriculture and soils from the ES.**

6.5 Climate Change

6.5.1 The Scoping Report identifies the potential for an increase in GHG emissions due to the increased number of HGVs travelling to and from the Site during daily operations. A summary of a climate change assessment has been provided and it is noted that this will be provided within the ES as part of the Scoping Report appendices.

6.5.2 It was reported that the quantity of emissions (over the five years) was relatively small equating to approximately 0.00017% of the UK 4th Carbon Budget. Additionally, the Scoping Report notes that through the implementation of the carbon reduction principles the emissions have been minimised as far as possible. It is unclear whether these principles relate to the construction or operation of the IBF, as they have not been provided. Measures relating to construction should be included within the construction summary in the body of the ES. Measures relating to operation should be included within the mitigation schedule that will accompany the ES.

6.5.3 It is stated that while the Development may be vulnerable to extreme weather as a result of climate change, the drainage infrastructure was designed in accordance with the Design and Construction Guidance (2020) for the one in 100-year storm event plus a 40% allowance for climate change. It is understood that this was done as part of the Phase 1A works and therefore designed to permanently support a large commercial development.

6.5.4 It is agreed that where relevant, climate change will be referenced throughout the ES, such as in the Air Quality Chapter.

6.5.5 Provided that the mitigation measures described above are provided within the ES, and that the climate change assessment is appended to the ES, **it is agreed that climate change can be scoped out of the ES.**

6.6 Daylight, Sunlight and Overshadowing and Solar Glare

6.6.1 On the basis that the Development includes buildings that do not exceed 9.032m in height and that the area around the Site is semi-rural with a limited number of dwellings in close proximity, it is agreed that likely significant effects relating to daylight, sunlight and overshadowing are not anticipated.

6.6.2 Additionally, while the Development is within the vicinity of major roads and a railway line, the intervening landscaping and non-reflective surfaces of the few buildings onsite make it unlikely for significant effects to arise from solar glare.

6.6.3 **It is agreed that daylight, sunlight and overshadowing and solar glare can be scoped out of the ES**.

6.7 Light Pollution

6.7.1 It is noted that an External Lighting Assessment will be prepared and submitted to accompany the planning application. The Scoping Report lists relevant guidance that the assessment will comply to, as well as detailing the methodology behind the assessment of light trespass and skyglow.

6.7.2 It is understood that the external lighting design of the Development will be subject to further design consideration as part of the planning application. On the basis that an External Lighting Assessment is being undertaken, **it is agreed that light pollution can be scoped out of the ES.**

6.8 Risk(s) of Major Accidents and / or Disasters

6.8.1 The Scoping Report notes the need to consider risk(s) of major accidents and / or disasters in proportion to the likelihood of the potential risk and this is agreed. A list of Development and Site-specific considerations is provided as these are as follows:

- The Site is not in an area that could be affected by coal or metalliferous mining activity.
- There are no Control of Major Accident Hazard (COMAH) sites within 500m of the Site.
- The Site lies within a radon affected area, with a maximum radon potential of 1-3%.
- The Site is not at risk of flooding now or in the future, as a result of climate change.

6.8.2 It is noted that while new human receptors have been introduced to the Site (employees and visitors) this would not result in an increased risk of these people being affected by the potential hazards identified above.

6.8.3 In view of the above, **it is agreed that a major accidents and / or disasters chapter can be scoped out of the ES**.

6.9 Waste

6.9.1 It is noted that waste from operations are broadly divided into the below categories:

- Waste generated by having offices, staff facilities including for visiting drivers and general site operations.
- Waste generated by inspection activities.

6.9.2 It is understood that the Development operates with Operational Waste Management Plans (OWMPs) and established arrangements with waste management services providers to deliver offsite waste management solutions for all anticipated waste types. The waste generated from office activities are subject to contractual targets of less than 5% waste to landfill and at least 70% of waste to be recycled, and this is accepted.

6.9.3 The Scoping Report identifies that the inspection process can result in loads being retained and disposed of, and this can include animals, animal products, animal by-products, animal feed, waste from holding animals or plants are dispatched for incineration. It is noted that liquid waste from animal holding areas is also dispatched for treatment offsite.

6.9.4 An Operational Waste Management Strategy will be submitted with the planning application, and it is agreed that relevant extracts will be provided within the ES. As noted in the Environment Agency's consultation response, this should be supported by evidence on the waste quantities generated currently by the IBF. Therefore, **it is agreed that waste can be scoped out as a topic chapter in the ES.**

6.10 Wind Microclimate

6.10.1 On the basis that the Development would include built form of a maximum 20 m AGL in height, it is agreed that likely significant effects on wind microclimate are not anticipated, and **this topic can be scoped out of the ES.**

6.11 Flood Risk and Drainage

6.11.1 The Scoping Report states that the Site is located within Flood Zone 1. The Environment Agency has also assessed the Site as very low for risk of flooding from surface water, rivers and the sea.

6.11.2 As presented throughout the Scoping Report, drainage considerations were implemented as part of the Phase 1A works and has been designed to last as permanent infrastructure.

6.11.3 It is understood that a Flood Risk Assessment (FRA) will be undertaken as part of the planning application process. Where SuDS strategies are included as mitigation, these should be clearly referenced within the ES where appropriate. A summary of any drainage implications or adjudgments to be made as a result of the FRA should be included within the body of the ES.

6.11.4 On the basis of the above, **it is agreed that flood risk and drainage can be scoped out of the ES**.

7 Conclusions

7.1.1 Temple, on behalf of ABC, have undertaken a review of the submitted Scoping Report for the retention of the existing Inland Border Facility and Border Control Post (IBF) which comprises: goods vehicle parking for up to 855 vehicles, including 42 entry lanes with a capacity of up to 260 goods vehicles, 24 refrigerated semi-trailers and 357 staff car parking spaces; border checking facilities; security fencing; noise attenuation bunds and fences; CCTV and lighting columns; drainage; and all associated engineering and landscaping works. In summary, it is agreed that the following topics presented in the Scoping Report should be assessed in the ES as standalone chapters and volumes:

- Socio-Economics;
- Transport and Access;
- Air Quality;
- Noise and Vibration;
- Cultural Heritage;
- Ecology and Biodiversity; and
- Landscape and Visual Impact.

7.1.2 Please note that where a topic has agreed to be scoped out of the EIA, this is on the basis that there will be no significant effects, and that the local planning validation requirements will still be met, although these will be outside the scope of the EIA Regulations.

7.1.3 All mitigation relied upon to scope out topic chapters should be captured in the mitigation summary in the ES.

Appendix A – Consultation Responses

temple

CREATING SUSTAINABLE FUTURES

London
Temple Chambers
3-7 Temple Avenue
London
EC4Y 0DT

+44 (0)20 7394 3700
enquiries@templegroup.co.uk
templegroup.co.uk

Haywards Heath Lewes Lichfield Manchester Norwich Wakefield

[redacted]

H[redacted],

A couple of comments on the EIA scoping report:

On Para 6.2.4 the transport assessment should include Church Road (Sevington South) and The Street/Kingsford Street in Mersham as there are ongoing issues with errant lorries trying to access the IBF by inappropriate route.

In Para 6.3.4 the air quality assessment should include Cheesemans Green Lane (noting that the visiual impact will be assessed from Cheesemans Green Lane referred in 6.7.1.

Kind regards

[redacted]

Member, Mersham, Sevington South and Finberry Ward
Chair, Joint Transport Board
[redacted]

*The **Moving Forward for Kent** campaign is being used alongside government initiatives to give local businesses an easy way to promote themselves for recovery. Visit https://www.kent.gov.uk/business/moving-forward-for-kent*

[redacted]

Consultation on a Planning Application
The following application was submitted to the council, and as such, we would be grateful for your observations/comments on the proposal by the deadline below.

Case Reference:	OTH/2024/2051
Location:	Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE
Proposal:	Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)
View Files:	Click Here
Comments deadline:	before 29/11/2024

A decision will not be made until after this date

Commenting on the application.
Online is the best method as it makes sure I have your comments quickly and allows us to protect your personal data more easily.
1. Online: Click Here
2. Consultee Portal Login: https://ashfordboroughcouncilpr.force.com/pr/s/login/
3. Email: planning.comments@ashford.gov.uk
4. Post: Planning Applications, Ashford Borough Council, Tannery Lane, Ashford, Kent TN23 1PL
5. Make your views known to your Borough Councillor, Parish or Town council.

Your comments will be available for public inspection and will be published on the Internet in full, including your address, whilst an application or an appeal is being considered.
To help us avoid your personal data appearing on the internet please do not include personal telephone numbers and use a printed signature.
Although the council reserves the right to remove inappropriate comments from the website as necessary, such comments may still be viewable prior to any removal and viewable by visitors to the Civic Centre. It is therefore your sole responsibility to ensure you do not include defamatory remarks in your comments as you could be held legally responsible for them in the future.
Thank you in advance for your anticipated response.

Kind Regards

for Head of Planning & Development

Ashford Borough Council (ABC) is the data controller for the personal information you provide in this form. ABC's Data Protection Officer can be contacted at FOI@ashford.gov.uk. Your information will be used to process planning applications and processing is being conducted relying upon the public interest legal basis. Given the statutory status of the Register of Planning Applications, relevant regulations, and the public interest in making information on the processing of applications available, all information you provide on the application form and in any accompanying documents will normally be published on the council's website. Only telephone numbers, email contact details, and signatures will be routinely blanked out. Personal sensitive information which is deemed necessary for the processing of the application will also not be published in the public domain but may be available in a redacted format on request. Your information will be retained as a permanent record on the planning register.

Personal data will be held for as long as the application or any subsequent appeal is being considered. For more information on your rights please see the council's privacy statement https://www.ashford.gov.uk/

[ref:a0hTw000000nzaDIAQ:3398ca2ac92bcfdbf6febb80c51ce3c9:ref]

A note about how your personal data is used: As your councillor, I am the data controller of any personal data you provide to me. I will use this personal data to enable me to deal with your query or matter. This may also require me to share your personal data with Ashford Borough Council to make sure your query gets handled appropriately. If you have any questions about how your personal data is used, please let me know. For full details about how I will process your personal data please see the Councillors Privacy Notice which can be found here: An example of the privacy note that Councillors sign when representing a ward in the borough of Ashford. If at any stage you no longer wish to receive correspondence from me please reply to any email with the word unsubscribe and I will ensure any further correspondence is stopped and that your details are securely destroyed.

Highways and Transportation
Kroner House
Eurogate Business Park
Ashford
TN24 8XU
[redacted]

Ashford Borough Council
Civic Centre
Tannery Lane
Ashford
Kent
TN23 1PL

Date: 8 November 2024
Our Ref: MH

Application - **OTH/2024/2051**
Location - **Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE**
Proposal - **Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)**

Thank you for the consultation on the EIA Scoping Opinion. The County Council has recently started pre-application discussions with the Department for Transport (DfT), His Majesty's Revenues & Customs (HMRC) and Department for Environment, Food and Rural Affairs (Defra) on this site to scope out the required Transport Assessment and Travel Plan.

It is my opinion that Highways and Transportation needs to be scoped into the EIA due to the significant Highways and Transportation impact of the proposed development on the A2070 and at M20 Junctions 10 and 10A. A Transport Assessment and Travel Plan will need to be submitted with any future planning application so that the impact of the proposed development on the Strategic Road Network (M20 Junctions 10 and 10A and A2070) and Local Road Network (A20 and A292) can be assessed.

It is important to note that Local Planning Authority (LPA) permission does not convey any approval to carry out works on or affecting the public highway.

Any changes to or affecting the public highway in Kent require the formal agreement of the Highway Authority, Kent County Council (KCC), and it should not be assumed that this will be a given because LPA planning permission has been granted.

For this reason, anyone considering works which may affect the public highway, including any highway-owned street furniture or landscape assets such as grass, shrubs and trees, is advised to engage with KCC Highways and Transportation at an early stage in the design process.

Across the county there are pieces of land next to private homes and gardens and near the highway that do not look like roads or pavements but are actually part of the public highway.

Some of this highway land is owned by Kent County Council whilst some is owned by third party owners. Irrespective of the ownership, this land may have 'highway rights' over the topsoil.

Works on private land may also affect the public highway. These include works to cellars, to retaining walls which support the highway or land above the highway, and to balconies, signs or other structures which project over the highway. Such works also require the approval of the Highway Authority.

Kent County Council has now introduced a pre-application advice service in addition to a full formal technical approval process for new or altered highway assets, with the aim of improving future maintainability. Further details are available on our website below:

https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/highways-permissions-and-technical-guidance.

This process applies to all development works affecting the public highway other than applications for vehicle crossings, which are covered by a separate approval process. Further details on this are available on our website below:

https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/apply-for-a-dropped-kerb/dropped-kerb-contractor-information

Once planning approval for any development has been granted by the LPA, it is the responsibility of the applicant to ensure that before development commences, all necessary highway approvals and consents have been obtained, and that the limits of the highway boundary have been clearly established, since failure to do so may result in enforcement action being taken by the Highway Authority.

The applicant must also ensure that the details shown on the approved plans agree in every aspect with those approved under the relevant legislation and common law. It is therefore important for the applicant to contact KCC Highways and Transportation to progress this aspect of the works prior to commencement on site.

Further guidance for applicants, including information about how to clarify the highway boundary and links to application forms for vehicular crossings and other highway matters, may be found on Kent County Council's website: https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/highways-permissions-and-technical-guidance. Alternatively, KCC Highways and Transportation may be contacted by telephone: 03000 418181.

Yours faithfully

Director of Highways & Transportation

*This is a statutory technical response on behalf of KCC as Highway Authority. If you wish to make representations in relation to highways matters associated with the planning application under consideration, please make these directly to the Planning Authority.

[redacted]
Team Leader - Strategic Applications
Ashford Borough Council

By Email

Public Protection
PROW & Access Service
1st Floor, Invicta House
County Hall
Maidstone
Kent, ME14 1XX

[redacted]

Date: 26th November 2024

OTH/2024/2051

EIA Scoping Opinion - Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE

Thank you for the opportunity to comment on the above consultation. As a general statement, KCC's Public Rights of Way and Access Service are keen to ensure that their interests are represented with respect to our statutory duty to protect and improve Public Rights of Way (PROW) in the County. The team is committed to working in partnership with all parties to achieve the aims contained within the KCC Rights of Way Improvement Plan (ROWIP) and Strategic Statement for Kent. Specifically, these relate to quality of life, supporting the rural economy, tackling disadvantage and safety issues, and providing sustainable transport choices.

PROW is the generic term for Public Footpaths, Public Bridleways, Restricted Byways, and Byways Open to All Traffic. The value of the PROW network is in providing the means for residents and visitors to access and appreciate landscapes for personal health and wellbeing, enhancing community connectivity and cohesion, reducing local traffic congestion for economic benefit and improvement in air quality, and much more. The existence of the Rights of Way are a material consideration.

Public Bridleway AE672 would be directly affected and there are multiple PROW in the surrounding area wider network which would be impacted in the ways mentioned above and below.

There is mention of the PROW network both in and off site within the consultation documents, however the plan provided at *Annex A Phase 1A Works of Extant Outline Scheme* does not correctly label or reference the PROW Network. This is required for clarity and context.

The proposed permanency of this site will have an **adverse/high impact** on the PROW network, both on and off site through long term, permanent loss of amenity.

In respect of a Scoping Opinion , we would advise that Public Rights of Way (KCC PROW and Access Service as the Highway Authority) are included within the following criteria assessments:

- Transport and Access / Air Quality / Noise & Vibration / Landscape & Visual

In respect of the assessment, we would advise the following is taken into account:

- The permanency of usage, and therefore significant landscape/visual and air quality impact on users participating in recreational activity on the PROW network in both the affected area and the wider network.
- The Applicant should obtain the Definitive Map and Statement from the PRoW & Access Team at Kent County Council. This is the only source of the up-to-date record of the PRoW (supplied digitally).
- Public rights of way should be marked on plans using the County Council digital data and labelled as per the Definitive Map

Comments are made in reference to the following planning policy.

- **NPPF (December 2023) para. 104**: 'Planning policies and decisions should protect and enhance public rights of way and access, including taking opportunities to provide better facilities for users, for example by adding links to existing rights of way networks including National Trails.'
- **NPPF (December 2023) para. 108**: 'Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
  ...
  c) opportunities to promote walking, cycling and public transport use are identified and pursued
  ...'

KCC Rights of Way Improvement Plan 2018-28

This response is made on behalf of Kent County Council Public Rights of Way and Access Service. The views expressed should be considered only as the response of the County Council in respect of public rights of way and countryside access matters relating to the application.

Yours sincerely

[redacted]
Countryside Access & Rights of Way Improvement Plan Officer
Public Rights of Way & Access Service

[redacted]
Case Officer
Planning and Development Unit
Ashford Borough Council
Civic Centre
Tannery Lane
Ashford
Kent
TN23 1PL

Heritage Conservation
ECE GT
Invicta House
County Hall
MAIDSTONE
ME14 1XX

[redacted]

28 November 2024

SENT BY EMAIL

Re: PA/2024/ 2051 - Sevington IBF

Thank you for your letter consulting us on the Scoping Opinion for the Sevington IBF complex.

The site of scheme lies within an area of multi-period activity ranging from prehistoric through to modern archaeology. Archaeological investigations have taken place on the site and these revealed particularly Bronze Age activity, Iron Age trackway which crosses Highfield Lane, also an historic routeway, and at the crossroads there seems to have developed a Romano-British settlement, industrial and cemetery site. The topography seems to have made this area a focal point for multi-period burials, including an Ango-Saxon cemetery. Investigations for the adjacent landscape Stour Park scheme found further associated remains including a large Bronze Age barrow.

Adjacent and in the nearby area are several historic buildings, the most significant of which is Sevington Church and manorial complex of Church Farm, both designated heritage assets. There are expectations of a medieval settlement being at this location, but so far archaeological investigation has not revealed any settlement remains. However the application site is surrounded by a variety of medieval and post medieval farm houses and historic residential properties, many of which are designated. Also at the crossroads of the ridgeline trackway and Highfield Lane are the remains of a WWII ROC structure.

The Cultural Heritage assessment will include consideration of the impact on the historic buildings, including Sevington Church and manor. This is very welcome but I would encourage consideration of not just the immediate "setting" but also the wider landscape context. Sevington Church tower is a local iconic landscape structure and the impact of this highly visible "navigation" structures is likely to be high from light pollution. Other impacts, such as noise and vibration are going to be considered too.

The Sevington IBF (Stour Park) and the Stour Park landscape area have been partially investigated. There is a post excavation report submitted as part of Sevington IBF and post excavation reporting on the land east of Highfield Lane is agreed but is on-going. In addition, the archaeological fieldwork was targeted and selective and some areas were not investigated. So there are outstanding archaeological issues. Given the significance of the archaeological discoveries here on the high ground above Sevington, there is a need to consider archaeology as a vulnerable and sensitive resource.

I have had a meeting with the applicant's archaeological team, Lanpro services, and it was agreed that archaeology would be scoped in despite the consideration of the application only referring to operational issues. I did raise concerns over the outstanding post excavation issues for the main scheme and for the adjacent, associated landscaped park scheme.

I also raised concerns about the impact of the operational scheme on the setting and significance of the sensitive archaeology, namely the Bronze Age barrow and the Anglo-Saxon cemetery, and the ROC structure. This is because the Bronze Age barrow, some parts of the Anglo-Saxon cemetery and the ROC unit survive as heritage assets. The Bronze Age barrow has not only been preserved in situ but I believe it has also been subject to positive landscaping, creating a large mound over the ring ditches, thereby providing very welcome heritage interpretation. If this Bronze Age barrow is going to be understood, there may be an impact from the operational side of the Sevington IBF scheme which needs mitigation.

Parts of the Anglo-Saxon cemetery were disturbed by the vehicle movements for the Stour Park IBF construction but parts were excavated and are subject to an on-going post excavation programme. However there is potential for associated Anglo-Saxon inhumations to still survive on this adjacent landscape park site. Therefore impact on the setting and understanding of the AS burial site needs to be considered by the operational only Sevington scheme.

Also the ROC unit survives at the crossroads of Highfield Lane and the east-west footpath which crosses the landscape site. It is in a vulnerable location with an access point off Highfield Lane into the Sevington IBF site. Impact from the use of this easterly access needs to be assessed.

The proposed Sevington IBF operational scheme needs to consider buried archaeology and the impact on the setting and significance of important, sensitive archaeology. It also needs to consider long term preservation and enhancement measures needed to mitigate the operational side of the Sevington IBF scheme.

I welcome the scoping in of Cultural Heritage and I broadly welcome the proposed assessment framework set out in section 6.5. I note much of the proposed assessment revolves around impact of the operational scheme on designated and historic buildings, including Sevington Church, which is welcome, however, in view of the Article 4 redline boundary, it is essential that upstanding and buried archaeological remains are considered too. It is accepted that the main active IBF site has been investigated and subject to post excavation work but there are still outstanding archaeological issues to address for the surrounding area or areas within the redline boundary application site.

It is essential that the Cultural Heritage assessment addresses the impact of the operational scheme on the setting and significance of the Bronze Age barrow, the Anglo-Saxon cemetery and the ROC unit.

I am not sure what figures 3 and 4 of the Scoping Report are meant to demonstrate as they seem to refer to landscaping for a different scheme. There is mention of a Heritage Asset plan Appendix E of Appendix 2 but this was not available on the web site. It will be important that all the archaeological discoveries located on and around the Sevington IBF site are considered. For example, part of the Sevington IBF includes increased traffic from the M20 and so directly related impacts on surrounding archaeology needs to be incorporated into the assessment. Lighting from the IBF site will spread outwards and may impact on nearby heritage assets, including Boys Hall Moat, Mersham historic village etc.

In general, I welcome the inclusion of Cultural Heritage in the proposed EIA and that archaeology is going to be included. I agree that it is unlikely that operational measures forming this application will impact on buried archaeology but I would stress the importance of assessing the more peripheral impacts arising from the operational scheme, both short term and long term. I am also concerned that there is assessment of the impact on the setting and significance of the nearby heritage assets, particularly of the Bronze Age barrow, Anglo-Saxon cemetery, Sevington Church and manor and the ROC unit.

I hope these comments are useful but would be happy to discuss any of the above further.

Yours sincerely

[redacted]
Senior Archaeological Officer
Heritage Conservation

ECOLOGICAL ADVICE SERVICE

TO: [redacted]

FROM: [redacted]

DATE: ***27 November 2024***

SUBJECT: ***Sevington Inland Border Facility OTH/2024/2051***

The following is provided by Kent County Council's Ecological Advice Service (KCC EAS) for Local Planning Authorities. It is independent, professional advice and is not a comment/position on the application from the county council. It is intended to advise the relevant planning officer(s) on the potential ecological impacts of the planning application and if sufficient/appropriate ecological information has been provided.

Any additional information, queries or comments on this advice that the applicant or other interested parties may have must be directed in every instance to the planning officer, who will seek input from the EAS where appropriate and necessary.

We advise that we are satisfied with the approach proposed to assess the ecological impact of the proposal.

We understand that the baseline will be based on the site prior to the commencement of the current temporary permission and we agree with that reasoning. However the submitted information must also confirm what habitats and species are currently on site. In addition it must clarify what mitigation was carried out to implement the current works on site to ensure it can be demonstrate that there was not a breach of wildlife legislation in the interim period.

We are largely satisfied with the range of survey information to be submitted but highlight that no information has been provided regarding the presence of GCN. GCN have been confirmed as present within the adjacent site and therefore the SUDS scheme is likely to support GCN.

Therefore in addition to the assessment of designated sties, habitats and species detailed within the report it must assess the impact on GCN.

If you have any queries regarding our comments, please do not hesitate to get in touch.

[redacted]
Biodiversity Officer

This response was submitted following consideration of the following documents:
Request for a EIA Scoping Opinion; Waterman; October 2024

[redacted]
Ashford Borough Council
Civic Centre
Tannery Lane
Ashford
Kent
TN23 1PL

Flood and Water Management
Invicta House
Maidstone
Kent
ME14 1XX
Website: www.kent.gov.uk/flooding
[redacted]
Date: 29 November 2024

Application No: OTH/2024/2051

Location: Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE

Proposal: Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)

Thank you for your consultation on the above referenced planning application.

Kent County Council as Lead Local Flood Authority have reviewed the Environmental Impact Assessment Scoping Opinion Report prepared by Waterman Infrastructure & Environment Limited (October 2024) and understand from chapter 9 that a Flood Risk Assessment & Outline Drainage Strategy will be prepared and submitted with the planning application.

Although we have no preference as to whether a Flood Risk Assessment is submitted as a standalone document or forms part of an ES, any identified flood risk or surface water management issues should be appropriately considered within the application documentation (with appropriate mitigation recommended wherever necessary).

We will expect for the drainage strategy to encompass a detailed drainage impact assessment or surface water management strategy and take into account the latest climate change guidance for peak rainfall allowances.

We raise no objections or further requirements for surface water drainage or flood risk at this stage and will await for those details to be provided as part of a formal planning application.

This response has been provided using the best knowledge and information submitted as part of the planning application at the time of responding and is reliant on the accuracy of that information.

Yours faithfully,

[redacted]
Sustainable Drainage Team Leader
Flood and Water Management

[redacted]

Dear Sir/Madam

Case Reference:	OTH/2024/2051
Location:	Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE
Proposal:	Environmental Impact Assessment (EIA) Scoping Opinion request in relation to Border Facility (IBF) and Border Control Post (BCP)

Thank you for consulting the County Council's Minerals and Waste Planning Policy Team on the above application's revised details.

The County Council has no land-won minerals or waste management capacity safeguarding objections or comments to make regarding this matter.

Yours sincerely

[redacted]

creating a better place
for people and wildlife

Environment Agency

[redacted]
Ashford Borough Council
Planning
Civic Centre Tannery Lane
Ashford
Kent
TN23 1PL

Our ref: KT/2024/132140/01-L01
Your ref: OTH/2024/2051

Date: 2 December 2024

Dear [redacted]

Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)

Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE

Thank you for consulting us on the above received 15 November 2024.

Groundwater and Contaminated Land

We have reviewed the Environmental Impact Assessment Scoping Opinion (Waterman, ref WIE20982-100-R-1-2-1-EIA Scoping, October 2024), and note the topics to be scoped in and scoped out of the EIA. Two of the topics proposed to be scoped out are 'ground condition and contamination' and 'flood risk and drainage'. Based on the results of previous intrusive investigations and the site's current drainage infrastructure, we agree that both contamination and drainage can be scoped out of the EIA. However, further details will be required during the detailed design stage of the application.

Waste Regulation

The applicant has confirmed that they will be providing further detail on day-to-day waste management in the planning application when it comes forward, which we would wish to review once submitted:

"Further detail on operational waste management practices will be included in the planning application (Operational Waste Management Strategy) and used to inform the Description of Development Chapter of the ES."

In order to be confident that the impact of the proposal will not have a significant impact on waste and specifically waste to landfill, we ask the Operational Waste Management Strategy is supported with evidence that includes information regarding the waste volumes / tonnages which have actually been produced by the IBF since the facility became operational, with projected annual tonnages of waste produced, recycled, landfilled if the facility were to be made permanent. Consideration should also be given by the applicant of alternatives to landfill such as waste recovery.

Should you have any queries regarding this response, please contact me.

[redacted]

Yours sincerely,

[redacted]

Planning Specialist

[redacted] .

[redacted] [redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

From: [redacted]
Sent: 28 November 2024 15:30
To: Planning Help <planning.comments@ashford.gov.uk>
Cc: Planning SE <planningse@nationalhighways.co.uk>; SouthEast_HESPA@systra.com; Marius [redacted]
Subject: National Highways response (our ref NH/24/08705) re EIA Scoping OTH/2024/2051 Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE

For attention of:	[redacted]
Your Reference:	OTH/2024/2051
Site:	Sevington Inland Border Facility, Sevington, Ashford, TN25 6GE
Proposal:	Environmental Impact Assessment (EIA) Scoping Opinion request in relation to the retention of the existing Inland Border Facility (IBF) and Border Control Post (BCP)
National Highways' Reference:	NH/24/08705

Dear [redacted]

Thank you for your email of 8 November 2024 consulting National Highways with regards the above application, seeking a response no later than 29 November 2024.

We have reviewed the EIA Scoping documentation.

We have had pre-application discussions with the Department for Transport (DfT), His Majesty's Revenues & Customs (HMRC) and Department for Environment, Food and Rural Affairs (Defra) and their agents to scope out the required Transport Assessment and Travel Plan to support these proposals.

We consider that Highways and Transportation need to be scoped into the EIA due to the acknowledged significant Highways and Transportation impact of the proposed development on the Strategic Road Network (SRN) comprising the A2070 and at M20 Junctions 10 and 10A.

A Transport Assessment and Travel Plan will need to be submitted with any future planning application so that the impact of the proposed development on the SRN can be assessed.

We agree with the EIA Scoping Report at 6.2.4 where it states that

> *The TA will set out the principals of the Operational Management Plan (OMP) for the Site, comprising a Traffic Management Plan (TMP), Site Signage Strategy (SSS), and Staff Travel Plan (STP), to support the safe and efficient operation of the Site.*

These documents should demonstrate how the experience of operating the site to-date will feed into its operation and any evolution in the future. They should also set out, for comparison purposes, the implications of the maximum past and likely future combined use(s) of the site.

We look forward to working with all parties to facilitate the timely progress of the forthcoming application.

If any parties have any queries regarding our response, please contact us via planningse@nationalhighways.co.uk .

Regards

[redacted]
Spatial Planning Team, South East Region Operations Directorate
National Highways [redacted]

Appendix 2.4

List of Cumulative Schemes: Screening

Appendix 2.4: List of Potential Cumulative Schemes

Item No.	Planning Reference	Address	Description of Development	Date Approved & Development Progress Status (21/03/24)	Date Received (if not approved)	Approx. Distance & Direction from the Application Site (km)	Is this scheme considered within the Assessment of Cumulative effects? (where no, justification has been provided)						
							Socio-economic	Transport & Access	Air Quality	Noise & Vibration	Cultural Heritage	Ecology & Biodiversity	Landscape & Visual
1	16/00125/AS	Land south of Captains Wood, Land at Cheesemans Green, Cheesemans Green Lane, Kingsnorth, Kent	Construction of 326 new dwellings with associated access, parking, landscaped areas including a neighbourhood play area, internal roads for the development, details of distributor roads E and F, Waterbrook Link Road, a district play area north of Captain's Wood and surface water drainage measures.	28/04/2016 Development underway		0.98 (SW)	No - Not considered to create operational employment opportunities	No - Scheme is deemed to be operational, given Site Visit photos, Google Street View and expected progression of development in planning documents.	No – Cumulative Schemes are assessed in ES Chapter 7: Transport and Access	Cumulative Scheme too distant from Sensitive Receptors to cause significant Type 2 cumulative residual effects. Cumulative effects not anticipated from fixed external plant and building services noise. Cumulative road traffic noise is n/a as 2026 traffic forecast data takes into account local developments and does not include committed developments because none would be built by 2026.	No - Far away enough to have no impact on heritage assets.	No – Cumulative Schemes are of a Residential or Commercial Use Class. The Cumulative Schemes will therefore be required to provide mitigation and compensation for ecology in line with legislation and planning policy.	Yes
2a	18/00098/AS	Waterbrook Park, Waterbrook Avenue, Sevington, Kent	Hybrid planning application for mixed-use development comprising (1) application for full planning permission for the construction and operation of a 600-space truck stop; a 2,162 sqm GIA service building providing 1,734 sqm GIA of ancillary truck stop service facilities and 878 sqm GIA of B1 offices; buildings providing 6,308 sqm GIA B1 (b and c only), B2 and B8 floorspace for small and medium enterprises; associated access, parking and landscaping, including highway infrastructure works to Waterbrook Avenue and (2) Application for outline planning permission (with all matters reserved) for 8.9ha of employment uses comprising uses falling within use classes B1, B2 and B8, a class A1 superstore of up to 2,323 sqm, drive-through restaurants (use classes A3/A5), a petrol filling station and ancillary convenience store, and car showrooms (sui generis); and up to 400 residential dwellings, with class A1, A3 and A5 neighbourhood retail uses, associated drainage, parking, landscaping and infrastructure	17/04/2018 Development underway		0.8 (S)	Yes	Yes		Yes – Cumulative Scheme for Operational Noise assessed. N/a for fixed external plant or road traffic noise.	Yes		Yes
2b	PA/2024/0260	Waterbrook Park, Waterbrook Avenue, Sevington	Mixed-use application comprising 144 dwellings, a convenience/farm shop/cafe building, wetland area, landscaping, open space, drainage, parking, and other associated infrastructure with access from Waterbrook Avenue	09/10/2024 Not started		0.8 (S)	Yes	Yes		Cumulative Schemes too distant from Sensitive Receptors to cause significant Type 2 cumulative residual effects. Cumulative effects not anticipated from fixed external plant and building services noise. Cumulative road traffic noise is n/a as 2026 traffic forecast data takes into account local developments and does not include committed	Yes		Yes
3	19/00025/AS	Land between railway line and, Willesborough Road, Kennington, Kent	(i) Outline planning permission (all matters reserved except for points of access) for up to 437 dwellings; formal and informal open space incorporating SuDS; and associated services, infrastructure and groundworks; and (ii) full planning permission for the erection of 288 dwellings; the creation of serviced plot of land to facilitate the delivery by Kent County Council of a two-form entry primary school with associated outdoor space and vehicle parking; a new Bowls Centre including a clubhouse of 292 sq m, ancillary buildings and a bowling green; a local centre to provide 280 sq m of A1 (retail), 180 sq m of A1 (retail foodstore) , 100 sqm A3 (café), 75 sq m A5 (takeaway), 190 sq m D2 (gym/fitness studio space), open space incorporating SuDS; vehicle parking; and associated services, structural landscaping, infrastructure and groundworks.	21/05/2020 Development underway		2.9 (NW)	Yes	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.

Item No.	Planning Reference	Address	Description of Development	Date Approved & Development Progress Status (21/03/24)	Date Received (if not approved)	Approx. Distance & Direction from the Application Site (km)	Is this scheme considered within the Assessment of Cumulative effects? (where no, justification has been provided)						
							Socio-economic	Transport & Access	Air Quality	Noise & Vibration	Cultural Heritage	Ecology & Biodiversity	Landscape & Visual
4	19/01476/AS	Newtown Railway Works, Newtown Road, Ashford, Kent, TN24 0PN	Detailed application for a mixed-use development comprising;- film/ TV Studios with associated post-production offices and workshop and media village (18,845 sqm) (Use Class B1); a hotel (Use Class C1) including ancillary space and circa 62 serviced apartments (Use Class C3) (max. 112m AOD); a multi-storey carpark (max. 62m AOD); change of use, internal and external alterations to the listed Locomotive Shed buildings, including increasing the height by an additional two-storeys (max. 62m AOD), to provide flexible commercial floorspace (7,185 sqm) for use in connection with the film/TV studios (Use Class B1/ D1) including 265 sqm café (Use Class A3) and circa 302 residential units (Use Class C3) and internal parking spaces; change of use, internal and external alterations to listed Engine Shed building, including increasing the height by an additional two storeys (max.53m AOD) , to provide (2,605 sqm) flexible commercial space (Use Class B1/ D2/A3) and; change of use, internal and external alterations of the Paint Shop building, Acetylene Store and Clock Tower listed buildings to provide ancillary uses to the film/TV studios (Use Class B1); plus associated infrastructure including open space, landscape and public realm provision, external parking, servicing, pedestrian and vehicular access and associated engineering, utilities and infrastructure works.	01/09/2020 Development underway		1.7 (W)	Yes	Yes		developments because none would be built by 2026.	No - Far away enough to have no impact on heritage assets.		
5	18/00652/AS	Land south of Park Farm East, Hamstreet Bypass, Kingsnorth, Kent	Full planning application for 353 dwellings, new accesses from Finn Farm Road, Cheeseman's Green Lane and Brockman's Lane and creation of a T junction between Finn Farm Road and Rutledge Avenue. Creation of a new access serving 1, 3, 5, 7 and 9 Finn Farm Road. On site highway works together with associated parking, infrastructure, drainage, open space, landscaping and earthworks.	26/09/2019 Development underway		2.45 (SW)	No - Not considered to create operational employment opportunities	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
6	12/01245/AS	Conningbrook, Willesborough Road, Kennington, Kent	Creation of a country park for recreational and water-sports purposes with a range of associated facilities including an activity centre, a public house/restaurant, change of use of Manor to offices, car parks and other ancillary works and structures including works to the Julie Rose Stadium; construction of 300 dwelling residential development with associated infrastructure and landscaping; and provision of an aggregates storage and distribution facility ** SUBJECT TO AN ENVIRONMENTAL IMPACT ASSESSMENT**	24/10/2014 Development underway		1.7 (N)	Yes	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
7	22/00131/AS	Mineral Depot, Conningbrook, Willesborough Road, Kennington, Ashford, Kent, TN24 9QP	Outline application for residential development of up to 170no. dwellings including details of access (all other matters reserved for future consideration). AMENDED PLANS RECEIVED.	09/10/2024 Not started		2.4 (N)	No - Not considered to create operational employment opportunities	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
8	PA/2022/2851	Land East of Ashford Road, Kingsnorth	Outline application for up to 15 dwellings, a replacement Medical Centre and Pharmacy, together with all necessary infrastructure to consider access.	26/10/2023 Not started		4.1 (SW)	No - Not considered to create operational employment opportunities	No - Far enough away to have no or minimal impact on the assessed highway network. The Development's TA also routes traffic away from the assessed network			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
9	15/00856/AS	Land at Pound Lane, Magpie Hall Road, Bond	Outline application for a development comprising of up to 550 dwellings in a mix of size, type and tenure. Provision of local recycling facilities. Provision of areas of formal and	06/11/2023 Not started		4.1 (SW)	No - Not considered to create	Yes			No - Far away enough to have		No - Cumulative Scheme not expected to be

Item No.	Planning Reference	Address	Description of Development	Date Approved & Development Progress Status (21/03/24)	Date Received (if not approved)	Approx. Distance & Direction from the Application Site (km)	Is this scheme considered within the Assessment of Cumulative effects? (where no, justification has been provided)						
							Socio-economic	Transport & Access	Air Quality	Noise & Vibration	Cultural Heritage	Ecology & Biodiversity	Landscape & Visual
		Lane and, Ashford Road, Kingsnorth, Kent	informal open space. Installation of utilities, infrastructure to serve the development including flood attenuation, surface water attenuation, water supply, waste water facilities, gas supply, electricity supply (including sub-station, telecommunications infrastructure and renewable energy). Transport infrastructure including highway improvements in the vicinity of Ashford Road/Magpie Hall Road/Steeds Lane, Pound Lane and Bond Lane, plus an internal network of roads and junctions, footpaths and cycle routes. New planting and landscaping both within the proposed development and on its boundaries as well as ecological enhancement works. Associated groundworks.				operational employment opportunities				no impact on heritage assets.		visible by receptors.
10	19/01032/AS	Parcel R, Land at Chilmington Green, Ashford Road, Great Chart, Kent	Reserved matters for the development of 82 residential dwellings within Parcel R, Main Phase AAP 1 including associated roads, parking, landscaping, open space and infrastructure pursuant to outline permission granted under 12/00400/AS.	04/05/2020 Development underway		4.9 (W)	No - Not considered to create operational employment opportunities	No - Far enough away to have no or minimal impact on the assessed highway network. The Development's TA also routes traffic away from the assessed network			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
11	15/01671/AS	Former Powergen site, Victoria Road, Ashford, Kent	Hybrid application for five plots comprising: (1) Full and detailed application for plots 1 and 2 comprising: erection of 400 dwellings, a retail kiosk/cafe unit (Use class A1/A3) and associated parking, public surface car park, plant and storage; together with landscaping and access works. (2) Outline application with appearance and landscaping reserved with parameters for plots 3, 4 and 5 comprising: demolition of existing buildings/structures and erection of up to 260 dwellings, associated parking, plant and storage together with landscaping and access works.	24/11/2016 Development underway		3.8 (NW)	Yes	No - Far enough away to have no or minimal impact on the assessed highway network. The Development's TA also routes traffic away from the assessed network			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
12	15/01282/AS	Land opposite, 1-8 Elwick Road, Ashford, Kent	Outline application for residential development of up to 200 units within Class C2 (residential institution) and Class C3 (dwellinghouses) uses and associated access arrangements (Phase 2).	22/02/2019 Development underway		3.5 (NW)	Yes	No - Far enough away to have no or minimal impact on the assessed highway network. The Development's TA also routes traffic away from the assessed network			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
13	12/00400/AS	Land at Chilmington Green, Ashford Road, Great Chart, Kent	Outline application for a Comprehensive Mixed-Use Development comprising: Up to 5,750 residential units, in a mix of sizes, types and tenures; Up to 10,000 m² (gross external floor space) of Class BI use; Up to 9,000 m² (gross external floorspace) of Class AI to A5 uses; Education (including a secondary school of up to 8 ha and up to four primary schools of up to 2.1 ha each); Community Uses (class DI) up to 7,000 m² (gross external floorspace); Leisure Uses (class D2) up to 6,000 m² (gross external floorspace); Provision of local recycling facilities;	06/01/2017 Development underway		5 (W)	Yes	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.

Item No.	Planning Reference	Address	Description of Development	Date Approved & Development Progress Status (21/03/24)	Date Received (if not approved)	Approx. Distance & Direction from the Application Site (km)	Is this scheme considered within the Assessment of Cumulative effects? (where no, justification has been provided)						
							Socio-economic	Transport & Access	Air Quality	Noise & Vibration	Cultural Heritage	Ecology & Biodiversity	Landscape & Visual
			Provision of areas of formal and informal open space; Installation of appropriate utilities infrastructure as required to serve the development, including flood attenuation works, SUDS, water supply and wastewater infrastructure, gas supply, electricity supply (including substations), telecommunications infrastructure and renewable energy infrastructure (including CHP in the District Centre); Transport infrastructure, including provision of three accesses on to the A28, an access on to Coulter Road I Cuckoo Lane, other connections on to the local road network, and a network of internal roads, footpaths and cycle routes; New planting and landscaping, both within the Proposed Development and on its boundaries, and ecological enhancement works; and Associated groundworks.										
14	18/01822/AS	Land at Court Lodge, Pound Lane, Kingsnorth, Kent	Construction of up to 1000 new homes (C3), local centre comprising retail uses (up to 450 sqm A1-A5) flexible office space (up to 350 sqm B1) and community facilities including a primary school (2.4ha), a combined community hall and site management suite (upto 650 sqm D1). New means of vehicular accesses onto Pound Lane, Long Length, Magpie Hall Road, new pedestrian and cycle routes laying out of green infrastructure, including allotment gardens and areas if ecological habitats. Drainage infrastructure, earthworks and ancillary infrastructure. *Note this is an EIA application accompanied by an Environmental Statement.	Under Consultation (Reasonably Foreseeable)	19/12/2018	3.69 (SW)	Yes	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
15	19/01597/AS	Home Plus, Beaver Road, Ashford, Kent, TN23 7RR	The erection of 216 residential units comprising 207 apartments and 9 townhouses (C3) and commercial floorspace comprising 3 commercial units (Units A, B and C) for a flexible range of uses (A1, A3, A4, A5, B1, D1 and D2) and roof top restaurant, with associated access and landscaping.	Under Consultation (Reasonably Foreseeable)	14/11/2019	2.8 (NW)	Yes	No - Far enough away to have no or minimal impact on the assessed highway network. The Development's TA also routes traffic away from the assessed network			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
16	PA/2024/1087	Land north of M20 Coastbound south of, Kennington Road, Willesborough	Outline application for up to 180 dwellings with associated infrastructure, engineering works, and open space with all matters reserved except for access from Kennington Road	Under Consultation (Reasonably Foreseeable)	12/06/2024	1.8 (NW)	No - Not considered to create operational employment opportunities	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
17	PA/2022/2772	Land south of Asda, Kimberley Way, Ashford	Application for outline planning permission for up to 46,000 sqm of employment floorspace (Use Class E and B2) with all matters reserved except access (excluding internal circulation routes and links to pedestrian and cycle network) and change of use of land to parkland including flood storage area.	Under Consultation (Reasonably Foreseeable)	31/10/2022	2.1 (W)	Yes	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.
18	19/01701/AS	Land east of Ham Street By-Pass and south west of, Brockmans Lane, Kingsnorth	Outline planning application for residential development of up to 100 dwellings with all matters reserved except for the main access point off Brockmans Lane into the site.	Pending Consideration (Reasonably Foreseeable)	03/12/2019	3.4 (SW)	No - Not considered to create operational employment opportunities	Yes			No - Far away enough to have no impact on heritage assets.		No - Cumulative Scheme not expected to be visible by receptors.

List agreed: 20/12/2024