APPENDIX A: CONTEXT DESCRIPTIONS

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0001						U/S finds from across the site	U
0002	0002	0206	1	Topsoil	Layer	Top 10cm of topsoil in Tr1. Looks to be a bit stonier in SE corner, possibly outside apse. Brown topsoil, dry, sandy and very stony, a lot of brick, tile, flint, stone and chalk. Nothing in situ, all scattered indiscriminately. Larger pieces of flat Roma	9
0003	0003	0206	2	Topsoil	Layer	Topsoil layer, c.10cm deep below turf. Dark-mid brown loamy sand with frequent gravel, large stones and building material	9
0004	0004	0206	1	Topsoil	Layer	Topsoil layer, c.10-15cm deep, below 0002 but same deposit.	9
0005	0005	0206	2	Topsoil	Layer	Same as 0004	9
0006	0006	0206	3	Topsoil	Layer	Dark brown sandy silty loam, dry, very stony. Same as 0002 etc. but less CBM	9
0007	0007		2	Ditch	Cut	A steeply sided ditch running east to west. Sides break gently into a flattish base. Shallow lip on the north side.	6
0008	0007		2	Ditch	Fill	Mid to dark greyish brown silty, sandy loam. Quite friable with regular stone inclusions. Root (fine) action throughout. Rare mortar lumps, occasional charcoal flecks	6
0009			3		Layer	Mid grey brown sandy silt, slightly loamy layer under topsoil. Tr 3 Deeper/thicker in W end. May have settled into top of 0067. Sheet says over 0037 but section suggests not	9
0010	0007		2	Ditch	Fill	Mid yellowy brown silty sand with gravelly inclusions. Frequent charcoal lumps of sizes from 2 -7 mm.	6
0011			2		Layer	Cleaning layer in north end of Trench 2. Under topsoil	9
0012			1	Sondage	Fill	Sondage at NW corner of Tr.1 Includes mixed fill under that context and material from 0033, 0047 and possibly 0086 (largely 0047).	8
0013			1	Sondage	Fill	Mixed fill in sondage, SW corner of Tr1. Pale-mid yellowish brown sand, fairly loose, in frequent mortar, holding a quantity of likely demolition rubble. CBM, building stone, regular snail shells noted. Includes 0084, 0103. Not fully excavated.	5
0014			2		Layer	Spread of flint rubble, CBM and mortar approx. WNW-ESE across Tr2. North side dives gradually under 0044, measures approx. 1.9m wide. Reasonably thin spread, rubble held in a mid grey brown silty sand	4+
0015			2		Layer	Cleaning layer under topsoil, S end of Tr2, S of ditch 0007. Mid orangey brown gravelly sandy silt. Same as 0029	5
0016	0016		1	Test pit	Cut	1m by 1m test pit in NE corner of Tr1.	u
0017	0016		1	Test pit	Fill	Mid brown very sandy silt. Infrequent flecks of chalk and mortar. Small size stone, 5%.	4
0018			1	Test pit	Cut	1m by 1m test pit along E edge of Tr 1	u
0019	0018		1	Test pit	Fill	Same as 0023 and 0021	7+
0020	0020		1	Test pit	Cut	1m by 1m test pit centrally along E edge of Tr1	u
0021	0020		1	Test pit	Fill	Same as 0019 and 0023	7+
0022	0022		1	Test pit	Cut	1m by 1m test pit along E edge of Tr1	u
0023	0022		1	Test pit	Fill	Grey brown sandy loam (very dry) with mixture of large flints and small stones with regular CBM fragments. Overlying an area of mainly mortar. Numerous small lumps of chalk were present. Same as 0019 and 0021	7+
0024	0024		1	Test pit	Cut	1m by 1m test pit in SE corner of trench 1	u
0025	0024		1	Test pit	Fill	Mid brown silty sand with frequent stones, demolition rubble, mortar, mortared flints. Upper layer in 1m box 0024	7+
0026	0022		1	Test pit	Fill	Mainly mortar deposit with several large lumps of CBM, and a few small fragments CBM. Overlying a very flinty deep orange-brown layer. A small piece of charcoal was present in the mortar	7+

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0027	0018		1	Test pit	Fill	Mid grey brown sandy silt, gravelly with regular mortar lumps and flecks. The profile may suggest that it fills a cut.	4
0028						Unused	U
0029	0029		2		Layer	Mid orangey brown silty gravelly sand	5
0030	0024	0150	1	Test pit	Fill	Deep orange brown gravel with relatively large flints, fragments of CBM and occasional small lumps of chalk and mortar	2-3
0031	0020		1	Test pit	Fill	Thin layer of mortar and sandy brown soil containing many smallish stones and flints	7+
0032	0016	0151	1	Test pit	Fill	Mid orange/yellow gravelly sand with small amount darker silt. 5% small stone. Some shell, mortar flecks, occasional small daub fragments	4
0033			1		Layer	General mixed layer below topsoil in Tr1, removed during cleaning over entire trench. Rich in CBM	9
0034			1		Layer	Mid to dark greyish brown friable sandy silt with occasional chalk flecks, regular broken tile. Clay pipe stems noted	9
0035	0020	0150	1	Test pit	Fill	Mid orangey coarse gravelly sand. Fairly compact. Same as 0040, 0036, 0030.	2-3
0036	0022	0150	1	Test pit	Fill	Deep orange brown gravel with relatively large flints. Fragments of CBM, small lumps of chalk and mortar in the upper part, no finds centrally, and a few very small pieces of CBM in the bottom of the layer. Same as 0030, 0035, 0040	2-3
0037	0037		3	Ditch	Cut	Probable ditch, approx. N-S aligned, in the E end of Tr3. U-shaped profile, cuts from directly below topsoil	9
0038	0037		3	Ditch	Fill	Dense gravel (rounded and regular stones) held in a mid grey brown sandy silt	9
0039	0016	0151	1	Test pit	Fill	Mid brown sandy gravel, slight orangey hue, friable. Virtually the same as 0032 in terms of compaction and inclusions, v. different colour	3
0040	0018	0150	1	Test pit	Fill	Same as 0035, 0030 and 0036.	2-3
0041	0018	0151	1	Test pit	Fill	Mid orangey brown gravelly sand. Friable, appears to be made up of layers but not really distinguishable.	3
0042	0024	0150	1	Test pit	Fill	Mid orangey brown sandy gravelly silt with CBM and occasional charcoal flecks	2-3
0043			2		Layer	Pale yellowy grey sandy lime mortar. Loose, with reg stones and tile fragments	3
0044			2		Layer	Pale brown loamy soil, with stone and CBM. Friable. Same level, between 0014 and 0045	4+
0045			2		Layer	Pale grey colour. Gritty with large lumps of masonry and smaller lumps of CBM. Some slag. Clearly defined until it goes under dark layer 0044. Some very large lumps building material seen in plan, comprising two approximate E-W lines, one 0.3m wide, one 1m	5+
0046			1		Layer	Cleaning layer in south end of Tr.1, likely same as 0033 but differentiation for finds separation between N and S end	7+
0047	0090	0207	1	Trench	Fill	Mixed backfill, possible 1924 excavation site. Mid brown friable sandy silt with regular mortar flecks and regular charcoal flecks towards 0059, occasional oyster shell, frequent evidence of demolition rubble. Large flints, CBM. Dense mortar in upper level	8
0048			2		Layer	Mortar rich layer	5
0049			2		Layer	Yellow sand of varying compactness with mortar/tile inclusions	2
0050			2		Layer	Spread of dense flint rubble in N end of Tr2	6
0051			1		Layer	Loose pale yellow mortar, sandy with a slight chalky feel. Contains regular flint rubble and frequent CBM, including large tile fragments. Located over and between apsidal wall 0059 and square wall 0060	5
0052			1		Layer	Cleaning of 0060, N side, E-W arm. Mixed demolition deposits mainly dense chalky mortar. Wall only clearly visible once this layer removed	8/9
0053			2		Layer	Dark brown silty gravelly sand	5+
0054			2		Layer	Smooth grey mortar type, few inclusions	4
0055			2		Fill	Likely the same as 0029 but N of ditch 0007	5

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0056	0056	0206	4	Topsoil	Layer	Dark brown sandy loam topsoil in Tr4, same as 0004 etc.	9
0057		0150	1		Layer	Dark orange brown slightly gravelly silty sand, friable. Present up against external face of 0060, E-W arm, S side	2-3
0058		0203	1	Trench	Layer	V. compact spread of mortar and rubble, amorphous, directly below topsoil in Tr1. Over predicted apse area. Pale pinkish brown sandy mortar rich in flint rubble and CBM inclusions	8
0059	0059	0108	1	Wall	Other	Rounded wall against E side of Tr1, 'apse' feature seen on geophysics and partially exposed during 1924 excavation. Walls average 1.3m wide, centrally a rough mix of mortar with mainly ragstone but some septaria and flint, more formally faced with courses	4
0060	0060	0107	1	Wall	Other	Remnants of square building, N-S wall largely intact. E-W arms both truncated at W end. Flint and rubble core, held in a chalky mortar, faced with alternating courses of limestone and reused Roman tile, particularly to create corners. Average 0.8m wide. E	2
0061	0061	0207	1	Trench	Cut	Shallow cut around external N side of wall 0060	8
0062	0061	0207	1	Trench	Fill	Mid-dark greyish brown sandy silt with regular gravel, frequent mortar flecks and lumps	8
0063	0063		2	Trench	Cut	Footing, robbed out. Steep sided	3b
0064			2		Fill	Grey to black, loose, gritty fill to a depression containing much flint (some large pieces) and CBM (some large pieces) and a lot of small fragments of charcoal (a few larger (thumb size) fragments. The north end extended under a yellow brown soil layer	3a
0065	0065		2	Pit	Cut	Possible pit cut in Tr 2 but could just be tipped material. Steep N side, 50 degree sloping S side recorded in trench section	6
0066	0065		2	Pit	Fill	Mid-pale yellowish brown silty sand, a bit gravelly, but with noticeably fewer medium-large stones than the majority of layers in this trench	6
0067	0067		3	Feature	Cut	Large feature in W end of Tr 3 identified as area of high/low resistivity by geophysics. Gradual slope where edge identified in centre of trench. Full depth not reached	N
0068	0067		3	Feature	Fill	Layers of pale-mid yellow brown clay silt with some sand content. Compact and fairly homogenous, noticeably few stones	U
0069	0069	0127	2	Wall	Other	Area with large tile fragments, often closely packed and almost vertical, with a general trend towards leaning back towards north. Held together by loose yellow chalky clay mortar and frequent lumps of dark yellow chalky mortar, all mixed with patches of	3b
0070	0070		2		Layer	Similar to 0055 and 0029	5
0071	0089	0207	1	Trench	Fill	Mid brown friable loose silty sand in frequent mortar. Flecks, regular CBM and building rubble. Occasional flecks of charcoal	8
0072			4		Layer	Layer immediately below topsoil Tr4. Mid greyish yellowish brown fairly compact clay sandy silt	6
0073			4		Layer	Spread of densely packed tile held in mid brown silty almost clay material	6
0074			4	Wall	Other	Approx NW-SE wall, c.40cm wide, surviving as up to 2 courses of soft red brick (c.12cm wide, 6cm thick) bonded with a pale brown chalky lime mortar. Tile spread 0073 seems to be sealed underneath	6+
0075			4		Layer	Thin layer of mid yellowish brown clay sandy silt, fairly compact. Located in centre of Tr4. Thicker in centre as though filling a natural dip- perhaps where deposits of deep feature 0168 settling	6
0076			4		Layer	Tile rich mid yellowish brown clay sandy silt with mortar flecks. Compact. Some mixing with another context before 0124 was identified as a distinct layer. Finds from this context are therefore mixed	6
0077	0083		4		Fill	Densely packed lumps of whitish chalky mortar with traces of tile, held in a mid greyish brown sandy silt	6+
0078			4		Layer	Pale brown sandy clay with pieces of roof tile and flecked with white mortar. Some small stones.	5+
0079	0079		2		Layer	Clean orangey yellow dense gravel in sand, fairly compact	5

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0080	0089	0207	1	Trench	Fill	Assumed 1924 backfill between test pit 0022 and wall 0060	8
0081	0081		2		Layer	Thin layer of mid-dark brown silty gravelly sand rich in finds	3b
0082	0082	0013	1		Layer	Cleaning layer, associated with sondage 0013, fraq. Roman CBM	9
0083	0083		4	Wall	Cut	c.NW-SE aligned linear feature, narrow slot with a square profile	6+
0084	0089	0207	1	Trench	Fill	Layers of loose chalk mortar mixed with mid brown silty sand. Includes regular tile fragments and large loose fragments of stone towards base over floor 0104	8
0085			1		Deposit	Fill between 0059 and 0060, N end	4+
0086	0086	0151	1		Layer	Mid orangey brown gravelly sand. Same as fill of TP 0016. Friable	3
0087	0087	0151	1		Layer	Mid brown gravelly sand- same composition and compaction as 0086 but rather more orangey	3
0088	0088		2		Layer	V. dark orangey brown silty sand. Not gravelly. Observed approximately centrally at base of Tr 2, S of robbed out wall. Similar to and may be same as 0159, 0134 and 0115 in Tr 1	1
0089	0089	0207	1	Trench	Cut	Cut of 1924 excavation within and without square building, southern end of Tr 1 but visible directly under topsoil in W trench section	8
0090	0090	0207	1	Trench	Cut	Cut of 1924 excavations up against NW extent of wall 0059	8
0091			4		Layer	Mid brown sandy silt with shingle, small amount of tile	4+
0092	0092	0203	1		Layer	Deposit of yellow mortar, N. of baulk	8
0093			1		Layer	Layer of loose mortar and building rubble in S. end of Tr1	5
0094	0168		4	Ditch	Fill	Mid-pale grey brown sandy silt with frequent small stones and mortar lumps and flecks. Occasional charcoal flecks	4+
0095			2		Layer	Thin layer at the northern end of Tr 2. Mid grey brown silty sand	3a
0096			2		Fill	Grey to black, loose, gritty fill (similar to 0064) containing few large flints, pieces of brick/tile and mortar (deep yellow) and many pieces of charcoal. The fill is blackest in the centre of the depression and appears to be mainly grey-white wood ash a	3a
0097	0097	0097	4	Hearth	Cut	Possible hearth/fire site in south end of Tr4. Comprises layers of ash and heat altered subsoil (gravelly sandy silt with some clay content). Layers suggest phases of re-use	5?
0098	0097	0097	4	Hearth	Fill	Layer of fine pale grey ash with some areas of blacker charcoal	5?
0099		0090	1		Layer	Layer of mortar under 1924 excavation	4
0100			1		Layer	Mid-pale grey brown silty sand, friable, charcoal and mortar flecked	4
0101			1		Layer	Mid orangey brown gravelly sand, like fill of TP 0016	3
0102		0151	1		Layer	Yellowish grey gravelly sandy mortar. Friable-loose	3
0103		0203	1		Layer	Redeposited mortar layer. Loose sandy gravelly mortar with regular tile fragments. Undisturbed by 1924 investigation	5
0104	0104	0107	1	Floor	Layer	Chalk floor surface within building 0107, some signs of burning. Very compact, very thin	2
0105		0203	1		Layer	Likely same as 0103. Dense sandy mortar assumed demolition layer over building 0108	5
0106			1		Layer	Loose gravelly mortar between truncated end of 0060 and rounded wall 0059. Frequent rounded pebbles	3
0107	0107	0107	1	Building	Other	Square building in Tr1	2
0108	0108		1	Building	Other	Circular building against W edge of Tr1	4
0109	0168		4	Ditch	Fill	Loose, pale yellowy brown gravelly mortar layer. Continues to NE end of the trench, under 0076.	4+
0110	0168		4		Layer	Mid-dark orangey brown gravelly silty sand, friable-loose	2-3
0111			2		Layer	A soft grey fill (wood ash?) containing lumps of chalk, two large pieces of tile and some small lumps of tile and mortar. There were pieces of charcoal (few relatively large pieces) present, some of which appeared to be embedded amongst lumps of compacted	3a
0112	0112		2	Floor	Layer	Compact chalk layer similar to 0104	2
0113	0113	0206	5	Topsoil	Layer	Topsoil layer, same as 0002 etc. but less CBM	9

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0114	0020	0150	1		Layer	Mid brown gravelly silty sand with frequent mortar flecks and mortar lumps. Regular charcoal flecks also noted. There is a spread of solid mortar present in top of layer up against wall 0060 but not adhering to it. Association unclear. Photographed in si	2
0115	0115	0212	1		Layer	V. dark orangey brown silty sand. Not gravelly. Similar to 0134 and 0167	1
0116	0116	0206	6	Topsoil	Layer	Dark-mid brown loamy sand with frequent gravel	9
0117			6		Layer	Mid brown loamy sand	9
0118		0151	1		Layer	Mid-dark orangey brown homogenous gravelly silty sand	3
0119			1		Layer	Pale mid grey brown sandy silt with regular mortar flecks and tile fragments	2
0120		0151	1		Layer	Same as upper fill of TP 0016. Layers of clean orangey brown gravelly sand. Few material culture inclusions	4
0121	0063		2	Trench	Fill	Yellow to yellow-brown gritty silty sand with much flint and small pieces of chalk. Some small pieces of tile (and a few large pieces of brick and tile) were found with a lot of yellow sandy mortar or render (some quite large pieces). There were flecks of	3b
0122		0097	4	Hearth	Fill	Gravelly sandy silt with some clay content in south end of Tr 4. Mid-pale yellowy brown changing to pinky red colour where heat altered	5?
0123		0097	4	Hearth	Fill	Similar to 0122 but separated by thin layer of charcoal rich ashy material, suggesting different burning events. Includes patches of fairly solid well fired clay material but doesn't look particularly structural from what is visible	5?
0124			4		Layer	Mid yellowish brown clay sandy silt. Compact reg tile, occasional mortar flecks. Ashy lens identified	6
0125			2		Fill	Dark orangey brown soft sandy fill with a lot of small stones and a few small pieces of brick/tile and chalk, occasional charcoal flecks	3a
0126		0127	2		Layer	Pale yellow sandy soil with large pieces of tile (mostly near vertical) and large pieces of stone and flint, and compact yellow sandy mortar/rendering. Difficult to assess whether or not the CBM is bonded together or just compressed together	3
0127		0127	2	Wall	Other	Large chunk of fallen/demolished masonry. S of wall footing 0149 and possibly fallen from it. All tile construction, bonded in pale grey chalky mortar, curvature suggests that it may have been part of an arch/window/doorway. Lies on top of the demolition	3b
0128		0151	1		Layer	Thin layer of dark brown sandy silt with frequent stones and regular mortar lumps and flecks. Occasional/regular charcoal flecks. Incredibly sharp contact with 0120. Seems to continue under [0061] 0062 up against wall 0060 where NE corner is truncated	3
0129		0151	1		Layer	Similar to 0120 perhaps larger stones	3
0130			1		Layer	Thin layer of pale yellowish brown compact chalky mortar. Solid and fairly level.	4
0131		0107	1		Layer	Loose layer comprising chunks of mortar/render and tile held in mortar which appears mostly heat altered to pink, and frequent charcoal lumps and flecks. Numerous shards window glass collected	3
0132			5		Layer	Mid orangey grey brown gravelly sandy silt, compact. Fine roots throughout	1+
0133	0195		6	Ditch	Fill	Mid brown silty sand with regular tile and stones.	5+
0134		0212	1		Layer	Same as 0115, 0167	1
0135		0151	1		Layer	Similar to 0129	3
0136	0136		5	Posthole	Cut	Circular post hole, SE corner of Tr 5. Not fully exposed, continues beyond EoS. U-shaped profile, rounded base	U
0137	0136		5	Posthole	Fill	Mid greyish brown gravelly sandy silt, friable-compact	U
0138	0138		6	Gully	Cut	Narrow slot gully aligned c. E - W central to Tr6. Cuts from below topsoil. Shallow with steep sides breaking to a flattish base	5+
0139	0138		6	Gully	Fill	Dark brown silty loam rather like topsoil, loose-friable with regular small stones, occasional large stones and regular mortar flecks/small fragments	5+

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0140		0140	6		Layer	Thin layer of compact silty sandy clay with regular chalk flecks. Pale yellowish brown mottled with grey. Area of burning present- h/a material, some baked solid with layer of ash. Possibly damaged by agricultural activity	5
0141		0203	1		Layer	Mid orangey brown sandy silt lies within layers of demolition material. Friable, occasional small stones, homogenous.	5
0142		0203	1		Layer	Patch of yellow mortar loose regular gravel. Within general layers of demolition material	5
0143		0203	1		Layer	Loose layer of pale grey brown mortar, gravel and general demolition material	5
0144		0203	1		Layer	Layer of brown/grey demolition material containing mortar, brick and tile (Kentish?) ragstone	5
0145		0203	1		Layer	Patch of brown yellowish grey containing some mortar, flecks of charcoal and medium sized pebbles	5
0146		0195	6		Layer	Layer of loose gravelly mortar with mid grey brown silty pockets around frequent large flecks, stones and tile fragments	5+
0147	0061	0207	1	Trench	Fill	Mid grey brown sandy silt, fairly mixed layer with regular pebbles and mortar. Within rounded wall 0059	8
0148		0140	6		Other	Small area of burning in & on layer 0140 only partially exposed as continues beyond southern edge of side	5
0149	0149		2	Wall	Other	Solid mortar, pale yellowish brown with regular chalk, similar seen at base of wall 0060 where truncated	2
0150		0150	1		Other	Layers of material deposited against the wall of building 0107? Sealed by 0151, possible 2nd phase of building	2
0151	0151	0151	1		Layer	Group number for layers of material deposited against the wall of building 0107.	2-3
0152	0061	0207	1	Trench	Fill	Thin layer of pale brown mortar held in pale-mid brown silty sand	8
0153	0061	0207	1	Trench	Fill	Very similar to 0131 but mixed. Seals an apparent chalk floor like 0104 and at same level	8
0154			2		Layer	Pale-mid yellowy brown sandy lime mortar with reg stones and tile fragments. Friable	4
0155	0168		4	Ditch	Fill	Dark brown silty sand, moist. Regular charcoal flecks. Not bottomed	3+
0156			6		Layer	Thin layer of clean yellow sandy mortar, friable and with large chunks of mortar. ? Redeposited by ploughing into the top of the oven once it collapsed?	5+
0157	0177	0177	6		Other	Group number for all fill layers above and around 0177. Used for finds from this area when it was unclear which layer they came from	5+
0158			6		Layer	Spread of rubble (large stones) held in a loose mortar. Discreet(?) spread in NE corner of trench, over mortar layer 0156 but neither over or under 0140	5
0159	0159	0212	1		Layer	Similar to and may be same as 0167, 0134 and 0115, and possibly 0088 in Tr. 2. Under and against E-W arm of wall 0060	1
0160			6		Layer	Mid orangey brown silty sand, friable with regular yellow sandy mortar lumps. Same as 0164- numbered twice	3+
0161			2		Layer	Lens through 0154	4
0162	0162	0107	1	Structure	Other	Stone/tile built rectangular structure associated with wall 0060 but abutting it rather than bonded in. Small step out around the base, courses of tile, all plastered/rendered. Inside building 0107, c.10cm E of apex of building 0108	2
0163			6		Layer	Dense patch of large greyish yellow mortar lumps	3+
0164			6		Layer	Mid orangey brown silty sand, friable with regular yellow sandy mortar lumps. Same as 0160- numbered twice	3+
0165			1		Fill	Like 0131 but more grey than pink and not as loose	3
0166	0166	0107	1	Floor	Layer	Mid orangey brown silty sand with regular large stones, likely building rubble. Likely sub base for chalk floor 0104, or former floor surface later topped with rammed chalk	2
0167	0167	0212	1		Layer	Dark orangey brown homogenous sandy silt with regular large septaria lumps. Very similar to 0115/0134/0159	1

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0168	0168		4	Ditch	Cut	Large deep ditch in NE end of Tr 4. SW edge slopes away fairly gradually but only upper layer and cut visible as continues beyond excavated depth of trench. Augured a further 0.5m below the deepest excavated point.	2
0169	0169	0206	7	Topsoil	Layer	Dark-mid brown loamy sand topsoil	9
0170			6		Layer	Loose yellow sandy mortar. Coarse, with stony patches	5
0171	0171	0191	6		Layer	Yellow mortar layer, fairly compact. Likely base of wall 0191	2
0172	0177		6	Oven	Fill	Pale yellow mortar, loose	5+
0173	0177		6	Oven	Fill	Grey loose soil infrequent charcoal	5+
0174	0177		6	Oven	Fill	Dark blackish brown sandy silty with some heat-altered clay and frequent charcoal	5+
0175	0177		6	Oven	Fill	Compact dark brown burnt clay	5+
0176	0177		6	Oven	Fill	Dark brown soil with charcoal	5+
0177	0177		6	Oven	Cut	Approx. circular and domed h/a clay feature. Baked bright orange and almost solid in places, heavily blackened in others. Possible stoke hole area at west end. Appears somewhat damaged and collapsed, top only revealed	5+
0178	0177		6	Oven	Fill	Heat altered clay associated with oven/hearth	5
0179	0177		6	Oven	Fill	Associated with oven feature, orangey heat altered clay in SE corner of Tr 6.	5
0180	0177		6	Oven	Fill	Mid grey brown sandy silt, fairly sterile	5
0181	0181		6	Posthole	Cut	Small circular post hole with steep sides breaking to a flattish base.	6+
0182	0181		6	Posthole	Fill	Filled with mid grey brown friable sandy silt, rare small stones, collection of large stones on N side near top may be packing material	6+
0183			7	Finds	Layer	Finds rich layer under topsoil but not discernible from it- finds from this layer likely to have become incorporated into topsoil 0169	4+
0184		0184	7		Layer	Mid-dark brown silty sand, compact to friable, very similar to topsoil but slightly stonier and with regular mortar flecks	4+
0185			6		Layer	Mid-dark brown sandy silt with occ. large septaria lumps, directly under wall 0191. Very similar to 0159 Tr1.	1
0186			6		Layer	Little discernible difference to 0160, bit more orangey. Over what may be natural subsoil.	2-3
0187		0188	7		Layer	Compact layer of reddish brown soil with scattered lumps of mortar, chalk and tile. A small number of pot sherds	3+
0188		0188	7		Layer	Loose layer of yellow mortar with a few small lumps of brick and tile. A small number of pot sherds	3+
0189		0184	7		Layer	Compacted layer of grey brown soil with a scattering of stone and tile. Flecks of charcoal in SE corner	4+
0190			1		Layer	Material removed from around SE corner of wall 0060, to expose external masonry and view construction method. Same material as seen in Tr 1 test pits	2
0191			6	Wall	Other	E-W wall, largely robbed out where exposed in Tr6. Similar construction to 0060 but larger blocks, 'rougher' finish. Yellow sandy mortar with chalk, possibly also used as render on the face. Southern edge appears unfaced and abuts 0205	2
0192			7		Layer	Thin layer of dense chalk held in mid brown silty sand present in discreet area in W end of Tr7	3+
0193			7		Layer	Layer of almost stone free mid yellowish brown silty sand, homogenous. Probably cut by grave 0199	1
0194			7		Layer	Spread of mortar in SW corner of Tr7	3+
0195	0195		6	Feature	Cut	Possible NE -SW ditch or large feature in W end of Tr6. Shallow, sloping sides.	5+
0196			1	Floor	Layer	Likely floor level inside N half of building 0107. No rammed chalk layer as seen in the southern half of the building (0112), more like 0166.	2
0197	0197		7		Layer	Orangey sandy gravel layer. Seen at base of trench	0+
0198	0198		7		Layer	Dark orangey brown gravelly sandy silt layer in W end of Tr7	2

Ctxt No.	Feat. No.	Grp No.	Tr.	Feature Type	Cat.	Description	Phase
0199	0199		7	Grave	Cut	E-W aligned grave in E end of Tr7, E end of which is beyond edge of site. W end looks quite square but not certain at high level visible	2
0200	0199		7	Grave	Fill	Mid grey brown silty sandy clay, compact, regular stones and chalk flecks	2
0201	0199		7	Skeleton	Other	Partially exposed from mid femurs down to ankles. Not all elements present. 10th to early 11th century r/c date	2
0202			6		Layer	Mortar rich layer cut by possible feature 0195. Any finds likely to have been allocated to context number 0160/0164	3
0203	0203		1		Other	Group number allocated to layers of demolition material post-dating the demolition of building 0108	5
0204	0060	0107	1	Wall	Other	Solid chalky mortar, likely remnant of footing of wall 0060 where it is truncated on the south side for 0059 (building 0108)	2
0205	0205		6	Wall	Other	Heavily robbed wall in Tr 6, made of flint and stone with occasional Roman tile fragments held in a pale grey chalky mortar. Southern edge not revealed as it is under oven 0177 and floor 0140, northern side defined, and appears well finished, but heavily	4
0206	0206			Topsoil	Layer	Group number for all topsoil deposits	9
0207	0207		1		Other	Contexts associated with 1924 excavations	8
0208			6		Layer	Retrospectively numbered layer of yellow mortar mixed with mid grey brown silty sand	5+
0209	0209		1	Pit	Cut	Cut identified in exploratory trench on N side of building 0107. Interpreted as a pit based on location where geophysics suggests a large, negative anomaly. Appears to be a steeply sloping cut at the base of wall 0060 and filled with assumed banking mater	3
0210	0209		1	Pit	Fill	Group number for fills of 0209 against western site edge. Same as 0151.	3-4
0211			2		Layer	Orange-brown gravelly sand with crushed mortar, similar to but finer than 0055	6+
0212		0212	1		Layer	Group number for a clean orange-brown sand that appears to run under the building footings. Suggested that this may be a deliberately built-up deposit/upcast from outer ditch digging that raised the platform about the floodplain.	1
0213			1		Layer	Same as upper layer 0150, Building 2 occupation. Phase 4	4
0214			1		Layer	Group number for layer contemporary with occupation of building 1	3
0215		0114	1		Deposit	Spread of mortar lying at top of 0114, described as part of 0114 throughout the excavations, but interpreted as a deposit on top of it.	2

APPENDIX B: FINDS TABLES

Table B1 Bulk Finds

Ctxt	Tr.	Pot No.	Pot Wt (g)	CBM Wt (g)	Plaster/ Mortar Wt (g)	F. Clay No.	F. Clay Wt (g)	Clay Pipe No.	Clay Pipe Wt (g)t	Fe Nails No.	Fe Nails Wt (g)	Slag No.	Slag Wt (g)	PMed Glass Bottle No.	PMed Glass Bottle Wt (g)	PMed Glass Window No.	PMed Glass Window Wt (g)	Stone No.	Stone Wt (g)	A Bone No.	A Bone Wt (g)	Shell No.	Shell Wt (g)
0001		11	81	8000	2433			1	0											3	16		
0002	1	15	277	54039	407			1	0	2	9			1	9	2	0						
0003	2	108	125	86863	645		41	1	0	1	3			8	67			30	312	39	227		
0004	1	42	319	162713	2355			5	10	2	20		55	4	47	2	2	22	287	42	196	3	11
0005	2	36	675	67190	1166			1	3					4	9	2	0	21	1199	31	273	1	14
0006	3	15	210	2346	354			1	0					8	41			3	102	2	3	3	3
0008	2	37	380					1	0									9	82	34	257	10	17
0009	3	36	254											4	21	5	6	19	118	12	105		
0010	2	1	8		35													2	5	2	4	1	1
0011	2	4	107	23231	1214													3	48	12	85	3	10
0012	1	3	11	33424	734															24	96		
0013	1	2	11	32102	900															9	91	18	75
0014	2	5	32	12936	1755															18	66	33	73
0015	2	1	11		29													4	37	7	18		
0019	1				42			2	2											2	10	1	0
0021	1				10																		
0023	1				18																		
0025	1			7200																			
0026	1				32															1	4		
0027	1				799																		
0029	2	10	60	8100				1	0	1	3							6	29	60	360	26	44
0030	1	1	18																	1	7		
0031	1	2	40																	5	90		
0032	1																			3	7		
0033	1	9	39	135727	6236			1	0	1	3	1	15							11	192	62	43
0034	1	1	2																	3	12		
0035	1			3500	1000															2	1		
0036	1				182															4	4		
0040	1																			1	1		

Ctxt	Tr.	Pot No.	Pot Wt (g)	CBM Wt (g)	Plaster/ Mortar Wt (g)	F. Clay No.	F. Clay Wt (g)	Clay Pipe No.	Clay Pipe Wt (g)t	Fe Nails No.	Fe Nails Wt (g)	Slag No.	Slag Wt (g)	PMed Glass Bottle No.	PMed Glass Bottle Wt (g)	PMed Glass Window No.	PMed Glass Window Wt (g)	Stone No.	Stone Wt (g)	A Bone No.	A Bone Wt (g)	Shell No.	Shell Wt (g)
0042	1																			1	2		
0043	2	7	77		874															22	67	42	78
0044	2	2	6	20308	6869															2	7	18	
0045	2	3	35	63046	6835							5	874									43	107
0046	1			45840	568			1	2											9	34	4	10
0047	1	8	26	20992	756															6	29	5	7
0048	2			3068	1985															4	8	3	4
0049	2	1	2	59063	11035	82														7	36	8	16
0050	2			7100																			
0051	1			30989	8061															1	63	1	2
0052	1	1	10	5292	300					1	2			1	0							1	5
0053	2	3	13		133															1	0		
0054	2	8	72	25467	973					3	10							1	2	22	63	13	16
0055	2	9	70	20943	1672													2	28	17	100	7	8
0056	4	262	2522	175145	6			6	9	1	4			14	100	6	9	127	646	56	279		
0057	1	2	11	488833	4047			1	0	4	32									74	250	9	17
0058	1			21066	1104															3	8		
0062	1	3	29	11942				1	0							1	0			3	16		
0064	2	36	353	12739	5098															19	50	1	1
0065	2	3	21																				
0066	2			33194	5627															47	318	14	27
0070	2	1	3	18232	2227								502							28	73	18	14
0071	1	1	13	167694	5289		22	1	4											4	9	17	29
0072	4	31	221	46933	68									1	4			68	395	26	79	11	14
0073	4	9	195	87867	237													35	673	28	260	4	15
0075	4	9	52	35598	25													24	149	11	74		
0076	4	12	108	9520	54													26	850	51	986	7	14
0077	4	2	4	2492	723					1	8							4	8				
0078	4	16	129	12242	52													15	107	73	411		
0079	2	2	36	7025	92								1597							1	13		
0081	2	44	337	1571	175															178	946	13	14
0084	1			35024	1061															1	3		
0085	1	3	21	2820	590															1	4	3	1
0086	1				399																		

Ctxt	Tr.	Pot No.	Pot Wt (g)	CBM Wt (g)	Plaster/ Mortar Wt (g)	F. Clay No.	F. Clay Wt (g)	Clay Pipe No.	Clay Pipe Wt (g)t	Fe Nails No.	Fe Nails Wt (g)	Slag No.	Slag Wt (g)	PMed Glass Bottle No.	PMed Glass Bottle Wt (g)	PMed Glass Window No.	PMed Glass Window Wt (g)	Stone No.	Stone Wt (g)	A Bone No.	A Bone Wt (g)	Shell No.	Shell Wt (g)
0087	1			648	1157																		
0091	4	1	12		183													5	4	17	72	3	1
0092	1			31806	4136															1	7	3	12
0093	1			10900																			
0094	4	8	51	15793	509		405											6	34	4	58	8	14
0095	2				267															5	3	3	8
0096	2			5387	6338													2	44			2	2
0099	1				467															2	1		
0100	1																			1	0		
0103	1			66048	1099															2	0	2	0
0105	1			12717	352															2	0	8	23
0106	1			11500	796																		
0109	4	5	51	93488	41563													6	71			13	14
0110	4	5	41		19													1	20	14	100	2	2
0111	2			1494	1420																		
0113	5	12	96					4	9					2	13	1	2	2	50	2	49		
0115	1			459	23															2	100		
0116	6	8	84					1	0	3	10							1	15	11	142	1	3
0117	6	8	76	36867	142					14	81					5	1	1	15	21	106	23	46
0120	1	1	2	34657						1	3									4	2		
0121	2	7	23	4900	9626															13	100	8	
0122	4																			6	197		
0124	4	26	174	15570														8	27	7	94		
0125	2	2	5		217															2	4	2	4
0126	2	2	12	1070	2288																		
0128	1			2005	370															2	20		
0129	1			3793																			
0130	1			1674																2	0		
0131	1			30641	95					1	20												
0132	5	1	9																				
0133	6	23	161	19328	1799					7	28	74						3	27	10	93		
0134	1																			1	2		
0135	1	1	10	64614	224																26		
0137	5																			3	16		

Ctxt	Tr.	Pot No.	Pot Wt (g)	CBM Wt (g)	Plaster/ Mortar Wt (g)	F. Clay No.	F. Clay Wt (g)	Clay Pipe No.	Clay Pipe Wt (g)t	Fe Nails No.	Fe Nails Wt (g)	Slag No.	Slag Wt (g)	PMed Glass Bottle No.	PMed Glass Bottle Wt (g)	PMed Glass Window No.	PMed Glass Window Wt (g)	Stone No.	Stone Wt (g)	A Bone No.	A Bone Wt (g)	Shell No.	Shell Wt (g)
0139	6			1597																		2	3
0146	6			19584	3619															12	183	7	13
0149	2				288																		
0152	1				483																		
0153	1			604	4033																		
0154	2			13000	2253															17	146	3	5
0155	4	30	313		254					1	5									26	185	2	0
0156	6	1	11		21															1	0		
0157	6	3	16		61															10	13		
0160	6	3	12	11972	245					2	19					1	0			2	17	6	12
0161	6				4000																		
0162	1																			8	75		
0163	6			1156																			
0164	6	137	1407		141					1	19									2	7	2	0
0165	1			4202	14600																		
0169	7	209	1841	100348	3472					29	192			1	13	1	0			131	759	4	5
0170	6	2	6	14850	1306																	1	4
0183	7	76	654	14041	995					4	19	1	27					1	44	28	95	2	1
0184	7	37	212	39759	2979					1	2									19	315	3	1
0185	6			5415	9																		
0186	6			1789	588					2	47									3	22		
0188	7	1	6	21248	7569															5	10	2	3
0190	1			1061	62					1	9									15	62	1	1
Totals		**1426**	**12311**	**2825401**	**207349**	**82**	**468**	**30**	**39**	**84**	**548**	**81**	**3070**	**48**	**324**	**26**	**20**	**457**	**5428**	**1437**	**9394**	**516**	**867**

Table B2 Pottery by Context

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0001	PMRW	U	1	14	1																pmed
0001	EMWSS	U	4	35	4																
0001	MCW	U	1	8	1											+	+				
0001	LMT	U	2	7	1																
0001	COLC	U	1	7	1											+	+				
0001	HFW1	D	1	4	1						applied vert strips		O/G								
0001	GRE	R	1	13	1	PK?	THEV			Colc 143.113		G		160	5	+					
0001	GRE	D	1	6	1							OB	OB			+					
0002	EMWSS	U	1	7	1																
0002	MCW	B	1	5	1				S												
0002	LMT	U	2	16	1						poss shallow incised lines?					+					
0002	LMTE	B	1	77	1				S			SG				+					
0002	PMRW	U	3	14	3																
0002	PMRW	B	1	28	1				S			SO				+					
0002	GRE	D	2	12	2							O				+					
0002	GRE	D	1	10	1						IHLs		O			+					
0002	GRE	D	1	18	1							B				+					
0003	MCW	U	2	9	2											+					
0003	EMW	U	1	4	1																
0003	EMWSS	U	1	10	1																
0003	EMW	B	1	28	1				F												
0003	COLC	U	4	42	4																
0003	COLC	D	3	12	1						SLLW										
0003	COLL	D	1	11	1								SC								
0003	COLL	U	9	93	9																
0003	COLL	U	6	46	6																
0003	COLL	U	1	51	1	CS															
0003	COLL	R	1	13	1	JG	FTBD							110	14	+					
0003	COLL	R	1	12	1	PK?	FTBD							190	9	+					
0003	COLL	R	1	11	1	JG?	FTEV							160	7						
0003	COLL	H	1	14	1			S													
0003	COLL	U	7	55	7																
0003	LMT	D	3	14	1							SG						ext			

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0003	LMT	U	12	65	12																
0003	LMT	D	1	4	1							G	G								
0003	COLL	B	1	28	1				F		base scratched post-firing										
0003	LMT	B	1	30	1				F?			?								0005?	
0003	LMT	H	2	19	1			S													
0003	LMT	B	1	15	1				S		TB	B				+					
0003	PMRW	U	8	51	8																
0003	PMRW	B	1	14	1				F							+					
0003	PMRW	H	1	12	1			S					SC								
0003	LMT	R	1	9	1	?	INT									+					
0003	PMRW	R	1	6	1	?	FTBD							160	7	+					
0003	PMRW	U	1	7	1											+					
0003	LMT	D	1	12	1							O				+					
0003	LMT	B	1	39	1				S		TB							+			
0003	LMT	D	3	18	3							B				+					
0003	GRE	R	1	18	1	BL	FTEV					O		300	6						
0003	GRE	R	1	12	1	BL	UPRO			Colc 138.72		OB									
0003	GRE	D	3	23	3							B									
0003	GRE	D	1	2	1								O			+					
0003	GRE	D	1	13	1								O			++					
0003	GRE	B	1	19	1				S			OB				+					
0003	GRE	DH?	1	21	1			WS?					O			+					
0003	GRE	R	1	21	1	PK	COLL					O		140	10	+	+				
0003	GRE	R	1	19	1	PK	COLL					O		180	5	+	+				
0003	GRE	RH	1	13	1	CA?	FLAR	S				O	O								
0003	GRE	B	1	18	1				PED ?				B			+					
0003	GSW3	D	1	4	1								B								
0003	GSW3	D	2	9	2						1 GGR		C								
0003	GSW1	DH	1	20	1	MG		S				C	C								
0003	GSW3	DH	1	26	1	MG		S					B								
0003	GSW3	B	1	23	1				FRIL		TB		B								
0003	GSW3	R	1	9		MG	UPPL						C	80	9					0008	
0003	GSW4	D	1	11	1								B								
0003	STAF	U	1	4	1																
0003	STMG	B?	1	7	1				FR			B	B			+					
0003	CRW	B	1	3	1				F			C	C								
0003	PEW	B	1	3	1				FR			C	C								
0003	PEW	D	1	3	1						TP? Blue		C								
0003	SWSW	R	1	2	1	PL	EV				moulded	W	W							0004?	

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
											lattice										
0003	REFW	R	1	2	1	PL?	EV				TP blue willow border	C	C	240	3						
0003	REFW	R	1	1	1	PL?	EV				TP blue willow border	C		160	3						
0003	REFW	R	1	2	1	PL?	EV				TP blue willow border	C	C	200	5						
0003	REFW	R	1	5	1	SA?	PL		FR		TP blue floral int	C	C								
0003	REFW	R	1	2	1	?	UPPL						?	120	5						
0003	REFW	U	2	5	2							C	C								
0003	REFW	B	1	1	1				FR			C	C								
0003	ESW	D	1	14	1	PJR					vert grooved	C	C								
0004	EMW	R	1	12	1	JR	EVBD							200	6	+	+				
0004	EMW1	U	1	6	1											+					
0004	MCW	U	1	4	1											+	+				
0004	COLL	U	6	29	6																
0004	COLL	D	1	7	1							SG									
0004	COLL	D	1	4	1						SLLW										
0004	COLL	U	5	44	5																
0004	COLL	H	1	21	1			R			vert grooves		SG			+					
0004	LMT	R	1	13	1	BL	UPRO			Colc 138.72				280	4	+					
0004	COLL	B	1	37	1				S		TB	SB	SC								
0004	COLC	D	1	3	1							SC									
0004	PMRW	U	4	19	4																
0004	PMRW	H	1	14	1			S													
0004	PMRW	R	1	18	1	BL?	FTEV						SC	380	3	+					
0004	GRE	D	1	3	1						pierced	OB	SO								
0004	GRE	D	1	1	1								OB			+					
0004	GRE	D	1	9	1							O									
0004	GRE	D	1	8	1							O	O			++					
0004	PMSW	D	1	2	1						white slip & sgraff ext		Y			++					
0004	PMSW	D	1	9	1						white slip ext & int??	Y	Y			++					
0004	GSW3	B	1	37	1				FRIL				C/B								

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0004	GSW3	D	1	13	1								B								
0004	GSW3	D	1	3	1								C								
0004	CTW	D	1	1	1							DB	DB								
0004	SWSW	U	1	1	1							W	W								
0004	SWSW	R	1	7	1	PL	EV				moulded lattice	W	W							0003?	
0004	LSRW	D	1	12	1						slip int, scored	C									
0004	YELW	D	1	1	1							Y	Y								
0004	ESW	D	1	30	1								LB			+					
0004	PORC	R	1	1	1	?	EV				scalloped edge	C	C								
0004	REFW	B	1	1	1				FR?		blue ext	C	C								
0004	REFW	D	4	6	4						TP blue	C	C			+					
0004	REFW	D	1	2	1						TP grey	C	C								
0004	REFW	U	1	1	1							C	C								
0004	REFW	R	1	1	1	BL?	CAV				TP blue willow int	C									
0005	EMW1	BU	2	23	1				S?							++					
0005	EMWSD	U	1	8	1						shell-dusted (leached)						+		+		
0005	MCW	U	3	9	3											+					
0005	COLC	U	2	3	2																
0005	MCW	R	1	7	1	JR	FTEV			Essex H3											L.13-M.14
0005	LMT	B	1	43	1				F			?				+				0003?	
0005	LMT	D	3	45	1								G							0008	
0005	COLL	U	4	24	4																
0005	COLL	U	5	52	5																
0005	COLL	D	1	4	1						SLLW										
0005	COLL	B	2	83	2				S												
0005	COLL	B	1	70	1				S		TB	SG									
0005	COLL	U	1	45	1	CS															
0005	COLL	H	1	34	1			WS			vert grooves										
0005	COLL	H	1	11	1			WS													
0005	LMT	U	1	2	1								S?			+					
0005	COLL	D	1	4	1							SB									
0005	COLL	R	1	14	1	BL	FTEV							380	4						
0005	GRE	B	1	8	1				F			B									
0005	LMT	B	1	12	1				F		TB	B									
0005	GRE	R	1	10	1	PK	FLAR					DB		180	5	+					

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0005	GRE	B?	1	4	1				F?			OB									
0005	GRE	D	1	15	1							B	B			++					
0005	GRE	R	1	4	1	CA?	FLAR					O	O	160	5	+					
0005	PMRW	U	5	24	5																
0005	PMRW	R	1	18	1	BL	UPRO			Colc 138.72				240	6						
0005	PMRW	R	2	63	1	PN	BD					SC		460	6						
0005	GSW3	D	2	16	1								C								
0005	GSW3	D	1	4	1								B								
0005	LSRW	D	1	6	1						slip int	C	B								
0006	EMW1	U	1	16	1											++					
0006	UNID	R?	1	2	1	?	EV?									+					
0006	MCW	U	3	15	3											+					
0006	MCW	B	1	4	1				S							+					
0006	MCW	R	1	4	1	JR?	INT							240	4	+					
0006	MCW	H?	1	4	1			WS?								+					
0006	COLL	R	1	7	1	JR/JG	FTEV							140	6						
0006	PMRW	U	2	28	2											+					
0006	LMT	D	1	6	1						white slip line ext	SO				+					
0006	LPME	B	1	4	1	PP			F												
0006	ESW	B	1	50	1	PJR					moulded grooves	C	C								
0006	YELW	B	1	11	1				FR			Y	Y			++					
0006	STAF	D	1	2	1	MG?					brown lines ext	Y	Y								
0006	REFW	U	1	3	1							C	C								
0008	MCW	B	1	12	1				S												
0008	LMT	D	2	12	1								SB								
0008	LMT	D	1	6									G							0005	
0008	MCW	B	1	8	1				S							+		int			
0008	COLL	U	1	14	1	CS															
0008	COLL	U	8	46	8																
0008	COLL	D	2	13	1						SLLW										
0008	COLL	D	1	8	1						3 curving SLLW										
0008	COLL	U	7	55	7																
0008	COLL	D	1	4	1							SC	SC								
0008	COLL	B	1	38	1				S		TB										
0008	COLL	R	1	50	1	JG	FTEV							120	15						
0008	COLL	D	1	9	1							OL									
0008	COLC	R	1	5	1	JG	FLAR						B	80	10						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0008	COLC	D	1	1	1								O?								
0008	LMT	U	2	31	2																
0008	EMW	U	1	6	1											+					
0008	MCW	U	1	3	1																
0008	LMT	D	1	7	1								SC								
0008	PMRW	U	2	25	2																
0008	PMRW	R	1	43	1	BL	FLAR							420	6						
0008	GRE	R	1	10	1	PK	FLAR					G?		150	10						
0008	GSW3	D	2	7	2								B								
0008	GSW3	R	1	24	1	MG	UPPL	S					C	80	20					0003	
0008	GSW3	R	1	12	1	MG	UPPL						LB	80	8						
0009	RBCG	R	1	20	1	JR	THEV							240	7	++					
0009	EMW	U	4	12	4											+					
0009	EMW1	R	1	15	1	BL	FTEV							240	6	+					
0009	EMW1	U	1	8	1											++					
0009	EMWS	U	1	7	1																
0009	EMWSG	U	1	4	1																
0009	EMWSS	R	1	17	1	JR	THEV							220	5	+	+				
0009	MCW	U	12	54	12																
0009	MCW	B	1	29	1			S											+		
0009	COLL	B	1	19	1			S													
0009	PMRW	U	2	19	2											+					
0009	GRE	D	1	4	1							DB	DB								
0009	ESW	D	1	32	1	LSV							B								
0009	REFW	U	1	2	1								C			+					
0009	REFW	R	1	2	1	CU?	UPPL				TP green rose	C	C			+					
0009	REFW	R	1	1	1	PL?	EV				TP green rose	C	C			+					
0009	REFW	D	3	2	3						TP blue	C	C			+					
0009	REFW	D	1	2	1						TP blue wash int & ext	C	C			+					
0009	REFW	R	1	1	1	PL?	EV				TP blue willow border int	C	C			+					
0009	REFW	RD	3	3	1	EC?	UPPL				TP blue leaves, orange line at rim	C	C								
0010	EMW1	U	1	5	1																
0010	COLL	D	1	8	1							SC									

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0010	PMRW	U	1	3	1											+					
0011	EMWSD	D	1	8	1						shell-dusted					+	+				
0011	EMWSS	U	1	4	1											+					
0011	MCW	B	1	65	1				S		ATS at base angle						+				
0012	MCW	U	1	3	1												+				
0012	IPSG	D	1	3	1								SC			++					
0012	GRE	D	1	2	1						IHL	O	O								
0012	LSRW	D	1	4	1						slip int	C	O			+					
0013	MCW	U	2	11	1												+				
0014	MCWG	U	1	12	1																
0014	COLC	U	1	4	1												+				
0014	MCW	U	3	15	3												+				
0015	MCW	U	1	11	1												+				12-13
0029	EMWSD	U	1	7	1						shell-dusted						+				
0029	EMW	U	1	12	1												+				
0029	EMWG	U	1	25	1						occ shell in surface						+				
0029	EMWSD	R	1	12	1	JR	EVBD				occ shell in surface			300	4						
0029	EMWSS	U	5	22	5											+	+				
0029	EMWSS	B	1	9	1				S							+	+				
0029	EMW	R	1	6	1	BL?	INT				TR			240	3		int				
0029	COLL	U	3	21	1																
0029	COLL	U	1	1	1																
0030	LMT	U	1	18	1																
0032	EMW	U	1	5	1												int				
0032	UPG	H	1	36	1			R			knife slashes		SG								
0033	EMW	U	1	3	1											+					
0033	MCW	U	1	2	1																
0033	MCW	R	1	9	1	JR	SQBD							200	5	+					
0033	LMT	U	1	4	1												+				
0033	COLL	U	1	7	1																
0033	ESW	D	1	8	1	PJR					vert grooves	C	C								
0033	REFW	R	2	4	1	BL?	CAV				TP blue willow	C	C	260	5						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
											border int										
0033	REFW	R	1	4	1	PL?	EV				blue shell-edged	C	C	240	5						
0034	MCW	U	1	2	1																
0043	EMW	U	1	4	1												+				
0043	EMWSG	U	3	27	3												+				
0043	EMWSS	B	1	10	1				S							+					
0043	EMWSG	R	1	15	1	JR	T							320	5		+				12-13
0043	EMWSG	R	1	20	1	JR	UPTR							280	7		+				12-13
0044	EMWS	U	1	3	1																8
0044	EMWSD	U	1	3	1						shell-dusted						+				
0045	EMWSD	U	1	19	1						shell-dusted										
0045	MCW	U	1	8	1																
0045	LMT	R	1	8	1	JR?	TRBD							160	7						
0047	MCW	U	4	16	1												+				
0047	COLC	U	1	3	1																
0047	PMRW	U	1	3	1											+					
0047	LPME	U	1	9	1	PP															
0047	LSRW	D	1	3	1						white slip int	C									
0047	REFW	R	1	1	1	?	?				TP blue willow border int	C				+					
0049	UNID	U	1	2	1											+					
0052	YELW	B	1	11	1				FR			Y	Y								
0053	MCWSD	D	2	8	1						shell-dusted					+	+				12-13
0053	EMW	U	1	5	1																
0054	EMW1	U	4	20	4																
0054	EMWG	U	1	23	1																
0054	EMWSG	U	1	9	1												+				
0054	EMWSS	R	1	10	1	JR	T							240	5						12-13
0054	EMW	R	1	10	1	JR	EVBD							160	7	+					12-13
0055	EMW	U	1	4	1																
0055	EMW1	U	6	36	6											+	+				

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0055	EMWSS	U	1	16	1																
0055	EMWSD	D	1	8	1						shell-dusted					+	+				
0055	EMWG	U	1	12	1																
0055	MCW	D	1	9	1						FTIs						+				
0056	EMW1	U	7	63	7											+					
0056	EMWG	U	1	11	1											+					
0056	MCW	U	9	49	9																
0056	MCW	B	1	3	1				S												
0056	MCW	R	1	10	1	JR	FTEV							240	5						
0056	HCW	R	1	4	1	JR	CAV							160	5						
0056	ESOW	D	1	4	1						SLLW		G/B			+					
0056	MCW	R	1	5	1	LD?	EV							120	5	+					
0056	COLL	U	40	268	40																
0056	COLL	U	42	293	42																
0056	COLL	U	3	115	3	CS															
0056	COLL	H	6	204	6	JG		WS													
0056	COLL	H	1	15	1			S													
0056	GRE	H	1	12	1			NS					SC								
0056	COLL	B	3	94	3				S		TB										
0056	COLL	B	11	241	11				S												
0056	COLL	B	8	122	8				S			SB									
0056	COLL	D	11	84	10						SLLW										
0056	COLL	D	1	5	1						white slip int					+					
0056	COLL	D	2	13	2						white slip ext		Y								
0056	LMT	D	4	26	4							B									
0056	LMT	D	3	11	3								C			+					
0056	COLL	DH	1	45	1			R			white slip ext					+					
0056	LMT	R	1	8	1	PK?	COMP					G									
0056	COLL	R	1	32	1	JG	FTEV							160	11						
0056	COLL	R	1	31	1	JG	FTEV				carination below rim, thin slip lines			140	11						
0056	COLL	R	1	13	1	JR	FTBD							200	8						
0056	COLL	R	1	10	1	JR?	FTEV							180	5						
0056	COLL	R	1	12	1	JG	FTEV							100	14	+					
0056	COLL	R	1	6	1	JG	TRBD							140	5						
0056	COLL	R	1	12	1	BL?	FTEV							160	6						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0056	COLL	R	1	30	1	BL	FLAR														
0056	PMRW	R	1	10	1	JR	FTEV							120	4	+					
0056	PMRW	B	1	14	1				F							+					
0056	PMRW	U	10	63	10																
0056	PMRW	R	1	13	1	BL?	UPRO							220	5	+					
0056	PMRW	R	1	27	1	BL?	FLAN							260	5	+					
0056	PMRW	R	1	5	1	JR?	CAV							260	3	+					
0056	PMRW	R	1	4	1	?	UPTH					SC		140	8		+				
0056	LMT	B	1	20	1				S												
0056	LMT	U	2	8	2																
0056	LMT	B	1	13	1				S									+			
0056	GSW3	D	5	23	5								B								
0056	GSW3	D	10	62	10								C								
0056	GSW3	B	3	48	3				FRIL		TB	C	C								
0056	GSW3	H	1	5	1			NS					C								
0056	GSW1	R	1	4	1	MG	UPPL					LB	LB	80	5						15+
0056	GSW4	R	1	5	1	MG	UPPL					B	B	80	11						
0056	GSW4	D	1	15	1	MG					applied acorns		B								16
0056	TGE	D	1	4	1						blue lines ext	W	W			+					
0056	LMT	D	1	17	1							OB	OB			+					
0056	GRE	D	1	29	1							O	O			++					
0056	GRE	B?	1	7	1				F?			B									
0056	GRE	R	1	9	1	BL	BD					O		220	5	+					
0056	GRE	R	1	11	1	PK?	FLAR					DB	SC	170	6		+				
0056	GRE	R	1	21	1	JG	FTBD						O	110	14						
0056	GRE	R	1	3	1	PK?	EVBD						B	160	5						
0056	GRE	R	1	4	1	MG	UPPL					O	O	120	5	+					
0056	GRE	R	1	3	1	MG	UPPL					O	O								
0056	GRE	R	1	3	1	JR?	EV					O	O	100	7	+					
0056	GRE	H	1	12	1			S					O								
0056	GRE	R?	1	13	1	?	FLAN ?						O	160	8						
0056	IGBW	R	1	7	1	?	TAPB D						DB			+					
0056	IGBW	D	1	7	1							DB	DB			+					
0056	LSRW	D	3	11	2						white slip int	C	B								
0056	LSRW	D	1	34	1						white slip int	C									
0056	LPME	R	1	7	1	PP	BD							130	11	+					
0056	LPME	R	1	1	1	?	FLAR														

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
							?														
0056	ESW	U	2	11	2							C	C								
0056	REFW	U	6	11	6							C	C			+					
0056	CRW	U	2	4	2							C	C			+					
0056	CRW	B	1	2	1				F			C	C			+					
0056	REFW	B	1	1	1				FR				C			+					
0056	REFW	D	4	7	4						TP blue	C	C			+					
0056	REFW	R	3	7	3	PL?	EV				TP blue willow border; scalloped rims	C	C								
0056	PEW	RU	2	2	1	PL?	EV				flow blue	C	C								
0056	REFW	D	2	12	2						blue slip	C	C								
0056	REFW	D	1	1	1						bright green slip int & ext	C	C								
0056	PORC	DH	1	3	1			NS			HP black, green, red overglaze	C	C								
0056	PORC	RD	2	1	1	?	UPPL				HP greenish overglaze	C	C								
0056	PORC	R	1	1	1	?	EV					C	C								
0056	SWSW	R	1	1	1	CU?	UPPL					W	W	70	5						
0056	SWSW	R	1	5	1	PL	EV					W	W	280	5						
0056	YELW	D	1	4	1						white slip lines	Y	Y			+					
0056	YELW	D	1	1	1							Y				+					
0056	ESW	H	1	13	1			NS					LB								
0056	LBW	R?	1	2	1	BL?	FLAR					DB		70	8						
0057	STND	R	1	5	1	JR	EV							160	4						
0057	COLC	B	1	7	1				S												
0062	MCWG	U	1	13	1																
0062	MCWG	R	1	9	1	JR	FTEV							180	7		+				
0062	LRW	D	1	6	1							B									
0064	EMWSD	DUB	14	87	1				S		shell-dusted					+					
0064	MCWSD	RU	4	26	1	JR	FTEV				shell-dusted			260	4						
0064	MCWSD	RUB	14	168	1	JR	HOOK				TR, shell-dusted			320	10					0081?	
0064	EMWS	D	1	16	1						shell-						+				

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
	D										dusted										
0064	EMWSS	U	1	3	1												int				
0064	EMWSS	B	1	13	1				S												
0064	EMW1	R	1	5	1	JR	EV							190	5	+					
0064	EMW1	R	1	38	1	JR	FTEV			Essex H2				320	8						
0066	EMWSD	D	1	5	1						shell-dusted										
0066	EMWSS	U	1	10	1																
0066	MCW	D	1	4	1						COWLs										
0070	RBGW	U	1	3	1											++					
0071	LSRW	R	1	12	1	BL	FLAR				slip wavy line int	O	O	240	5	+					
0072	RBGW	U	1	2	1											++					
0072	EMW1	U	1	1	1											++					
0072	MCW	U	2	15	2																
0072	HCW	U	1	8	1																
0072	MCW	R	1	11	1	JR	FTEV			Essex H2				300	5	+					
0072	COLC	R	1	14	1	JG	FTEV							150	13	+					
0072	COLL	U	10	71	10																
0072	COLC	U	1	2	1								SC								
0072	COLL	B	1	7	1				F			OB									
0072	LMT	U	2	20	2																
0072	LMT	B	1	9	1				S			SB									
0072	COLC	D	1	1	1						SLLW										
0072	GSW3	D	2	10	1								LB								
0072	GSW4	D	1	3	1						applied leaf		B								
0072	COLL	B	1	35	1				S												
0072	LMT	B	1	22	1				S												
0072	PMRW	U	8	49	8																
0073	EMW	U	1	2	1											+					
0073	LMT	U	1	5	1											+					
0073	COLL	U	1	6	1																
0073	COLL	R	1	13	1	JG	FTEV				partial white slip line			140	8						
0073	COLL	R	1	11	1	JG	TRBD							180	8						
0073	COLL	B	1	16	1				S		TB										
0073	GRE	BD	8	123	1	CA?			TRI			SO									

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0075	COLC	D	1	4	1						SLLW										
0075	COLC	D	1	8	1						white slip ext		Y								
0075	EMW1	U	1	6	1																
0075	MCW	U	1	4	1																
0075	COLL	U	2	16	2																
0075	PMRW	U	1	3	1																
0075	GRE	D	1	1	1							O				+					
0075	GRE	D	1	4	1						IHLs		?								
0077	COLC	U	1	2	1											+					
0077	COLL	U	1	1	1																
0078	MCWSD	DB	11	63	1				S												
0078	MCW	U	3	15	1												+				
0078	MCWG	U	1	37	1																
0078	MCW	U	1	4	1																
0076	EMW1	U	1	12	1																
0076	MCWG	U	1	9	1																
0076	MCW	R	1	8	1	JR	FTEV							140	8						
0076	MCW	U	1	2	1											+	+				
0076	HOLL	U	1	5	1											+	+				
0076	HFW1	D	1	1	1								SG								
0076	COLL	U	3	7	3																
0076	MCW	R	1	7	1	JR	FTEV							160	6						
0076	MCW	R	1	33	1	BL	FLAR							400	4		+				
0076	GSW3	D	1	23	1						GGR		C/B								
0079	EMWSD	D	2	36	1						shell-dusted										
0081	EMW	UB	20	123	1				S		occ shell-dusting										
0081	EMWSD	D	3	11	1						shell-dusted										
0081	EMWSD	D	3	18	1						shell-dusted										
0081	EMWSD	D	2	19	2						shell-dusted						+				
0081	EMWSD	D	1	9	1						shell-dusted, ATS										
0081	EMWSD	D	5	31	1						shell-dusted						int				
0081	EMW	R	1	14	1	BL	INTFT				TR			140	5		int				
0081	EMWSD	R	1	8	1	JR	FTEV				sparse shell int			200	5						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
											surface										
0081	MCWSD	D	5	62							sparse shell dusting									0064?	
0081	EMW1	U	1	11	1												+				
0081	EMW1	U	1	3	1																
0081	EMW1	RS	1	23	1	SP?	THEV				TR			180	6						
0081	GRE	B	1	3	1							B									16
0085	MCWSD	D	1	22	1						shell-dusted						+				
0085	MCW	U	1	2	1												+				
0087	MCW	U	1	5	1																
0091	EMW1	R	1	12	1	JR	FTEV			Essex H2				220	7						
0094	EMW1	U	4	20	3																
0094	MCW	U	2	19	2																
0094	ANDN	D	1	10	1								Y								
0109	EMW1	U	1	4	1												+				
0109	COLC	U	1	3	1																
0109	MCW	U	1	5	1												+				
0109	MCW	B?	1	25	1				S?								int				
0110	EMW1	U	3	17	3												+				
0110	EMW1	B	1	21	1				S								+	+			
0110	HFW1	D	1	2	1						applied strips		CUG								
0111	COLC	U	1	2	1																
0113	EMW1	U	4	28	4												+	1			
0113	EMW1	B	1	12	1				S								+				
0113	EMW1	R	1	36	1	JR	UPBD				TR			280	9			+			
0113	EMWSS	U	1	2	1																
0113	EMWSS	R	1	6	1	JR	FTEV							260	4		+				
0113	MCW	U	1	5	1												+				
0113	LSRW	D	1	4	1						slip int	C	SB								
0113	REFW	R	1	1	1	SA	PL				TP purple floral	C	C	160	5						
0113	PORC	B	1	1	1				CONC			C	C								
0116	LMT	U	3	57	3											+					
0116	PMRW	U	1	5	1											+					
0116	GRE	B	1	11	1				F			O				+					
0116	GRE	D	2	17	2							B									
0116	GRE	R	1	10	1	JG	UPPL					B	B	80	15						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0116	CRW	U	1	1	1							C	C			+					
0117	COLC	U	1	3	1																
0117	EMW1	U	1	4	1											+					
0117	EMWSS	U	1	2	1																
0117	LMT	U	2	14	2																
0117	CTW	D	1	1	1						GGR?	DB	DB								
0117	GRE	R	1	27	1	PN	THEV					OB					+				
0117	ESW	R	1	10	1	MG	UPPL					C	B/C	80	11						
0120	EMWG	U	1	1	1											+	+				
0121	EMWSS	U	2	3	2											+					
0121	EMWSS	B	1	4	1				S							+	+	+			
0121	MCW	U	3	7	3																
0121	COLL	D	1	3	1								DG								
0124	EMW1	U	1	1	1											+					
0124	EMW1	U	7	32	1													ext			
0124	EMW1	U	3	15	3																
0124	MCWSD	D	1	6	1						shell-dusted										
0124	MCW	U	2	5	1																
0124	MCW	RU	4	74	1	BL	EVRO							440	5						
0124	MCWG	U	3	23	1																
0124	MCW	U	4	12	4																
0124	COLL	U	2	6	2																
0125	EMW1	D	2	6	1					Colc fig 34.31?	rough incised lattice									0126 0133	
0130	EMW	U	1	1	1											+	+				
0132	RBGW	R	1	8	1	JR	CAV							160	8	++					
0126	EMW1	D	2	12							rough incised lattice									0125 0133	
0133	EMWSS	U	2	9	2																
0133	EMW1	U	6	25	6																
0133	EMW1	D	1	1							incised									0125 0126	
0133	EMWSD	D	1	5	1						shell-dusted					+					
0133	MCW	U	7	33	7																
0133	COLC	D	1	6	1								SG							0160	
0133	MCW	D	2	26	1						IHLs										

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0133	LMT	B	1	43	1				S												
0133	LMT	B	1	4	1				F												
0133	COLL	D	1	3	1						white slip dots		O								
0133	COLL	D	1	9	1						white slip lines & dots										
0135	EMWSS	U	1	9	1											+	+				
0144	EMW1	U	1	2	1											+					
0144	MCW	U	2	14	1																
0155	EMWSS	B	1	33	1				S												
0155	EMWSD	D	8	35	7						shell-dusted										
0155	EMW1	U	10	55	10											+	+				
0155	EMW1	B	1	18	1				S							+	+				
0155	EMWSD	D	4	29	1						shell-dusted										
0155	EMWG	B	2	39	1				S								+		+		
0155	EMWSG	U	1	22	1																
0155	MCWG	U	1	52	1																
0155	MCW	U	1	26	1											+					
0155	COLC	U	1	2	1												+				
0156	EMW1	U	1	11	1											+	+				
0157	EMWSS	U	1	5	1																
0157	EMWSD	D	2	10	2						shell-dusted					+					
0160	EMWSD	D	1	3	1						shell-dusted										
0160	COLC	D	2	8							white slip line		SG							0133	
0164	EMWG	U	3	14	3											+					
0164	EMWSD	D	9	85	1						shell-dusted						+				
0164	EMWSD	D	4	69	1						shell-dusted										
0164	EMWSD	D	3	74	1						shell-dusted										
0164	EMWSD	D	2	15	1						shell-dusted					+	+				
0164	EMWS	D	4	38	4						shell-						+				

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
	D										dusted										
0164	EMWSD	D	1	14	1						shell-dusted						+				
0164	EMWSD	DB	4	74	1				S		shell-dusted						+				
0164	EMW1	BU	4	51	1				S								+		+		
0164	EMW1	B	2	40	1				S							+	+				
0164	EMWSD	U	3	11	1						shell-dusted					+	+				
0164	EMWSS	U	2	14	2												+				
0164	EMW1	B	6	74	6																
0164	EMW1	U	45	233	45												+				
0164	EMW1	U	2	18	1												+				
0164	EMW1	B	3	37	2				S							+	+				
0164	EMW1	U	5	20	5											+	+				
0164	MCW	U	4	90	1												+				
0164	MCW	U	11	97	11												+				
0164	MCW	U	3	20	3																
0164	MCWG	U	3	15	3												+				
0164	EMWG	RH	2	133	1	JRH	EV	WS		rim Colc fig 36.85	ATS on handle, IWLs, shell-dusted?			200	12						
0164	EMW1	D	1	8	1						ATS					+	+				
0164	MCW	R	1	7	1	JR	FTEV			Essex H2				180	5	+					
0164	EMW1	R	1	11	1	JR	FTEV			Essex H2				260	5	+	+				
0164	MCW	R	1	18	1	JR	FTEV			Essex H2				260	6						
0164	EMW1	R	1	7	1	JR	FTEV			Essex H2				180	4	+					
0164	EMWSS	R	1	21	1	BL	FTEV							400	5						
0164	EMWSD	R	1	9	1	JR	FTEV			Essex H2				240	4	+					
0164	MCW	R	1	4	1	JR	FTEV			Essex H1						+					
0164	COLC	R	1	12	1	JR	FTEV			Essex H1				220	5						
0164	MCWSD	R	1	44	1	JR	UPEV			Essex H2				250	12						

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0164	COLC	U	1	1	1																
0164	GRE	DB	2	11	1							O									
0169	EMWS	U	1	20	1																
0169	EMWS D	D	15	105	15						shell-dusted						+				
0169	EMW1	U	70	380	70											+	+				
0169	EMW1	B	8	104	8				S							+	+				
0169	EMWS S	B	3	48	1				S												
0169	EMW1	U	4	26	4											+					
0169	EMWS D	UD	17	209	1						shell-dusted						+				
0169	MCWG	U	2	6	2											+	+				
0169	MCW	U	37	198	36												+				
0169	MCW	B	4	43	3				S												
0169	EMW1	U	1	12	1																
0169	EMWS S	R	1	14	1	JR	UPEV			Essex H2				250	5						
0169	EMWS S	R	1	19	1	BL	FTEV			Essex H1				400	5						
0169	EMW1	R	1	15	1	JR	UPEV			Essex H2				280	5	++					
0169	EMW1	R	1	7	1	JR	UPEV			Essex H2				160	8	+					
0169	EMW1	R	1	10	1	JR	UPEV			Essex H2				220	5	+					
0169	EMW1	R	1	9	1	JR	UPEV			Essex H2				240	5	+					
0169	EMW1	R	1	21	1	JR	UPEV			Essex H2				300	5	+					
0169	EMW1	R	1	13	1	JR	UPEV			Essex B4	TR			220	7						
0169	MCWG	R	1	5	1	JR	UPEV			Essex H2				220	3	+					
0169	MCW	RU	6	110	1	JR	FTEV			Essex H1				300	25		+			0183	
0169	MCW	RU	4	76	1	JR	FTEV			Essex H1				260	10					0183	
0169	MCW	R	1	38	1	JR	FTEV			Essex H1				280	8						
0169	MCW	R	1	33	1	JR	FTEV			Essex H1				260	7						
0169	MCW	R	1	19	1	JR	FTEV			Essex H1				280	7	+				0183	

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
0169	MCW	R	1	23	1	JR	FTEV			Essex H2				230	10		+				
0169	MCW	R	1	18	1	JR	UPEV							190	5		+				
0169	MCW	R	1	13	1	JR	UPEV							200	5	+	+				
0169	COLC	U	5	36	5																
0169	COLC	H	1	12	1			S			deep gouge in handle										
0169	COLC	R	1	11	1	JR	UPEV			Essex H2				180	8						
0169	COLL	U	1	68	1	CS?															
0169	COLL	U	1	9	1																
0169	PMRW	U	1	3	1											+					
0169	GRE	D	2	14	1							B				+					
0169	GRE	D	1	3	1							O									
0169	REFW	U	1	31	1							C	C								
0169	REFW	U	1	3	1								C								
0169	REFW	D	1	1	1						moulded	C	C								
0169	REFW	R	1	2	1	BL?	CAV				TP blue int	C	C	220	3	+					
0170	CTW	H	1	4	1			R					DB								
0170	IGBW	D	1	2	1								DB			+					
0183	EMWSS	U	2	7	2											+					
0183	EMWG	U	1	3	1											++					
0183	EMWSD	U	16	131	16												+				
0183	EMW1	U	21	147	21																
0183	EMW1	U	3	6	3												+				
0183	EMW1	B	3	28	1				S								+				
0183	EMW1	B	2	32	2				S							+					
0183	MCW	U	12	64	12												+				
0183	EMW1	D	4	43	1						IWLs, ATS, shell-dusting										
0183	EMW1	S	1	47	1	SP															
0183	EMW1	R	1	5	1	JR	UPTH			Essex B4						++					
0183	EMW1	R	1	10	1	JR	FTEV			Essex H2				280	5	+					
0183	MCW	R	1	20		JR	FTEV			Essex H1				260	7					0169	
0183	MCW	R	1	34		JR	FTEV			Essex				280	10	+				0169	

Ctxt	Fabric	Type	No	Wt/g	MNV	Form	Rim	Handle	Base	Parallel	Decor-ation	Glaze int	Glaze ext	Rim diam	Rim per-cent	Abra-sion	Soot	Wear	Lime	Also in	Spot date
										H1											
0183	MCW	R	1	16		JR	FTEV			Essex H1				300	4		+			0169	
0183	MCW	U	3	20	2																
0183	COLC	U	1	1	1																
0184	EMW1	U	6	32	6												+				
0184	EMW1	B	4	35	3				S												
0184	EMWSD	D	7	27	6						shell-dusted										
0184	MCW	U	13	82	13												+				
0184	EMWSS	R	1	10	1	JR	FTEV			Essex H2				220	6		+				
0184	EMW1	R	1	4	1	JR	UPBD							120	4						
0184	EMW1	RS	1	52	1	SP/BL	FTEV?							180	12		+				
0184	MCW	R	1	16	1	JR	FTEV			Essex H1				260	7		+				
0184	MCW	R	1	7	1	JR	FTEV			Essex H1				260	3		+				
0185	EMWSS	U	2	14	1											+					
0188	EMWSS	U	1	6	1											+					

Table B3 Ceramic Building Material by context

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0002	fsv	rbt?	1	80	+			20								poss med? Reduced core	Rom?		Y
0002	fscp	rbt?	1	50	+			16								poss med? dark core	Rom?		Y
0002	wfs	rbt	2	520				39								joining	Rom		
0002	wfs	rbt	1	245				45								pinkish core	Rom		
0002	wfs	rbt	1	310						patchy pozz, white msc on break						not full thickness	Rom		
0002	fs	rbt	1	310				35		ms buff						reduced core, overfired, slightly concave	Rom		Y
0002	fs	rbt	1	405				33		thin				double cfm		reduced core, overfired	Rom		Y
0002	fs	rbt	1	475				40-48		thin						reduced core, overfired, blown	Rom		Y
0002	fsv	rbt	1	670				37		thin all over				double cfm			Rom		
0002	est	eb?	1	30	+											no surfaces	lmed		
0002	fscp	lb	1	45	++												pmed		
0002	mscq	rtm	1	40												reduced core	med		
0002	fs	box	1	65	+			20							?vert, 5 wide teeth		Rom		
0002	fs	bip?	1	1250	+			58		patches ms cream						poss LB	Rom		Y
0002	mscp	rtm	5	107												reduced, 1 vit surface	med/lmed		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0003	fs	rbt	2	4												flakes	Rom		
0003	fs	rbt	1	55				16								reduced	Rom		
0003	fscp	imb	1	34				16									Rom		
0003	mscq	rtm	1	35												reduced core & surfaces	med		
0003	fs	un	1	8	+			8		thin						curving, rough underside	pmed?		
0004	mscq	rt	3	55													med-pmed		
0004	fs	rid	1	30	+			12									pmed?		
0004	wfs	rbt?	1	25	+					patches ms white all over						flake, poss IMB	Rom		
0004	fs	rbt	2	23						1 thin						flakes	Rom		
0004	fs	rtp	1	3												flake	pmed		
0005	mscq	rtp?	1	55	+			11		thick white						poss RTM	lmed/pmed		
0005	fs	rbt	1	90				15		thick white							Rom		
0005	fs	rtp	17	410					1 x R								lmed/pmed	rs	Y
0005	fs	rbt	16	465												some reduced cores	Rom	rs	Y
0005	fs	rbt	1	255				29		patches						reduced core	Rom	rs	Y
0005	fs	rbt	5	600				32-35		thin						some reduced cores	Rom	rs	Y
0005	fs	rbt	1	105				31									Rom	rs	Y
0005	fs	rbt	1	30				25								reduced core	Rom	rs	Y
0005	fs	rbt?	1	65				18								reduced core, poss RTM	Rom?	rs	Y
0005	fs	lb	1	10	++												pmed	rs	Y
0005	fs	rbt	1	300				37		thin all over						double cat pawprint	Rom	rs	Y
0005	wfs	rbt?	1	5													Rom?		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0005	fsv	imb	4	320				16-18									Rom		
0005	fs	box	2	160				16								part of straight cut-out on one	Rom		
0005	fs	rbt	1	135				35+						cfm			Rom		
0005	fs	rbt?	1	155				15								reduced, dense	Rom?		Y
0005	fs	rt?	1	65				11								reduced, dense	med+?		Y
0005	fs	rbt?	1	30				17								poss RTM	Rom?		
0005	fs	rbt?	1	30	+			22								soft	Rom?		Y
0005	fsv	lb	1	115	+												pmed		
0005	fs	rbt	1	760		>160		28		patchy white all over						strike marks on base	Rom		Y
0005	fsc	box	1	75	+			16							wavy lines		Rom		Y
0005	fsv	imb	1	97				14									Rom		
0005	ms	rtm	2	14	+											partly reduced	med		
0005	fs	rtm	3	25												2 reduced, 1 reduced core	med/lmed		
0006	fs	rbt	1	260				45		thin						overfired	Rom		Y
0006	fsc	rbt	1	315				44								overfired	Rom		Y
0006	mscq	rtm	3	69												reduced surfaces/cores	med/lmed		
0008	fsv	lb?	3	65	++											soft, friable	lmed?		Y
0008	fs	un	1	10				12								fully rediced - RT or RBT??			Y
0008	mscq	rtm	9	280						thin						reduced cores/surfaces	med/lmed		
0008	fs	rtm	1	65												reduced core	med/lmed		
0008	fs	rbt	1	335				45		thin							Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0008	ms	rtp	2	45						ms white							lmed/pmed		Y
0008	fs	rtp	1	20					1 x R							burnt, reduced to pale grey	lmed/pmed		Y
0008	mscq	rtm	1	45					1 x R							burnt	med/lmed		Y
0008	fs	rtm	1	55												reduced core, incised cross in surface?	med		Y
0008	fs	rtm	1	24												reduced core, spot GG	med		
0009	mscq	rtm	2	26												reduced surfaces/cores	med/lmed		
0010	fs	imb	1	116				17		thin							Rom		
0011	fs	box	1	100				15		thin pozz					vert & diag, 9 teeth?		Rom		Y
0011	fsv	box	1	150				18		ms white all over					vert & diag, 5+ teeth		Rom		Y
0011	fs	box	2	95				17							vert, 9+ teeth	corner frags	Rom		Y
0011	fs	rbt	26	1455						thin all over						flakes	Rom	rs	
0011	ms	rtp	10	380					1 x R								lmed/pmed	rs	
0011	fs	lb	1	5	++												pmed	rs	
0011	mscq	rtm	1	29												reduced surfaces	med/lmed		
0012	fs	rbt	1	340				43		thin						laminated	Rom	rs	Y
0012	fs	rbt	1	475	+			34									Rom	rs	Y
0012	fs	rbt	1	110	++			32		thin all over							Rom	rs	Y
0012	fs	rbt	1	140	+			33									Rom	rs	Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0012	fs	rbt	1	95				35		ms buff on base							Rom	rs	Y
0012	fs	rbt	8	200												flakes	Rom	rs	
0012	ms	rtp	7	210	+												lmed/pmed	rs	Y
0013	fs	rbt	13	595												flakes	Rom		
0013	fs	rbt	3	630				32-35		thin							Rom		
0013	fs	rbt	1	220				33		thin							Rom		
0013	fs	rbt	1	155	+			34		thin							Rom		
0013	fs	rbt	1	85				30									Rom		
0013	fscq	rbt	1	260				50								overfired/blown, cracked	Rom		
0013	fsf	rbt	1	430				38		thin cream						KT base	Rom		
0013	fs	rbt	1	280				30		cream ms on break				double cfm			Rom		
0013	fs	rbt	1	135	+					thin							Rom		
0013	fs	rbt	1	500				36								sunken margins	Rom		Y
0014	fs	rbt	15	750												flakes	Rom	rs	Y
0014	fs	rbt	5	685				35		thin							Rom	rs	Y
0014	fs	rbt	1	300				40		thin							Rom	rs	Y
0014	fs	rbt	1	130				31									Rom	rs	Y
0014	fs	rbt	1	110				29		thin							Rom	rs	Y
0014	wfs	rbt	1	340				37									Rom		
0014	fs	flt	1	220	+			20		msc cream on flange	1	40	29				Rom		
0025	wfs	rbt	1	75				44									Rom		
0025	fs	rbt	14	415													Rom		
0025	fs	rbt	1	480				35								reduced, v dense	Rom		
0025	fs	rbt	1	270				35		thin						dense, reduced core	Rom		
0025	fscp	rbt	1	450				40		thin							Rom		
0025	fs	rbt	1	410				31						double cfm			Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0025	fs	rbt	1	130				29									Rom		
0025	fs	rbt	1	120	+			35									Rom		
0025	mscq	rtm	8	190	+											3 reduced	med+		
0026	fs	rbt	1	140				35								reduced core	Rom		
0027	fs	rbt	1	250				38		thin all over			cfm				Rom		
0029	fs	rbt	1	1280	+	>150		55		patches white							Rom		Y
0029	fs	rbt	1	415				44		thin all over							Rom		
0029	fs	rbt	1	165				38									Rom		
0029	fs	rbt	1	490				33						straight fm double			Rom		
0029	fs	rbt	1	375	++			34		buff and pink							Rom		
0029	fs	rbt	1	635				40		thin all over							Rom		
0029	fs	rbt?	2	15	++											v soft	Rom		Y
0029	fsvcp	lb?	1	60	+											soft	lmed+?		Y
0029	wfs	rbt	1	7						thin						flake	Rom		
0033	wfs	rbt	1	385				41		patchy white all over						KT edge	Rom		
0033	fs	rbt	34	555						some						flakes	Rom	rs	Y
0033	fs	rbt	1	320	+			28		patches white						reduced surface, dense	Rom	rs	Y
0033	fs	rbt	1	190				36		ms white both surfaces							Rom	rs	Y
0033	fs	rbt	1	585	+			39		ms cream patches							Rom	rs	Y
0033	fs	rbt	1	440				41						parallel straight fm			Rom	rs	Y
0033	fs	rbt	1	125				40		ms on break						KT edge, reduced surfaces	Rom	rs	Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0033	mscq	rtm	10	300												some reduced surfaces/cores	med/lmed	rs	Y
0033	fs	rtp	1	65													lmed/pmed	rs	Y
0033	fscq	lb	4	135	++												lmed/pmed	rs	Y
0033	wfs	rbt?	4	150												3 pinkish	Rom		
0033	fs	rbt	3	170												burnt/reduced	Rom		
0033	fs	rbt	1	150				38		ms white all over							Rom		
0033	fs	rbt	1	415	+			36						double cfm		reduced core	Rom		
0033	fsc	rbt	1	1560				35		patches							Rom		
0033	fscp	rtp?	1	160				16								slightly concave, poss PAN?	pmed?		
0033	fsv	lb	3	205	+											soft	lmed+		
0033	mscp	lb?	1	315	++											soft, no surfaces	lmed+		
0033	ms	rtp	1	25				15									pmed		
0033	fs	rbt	1	2770				37		v thick buff mscq all over							Rom		
0033	mscq	rtm	2	25													med+		
0033	ms	rbt	1	4						thin						flake	Rom		
0033	fsm	un	4	75	+					ms cream						hollow-backed tile? Orange glaze on one end, pale pinkish fabric	pmed?		Y
0033		RBT	1	100												Dense light silty pale pinky yellow	Rom		
0033		RT	2	55												Pegtile	LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0034	fs	rbt	1	1210				35		ms buff & ms white patches, incl on breaks							Rom		
0034	fsv	rbt	1	505				32		thin							Rom		
0034	fs	rbt	7	155													Rom		
0034	mscp	lb?	1	5	++												lmed/pmed		
0034	mscq	rtm	25	1205												some reduced cores/surfaces	med/lmed+		
0034	fs	rtp	2	45													lmed/pmed		
0034	fs	rbt	1	1910		>190	>180	42		buff/cream mscq							Rom		
0034	fs	rbt	1	1640		>190	>140	33		buff/cream mscq all over							Rom		
0035	fs	rbt	1	1610		>210	>180	37		patches							Rom		
0035	fs	rbt	1	440				37									Rom		
0037	fsvf	lb	1	1560	+		119	50		msc cream							pmed		Y
0041	fscq	rtm	1	33	+											reduced core	med		
0043	fs	rbt?	1	5						thin						flake, overfired	Rom?		
0043	fs	rbt	1	125				31		thin all over						dense, reduced core	Rom		
0043	fs	rbt	1	500				35		ms patch						reduced surface	Rom		
0043	fs	un	1	120				13								stepped tile	?		Y
0043	wfs	rbt	2	20												flakes	Rom		
0044		RBT	82	681													Rom		
0044		RBT	1	118													Rom		
0044		RT	1	33													LM/PM		
0044		RT	1	33													LM/PM		
0044		RBT	141	13005													Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0045	fs	box	1	50				16		pink thin					vert		Rom		
0045	fsv	flt	1	70				20			?						Rom		
0045		RBT	16	9290												1 with 2 line sig mark, mortar	Rom		
0045		RBT	1	130												<14mm, with mortar	Rom		
0045		RBT	4	70												Thicker brick 40mm with mortar	Rom		
0045		RBT	2	125												<14mm, with mortar	Rom		
0045		RT	1	40												With mortar	LM/pmed		
0045		RBT	65	3755												With mortar	Rom		
0045		RT	13	290												Without mortar	Lmed/Pmed		
0045		RT	4	125												With mortar	Lmed/Pmed		
0045		RBT	50	8205												With mortar on faces	Rom		
0045		RBT	56	1975												With mortar on faces	Rom		
0045		RBT	80	5270												With mortar on faces	Rom		
0045		LB?	1	60												Soft brick, poss Pmed	Pmed?		
0045		RBT	12	7171													Rom		
0045		RBT	25	8200													Rom		
0045		RBT	145	9760													Rom		
0045		RBT	60	5215													Rom		
0045		RBT	31	673												Small bits	Rom		
0045		RT	1	38													LM/PM		
0046		RT	4	220													LM/PM		
0046		RT	29	9560												With mortar, 1 kept	LM/PM		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0046		RT	30	5735												With mortar, 1 kept	LM/PM		Y
0046		RT	42	3345												With mortar	Rom		
0046		TILE	1	2125												Tile with big lump of mortar, unknown date			
0046		RBT	62	9925													Rom		
0046		RT	5	170												1 pegtile w circular peghole	LM/PM		
0046		RT	4	245												Includes 1 curved tile	Rom		Y
0046		RBT	77	874													Rom		
0046		RBT	1	96												Yellow fab, sine sandy w voids + faint pink mortar	Rom		Y
0046		RT	3	48													LM/PM		
0046		RBT	83	12650													Rom		
0047	fsf	rtp	2	185					1 x R	thin							pmed?		
0047	wfs	rbt	1	510				41		buff mscq on base							Rom		
0047	mscq	rtm	1	9	+												med-lmed		
0047		RT	27	960												Without mortar, 2 kept	LM/PM		Y
0047		RT	9	465												With mortar, 2kept	LM/PM		Y
0047		RT	1	25												Sandwich	Med/LM		Y
0047		RBT	2	41												Heavy mortar	Rom		
0047		RBT	2	585												RBT? Pale fabric, kept	Rom?		Y
0047		RBT	64	7415												With mortar	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0047		RT	3	78													LM/PM		
0047		FLT	1	370								45					Rom		Y
0047		RT	14	284												1 with circular peghole	LM/PM		
0048		RBT	118	2615												small bits	Rom		
0049		RBT	30	7100												Mortar on face, some w very little	Rom		
0049		RBT	28	5005												Mortar on face, some w v little	Rom		
0049		RBT	1	350												>15mm lots of mortar on both sides	Rom		
0049		RBT	73	12725										YES			Rom		
0049		RBT	30	8200													Rom		
0049		RBT	87	4000													Rom		
0049		FLT	1	160								46				Fine sandy	Rom		Y
0049		RBT	33	753													Rom		
0050	fs	rbt	6	405	+											flakes	Rom		
0050	fs	rbt	3	490				35		thick ms white							Rom		
0050	fs	rbt	1	1100			>140	40		thin all over							Rom		
0050	fs	rbt?	1	15	+			11								reduced surface	Rom?		
0051	fs	rbt	6	525	+											flakes	Rom		
0051	fs	rbt	2	285				35		ms white							Rom		
0051	fs	rbt	1	110				40									Rom		
0051	fs	rbt	1	185				31									Rom		
0051	wfs	rbt	1	310				35									Rom		
0051	fs	rbt	4	495	+			39								soft, dk red	Rom		
0051	fs	rbt	1	35				30									Rom		
0051	fs	rtm	1	30	+											dark core	med+		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0051		RBT	7	436												All with mortar on 1 face, 1 kept	Rom		Y
0051		RBT	48	888												All with mortar on at least 1 face, 1 kept	Rom		Y
0051		RBT	34	2735												all with mortar on at least 1 face	Rom		
0052	mscq	rtm	2	110					1 x R							reduced surfaces	med		
0052	fs	rbt	1	2330		>230	>190	38		ms cream both surfaces							Rom		Y
0052	fs	rbt	1	250				33									Rom		Y
0052		RBT	52	4785												All with mortar on 1 face, 1 kept	Rom		
0052		FLT?	1	255													Rom		Y
0052		RT	1	2												Slight burning?	LM/PM		
0053	fs	rbt	1	175				31									Rom		
0054	fs	rbt	23	660												flakes	Rom		
0054	fs	rbt	3	460				31		pozz patches							Rom		
0054	fs	rbt	2	430				37		thin							Rom		
0054	fs	rbt	1	235				41		ms white							Rom		
0054	fs	rbt	1	135				45								overfired,. Blown	Rom		
0054	fs	rbt	1	55				37								corner frag, reduced surfaces, partly vit	Rom		
0054	fscp	rtp	2	40	+												lmed/pmed		
0054		RT	1	30													LM/Pmed		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0054		RBT	71	7940												Wth mortar on faces & some edges	Rom		
0054		RBT	57	8050													Rom		
0055	fs	rbt	1	370				31						double diag fm		reduced core, poss small area combed or scuffed?	Rom		Y
0055		RT	1	180													LM/Pmed		
0055		RBT	50	4295												with light mortar on faces	Rom		
0055		RBT	5	555												Without mortar	Rom		
0056	fs	box	1	65				19							curving, 4+ teeth	most of surface lost	Rom		
0056	fs	rtp	1	25					1 x r								pmed		
0056	mscq	rtm?	1	25												or RTP	med-pmed		
0056	ms	rid	1	70				14									med?		Y
0056	mscq	rid?	1	50				15								poss IMB but fabric as med tiles	med?		Y
0056	un	rt	36	1350					2 x R, 1 x S							unwashed	med+	rs	Y
0056	fs	rbt	7	85												unwashed	Rom	rs	Y
0056	fs	rbt	1	90	+			36									Rom	rs	Y
0056	fs	rbt	1	135	+			35									Rom	rs	Y
0056	fs	rbt?	1	20				17								reduced surfaces	Rom	rs	Y
0056	ms	lb	8	265	++												pmed	rs	Y
0056	un	rid	8	255	+											unwashed	med+		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0056	un	rt	9	325					1 x R(2)							unwashed, several burnt/reduced	med+		
0056	fs	rbt	4	160	+												Rom		
0056	fscp	lb	1	440	+			50		white ms							lmed+		
0056	fsv	lb	1	430	+			48									lmed+		
0056	fs	rbt?	2	220	+					1 white ms							Rom		
0056	fs	bip?	1	915	+			75		white ms						v dense	Rom		Y
0056	mscp	rid	6	112												OB glaze, stepped crest frag, anther tile with partial crest	med		Y
0056	comp	dp	1	90	+											brown glazed	mod		
0056	msv	imb?	1	25	+											poss RID?	Rom?		
0056	fs	rtp	3	21	+												pmed		
0056	fs	rbt	4	12												flakes, reduced core	Rom		
0056	mscp	rtp	7	81												fully oxid	lmed/pmed		
0056	mscp	rtm	7	162					1 x R							reduced surfaces and/or cores	med/lmed		
0057	fs	rbt	1	565				40		patches ms on surface				cfm		KT edge	Rom		Y
0057	fsv	rbt	1	385				31		patches cs on base				double cfm		reduced core	Rom		
0057	wfs	rbt	1	1355		>160		36		patches pink pozz both surfaces							Rom		
0057	fs	rbt	1	1235		>165		37								double dog pawprint	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0057	fs	flt	1	295				30		white fs on edge & break						upper cutaway, flange removed	Rom		
0057		RT	1	135												No mortar	Lmed/Pmed		
0057		RBT	8	350												Yellowbrick, sample kept	Rom		Y
0057		RBT	89	8580												With mortar	Rom		
0057		RBT	42	7020												With mortar	Rom		
0057		RBT	48	7740												With mortar	Rom		
0057		RBT	1	1430												Yellow with op sig	Rom		Y
0057		RBT	2	970										Yes		With signature marks	Rom		Y
0057		RBT	13	9525										Yes		With mortar. 1 with sig mk kept	Rom		Y
0057		RBT	40	6670												With mortar	Rom		
0057		RBT	1	1580												Pink & yellow sandwich	Rom		
0057		RBT	1	1225												With paw print	Rom		Y
0057		RBT	1	1155												40mm brickwith mortar	Rom		
0057		RBT	1	420												Burnt	Rom		
0057		RBT	1	30												Tegula?	Rom		Y
0057		RBT	83	3990												With mortar	Rom		
0057		RBT	4	260												Yellow brick/tile	Rom		
0057		RT	1	10												Laminated rooftile	LM/Pmed?		
0057		rbt	52	4895												With mortar	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0057		RBT	5	1075												Yellow brick/tile	Rom		
0057		RT	17	570												No mortar	LM/Pmed		
0057		RT	3	45												With mortar	LM/Pmed		
0057		RT	4	245												Burnt	LM/Pmed		
0057		RBT	39	9250												With mortar	Rom		
0057		RBT	28	9390												With mortar	Rom		
0057		RBT	1	410												40mm with op sig	Rom		
0057		RBT	2	290										Yes		Sig mark	Rom		Y
0057		RBT	1	215												Teg with mortar	Rom		
0057		RBT	65	3450												With mortar	Rom		
0058		RBT	5	7760												With mortar on faces	Rom		
0058		RBT	7	2370												2 with paw prints kept, 2 w yellow mortar	Rom		Y
0058		RT	5	270													Lmed/Pmed		
0058		RBT	22	4770												With mortar	Rom		
0058		RBT	24	4890												With mortar	Rom		
0058		RBT	2	360												Burnt tile	Rom		
0062		RT	11	810												With mortar, 2 kept	LM/PM		Y
0062		RT	29	1380												Without mortar, 2 kept	LM/PM		Y
0062		RT	1	8												Burnt, kept	LM/PM		Y
0062		RBT	1	1280												With heavy mortar	Rom		
0062		RBT	38	6360												With mortar, also 1 with opsig	Rom		
0062		RBT	18	2855												With mortar	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0062	fsc	RT	1	45												Burnt, very hard	LM/PM		
0062	fsfe	RT	1	105												Dark orange	LM/PM		
0062	fsg	RT	1	80												Warped, overfired	LM/PM		
0062	msfe	RT	1	95													LM/PM		
0062	fsfe	RT	1	135												Some mortar on top	LM/PM		
0064		RBT	11	3475												Grey with mortar, from ashy layer	Rom		
0064		RBT	1	395												Burnt	Rom		
0064		RBT	11	780												With mortar, 1 kept	Rom		Y
0064		RBT	29	7100												With mortar	Rom		
0064		RBT	28	725												With mortar - Context also has burnt chalk, stone, ragstone	Rom		
0066	fs	imb	1	105				15		thin on surface							Rom		
0066	wfs	rbt	1	1740		>213	>222	37		white ms on surface						thick piece of another tile stuck to surface during firing?	Rom		Y
0066	fs	box	1	185				17							vert/diag, 4 wide teeth	reduced core	Rom		Y
0066	fs	box	1	185				18		thin white on combed surface					vert/diag, 11 teeth		Rom		Y
0066	fs	rbt	2	2015			235+	35		35mm thick buff						joining	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
										ms on base									
0066	wfs	rbt	1	2	+											flake	Rom		
0066		RT	1	35												Without mortar	Lmed/Pmed		
0066		RBT?	1	10												?Imbrex	Rom		Y
0066		RBT	11	7360												2 w op sig on underside, all w mortar all over	Rom		
0066		RBT	2	1675												Burnt, w mortar (not burnt)	Rom		
0066		RBT	54	6180												With mortar	Rom		
0066		RBT	1	1585												With yellow fabric	Rom		Y
0066		RT	5	225												With mortar	Lmed/Pmed		
0066		RT	13	280												Without mrtar	Lmed/Pmed		
0070	fsv	flt	1	305				22						double curving lines, knife?			Rom		Y
0070	fsg	rbt	1	320	+			33								double score line parallel to edge on base - accidental?	Rom		Y
0070	fscp	box	1	310			140+	20		thin						part of rectangular cut-out 80mm from edge	Rom		Y
0070	fs	box	1	310				19		thin on surfaces					vert & diag, 7 teeth	corner	Rom		
0070	fs	flt	1	425				30		pozz, & white all over	1	60	40				Rom		
0070	wfs	rbt	1	8	+											flake	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0070		RBT	38	7720												Some with mortar, 1 kept	Rom		Y
0070		RBT	2	620										Yes		Teg frag? 1 w sig mark kept	Rom		Y
0070		RT	1	10													Rom		
0070		RBT	86	2590												Some with same mortar	Rom		
0070		RBT	36	5805												With mortar all over	Rom		
0070		RBT	60	1075												With mortar all over	Rom		
0071	fs	rbt?	1	195				45		ms cream underside						KT lower edge - could be QFT	Rom?		Y
0071	fs	rbt	1	500				35						double cfm		reduced core	Rom		Y
0071	fs	rbt	1	1880				41						cfm, shallow arc			Rom		Y
0071	fs	rbt	1	1360				38						cfm, shallow arc			Rom		Y
0071	fs	rbt	1	1540		>200	>170	35		patchy						overfired, reduced core	Rom		
0071	fscq	rbt	1	480				37		patchy							Rom		
0071	fs	rbt	1	335				37		thin all over							Rom		
0071	fs	rbt	1	2930		>240	>230	34		thin all over, & thick ms white in patches					double cfm		Rom		Y
0071	fs	rbt	5	200												flakes	Rom		
0071	fs	lyd?	1	2540		>220	>210	35		ms buff patches all over							Rom		
0071	fs	rbt	2	390				32									Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0071	fs	rbt	1	215				33		ms buff all over							Rom		
0071	fs	rbt	1	275				39		ms buff on base							Rom		
0071	fs	rbt	1	235	+			35		ms cream all over							Rom		
0071	ms	rtm	3	85												or RTP	med-pmed		
0071	fs	rbt	4	370				22	1 x R	ms pink/buff						pale orange, 2 joining	Rom		Y
0071	mscq	rtm	1	55	+												med+		
0071		RBT	9	9510												With mortar all over	Rom		
0071		RBT	42	6415												With mortar all over	Rom		
0071		RT	2	14												Rooftile	LM/Pmed		
0071		LB	2	85													Pmed		
0071		RBT	46	928												With mortar all over	Rom		
0071		RBT	10	272												With mortar all over	Rom		
0071		RT	10	825												rooftile with mortar	LM/Pmed		
0071		RT	14	645												Rooftile with mortar	LM/Pmed		
0071		RT	3	175												Burnt rooftile	LM/Pmed		
0071		RBT	18	831												With mortar all over	Rom		
0071		RBT	12	8445												With mortar, 1 with op sig on upper surface	Rom		
0071		RBT	10	2145												With mortar all over	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0071		RBT	10	9390										Yes		With mortar. 1 with sig mark kept	Rom		Y
0071		RBT	44	8595												With mortar all over	Rom		
0071		RBT	17	2110												With mortar all over	Rom		
0071		RBT	21	10												With mortar all over	Rom		
0071		RBT	37	4710												With mortar all over	Rom		
0071		RBT	2	1875										Yes		With signature marks	Rom		Y
0071		RT	4	345												With mortar	LM/Pmed		
0071		RT	3	70												Without mortar	LM/Pmed		
0071		RBT	22	7480												With mortar all over incl (?)	Rom		
0071		RBT	6	1725												With mortar all over incl (?)	Rom		
0071		RBT	46	1789												With mortar all over incl (?)	Rom		
0071		LB?	2	140												Soft orange brick	Pmed?		
0071		RBT	37	1589												With mortar all over incl (?)	Rom		
0071		RBT	1	525										Yes		With signature	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0071		RBT	16	9440												With mortar all over incl (?)	Rom		
0071		RBT	34	980												With mortar all over incl (?)	Rom		
0072	mscp	rtm	2	30													med/lmed		
0072		LB	5	1030												Brick, sample kept	Pmed		Y
0072		RBT	48	700													Rom		
0072		RT	318	9570												Without mortar	LM/Pmed		
0072		RT	29	882												With mortar	LM/Pmed		
0072		RTM	2	65												Sandwich fabric	Med		
0072		RT	200	6300												With no mortar	LM/Pmed		
0072		RT	448	9770												With no mortar	LM/Pmed		
0072		LB	13	150												Brick frags	Pmed		
0072		RT	1	35												Burnt	LM/Pmed		
0072		RTM	2	75												Sandwich	Med		
0072		LB	23	630												Brick frags, sample kept	Pmed		Y
0072		RT	75	3740												With mortar	LM/Pmed		
0072		RT	100	2760												Without mortar	LM/Pmed		
0072		RT	177	4705												Without mortar	LM/Pmed		
0072		RBT	1	75												Thicker, soft and abraded	Rom		
0073	mscq	rid	1	215													lmed/pmed		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0073	msg	rtm	5	825					1 x R(2)	1 thick ms patch						2 joining, some reduced cores	med/lmed		Y
0073	mscq	rtm	17	795					15 x R							reduced cores	med/lmed		Y
0073	fs	rtm	1	20												reduced core	med/lmed		Y
0073	mscq	rtm	1	35						ms white						reduced, slight flange underneath	med/lmed		Y
0073	mscq	rtm	5	765						patches ms buff/cream						3 joining	med/lmed		Y
0073	est	eb	1	35	+											sanded base	med/lmed		Y
0073	ms	rtm?	1	10												narrow ?combed dec on surface	med/lmed?		Y
0073	mscq	rid	1	155						ms white patches						reduced core, but poss IMB? Fabric as other med tile	med?		Y
0073	fs	rid	8	400													med/lmed?		
0073	fscp	rtm	1	20	+											spots orange glaze	med		
0073	fscp	rtm?	2	135					1 x R								med+		
0073	ms	rtm	6	240												thin tiles, some concave, reduced cores	med		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0073	fs	rtm?	2	95						thin						joining frags, not clear if decorated or v large paw prints/finger marks	med+		Y
0073	mscp	rtm	1	49												overfired, concave	med/lmed		Y
0073	mscp	rtm	1	72												rounded edge, poss RID?	med/lmed		
0073		RT	90	3190												rooftile with mortar	LM/Pmed		
0073		RT	133	3940												Rooftile without mortar	LM/Pmed		
0073		RT	250	6065												Rooftile without mortar	LM/Pmed		
0073		RBT	3	110												Abraded soft thicker tile	Rom		
0073		RTM	15	300												Rooftile with sandwich	Med/lmed		
0073		RT?	1	40												Curved	Rom or later0071		Y
0073		RT	46	1780												With mortar	LM/Pmed		
0073		RTM	1	15												Sandwich fabric	Med/Late med		
0073		RT	26	1430												With mortar	LM/Pmed		
0073		RBT	3	120													Rom		
0073		RT	216	8685												Without mortar	LM/Pmed		
0073		RT	74	4095												With mortar	LM/Pmed		
0073		RT	10	495												With mortar	LM/Pmed		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0073		RTM	10	200												Sandwich fabric	Med		
0073		RT	1	85												?Waster	LM/Pmed		
0073		RT	90	5780												With mortar	LM/PM		
0073		RT	124	4685												Without mortar	LM/PM		
0073		RT	18	520												Sandwich, 1 quite curved kept	LM/PM		Y
0073		RT	3	165												Burnt	LM/PM		
0073		RT	2	145												Thicker and slightly curved, kept	LM/PM		Y
0073		RT?	1	100												Thicker, 11-12mm, and kept	LM/PM?		Y
0073		RT?	1	55												Thumb print	LM/PM?		
0073		RBT	45	1425												With mortar	Rom		
0073		RT	392	9610												Without mortar	LM/PM		
0073		RT	147	2055												Without mortar	LM/PM		
0073		RT	111	3825												With mortar	LM/PM		
0073		RT?	3	13												Curved bits, kept	LM/PM		Y
0073		RT	1	15												With glaze	LM/PM		Y
0073		RT	2	25												Sandwich fabric	Med/LM		
0073		RT	2	95												With impressions	LM/PM		Y
0073		RT	1	65												Burnt	LM/PM		
0073		RBT	2	125													Rom		
0073		RT	300	9565												Without mortar	LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0073		RT	26	42												Without mortar	LM/PM		
0073		RT	143	5980												With mortar	LM/PM		
0073		RT?	3	155												Ridge tile or imbrex frag	LM/PM?		Y
0073		RT	11	195												Sandwich fabric, sample kept	LM/PM		Y
0073		RT	3	8												Burnt	LM/PM		
0073		RBT	2	45													Rom		
0073		RT	51	4285												With mortar	LM/PM		
0073		RT	103	5455												Without mortar	LM/PM		
0073		RT	1	9												Burnt	LM/PM		
0073		RBT	1	57												40mm thick	Rom		
0073		RBT	6	85													Rom		
0074	fs	lb	1	1320	+		122	55		msc cream							lmed/pmed		Y
0075	fscp	imb?	1	60				14								reduced core	Rom?		
0075	fsv	imb?	1	50				14									Rom?		
0075	wfs	rbt	1	295				42									Rom		
0075	fs	un	1	5												burnt	Rom		
0075	fs	lyd?	1	3335		>240	>245	32		thin all over, thick cream ms underside							Rom		Y
0075	fs	lyd?	1	4075		>210	280	35		cream/buff patches both surfaces							Rom		Y
0075		RBT	4	8055												Tile w mortar all over	Rom		
0075		RBT	1	675												Tile w lots of mortar all over, poss Mortar A	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0075		RBT	12	195												With mortar	Rom		
0075		RT	2	15												Burnt	LM/PM		
0075		RT	62	485												No mortar	LM/PM		
0075		RBT	1	55												Imbrex?	Rom		Y
0075		RBT	194	3470												Scraps without mortar	Rom		
0075		RT	249	6390												With no mortar	LM/PM		
0075		RT	190	4100												With no mortar	LM/PM		
0075		RT	26	810												With mortar	LM/PM		
0075		RT	2	6												Burnt	LM/PM		
0075		RT?	3	55												Sandwich fabric, kept	MED/LM?		Y
0075		RT?	3	65												v thin, kept	Med/LM?		Y
0075		RT	1	25												Ridges, late post-med	Pmed		
0075		RT	13	405												10mm thick	LM/PM		
0075		RT?	1	6												Curving, check in case it is imbrex	LM/PM		Y
0076	fsc	rbt	1	275				35								slight vit on surface	Rom		Y
0076	msgf	rtp	1	65	+												pmed		
0076	fsf	hip	2	185					2 x S							apices of 2 tiles	pmed?		Y
0076		RT?	1	135												Odd curved tile	LM/PM?		
0076		RT?	2	19												1 with odd indentation, kept	LM/PM?		
0076		RT	12	365												With mortar	LM/PM		
0076		RT	23	69												Without mortar	LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0076		RT	5	18												Sandwich fabric, 1 kept	Med/LM		Y
0076		RT?	1	95												Odd curved tile	LM/PM		Y
0076		RT	16	1095												With mortar	LM/PM		
0076		RT	4	145												Sandwich fabric, 1 kept	LM/PM		Y
0076		RT	5	195												Slightly thicker, 2 kept	LM/PM		Y
0076		RT	51	1870												Without mortar	LM/PM		
0076		RBT	1	4												Slightly thicker, kept	Rom		Y
0076		RBT	1	275												Glazed, vitrified surface	Rom		Y
0076		RBT	10	1060												With mortar	Rom		
0077		RT	29	735												With mortar	Rom		
0077		RT	44	1120												Without mortar	Rom		
0077		LB	1	5												Soft brick	Pmed?		
0077		RT	6	225												With mortar	Lmed/Pmed		
0077		RT	10	315												Without mortar	Lmed/Pmed		
0078	mscp	rtm	1	8													med/lmed		
0078		RBT	2	150												Brick, abraded	Rom		
0078		RBT	36	15												v fragmentary	Rom		
0078		RT	49	1920												With mortar, 1 kept	LM/PM		
0078		RT	3	45												Burnt	LM/PM		
0078		RT	3	11												Sandwich fabric, 2 kept	M/LM		Y
0078		RBT?	2	45												Kept	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0078		Rt	125	2625												No mortar	LM/PM		
0079		RBT	35	6320													Rom		
0079		RT	1	17													LM/PM		Y
0079		FLT	1	590												With op.sig.	Rom		Y
0080		RT	3	4													LM/PM		
0080		RBT	35	5420												With mortar on face	Rom		
0080		RBT	67	3245												With mortar on face	Rom		
0080		RBT	1	175												Burnt face	Rom		
0080		RBT	1	295												Yellow fabric	Rom		Y
0080		RBT	1	455												1 laminated, 50mm thick	Rom		
0081	fs	flt	1	650				25		buff msc underside	1	46	35			partial cutaway underside	Rom		
0081	fs	imb	1	255				14		thin on surface							Rom		
0081	fs	bip	1	610				58		patches				?parabolic cfm		corner	Rom		Y
0081	fs	rbt	1	830				36						diag double fm		corner	Rom		Y
0081	fs	flt	1	345	+			23		fs all over	1	57	41				Rom		
0081		RBT	1	61												With mortar, thin <20 mm	Rom		
0081		FLT	1	675												With mortar	Rom		Y
0081		RBT	40	6970												With mortar, 2 kept, RBT 25-35mm unless noted	Rom		Y
0081		RBT	1	3												With mortar, 40mm height	Rom		
0081		RBT	72	1540												With mortar on face	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0081		RBT	32	9150												With mortar on all faces, 1 kept	Rom		Y
0081		FLT	1	375												With mortar	Rom		Y
0081		RBT	1	52												With opsig	Rom		
0081		RBT	2	1985												With burning	Rom		
0081		RBT	2	1195												V thick, 50mm, 2 kept	Rom		Y
0081		RBT	16	183												With mortar	Rom		
0081		IMB	2	47												Mortar on outer face	Rom		Y
0081		RBT	3	355												Thin tile <20mm, poss rooftile, 1 kept	Rom		Y
0081	fs	RBT	2	1865												Reduced core, 1 w sign mark, poss 1 hobnail?	Rom		Y
0082	fs	lyd?	1	3650		>240	>225	45		cream/buff patches both surfaces							Rom		
0082	fs	rbt	1	210				35		buff ms both surfaces						reduced core	Rom		
0082	fs	rbt	1	655				30		v thick buff ms both surfaces							Rom		
0082	fs	rbt	1	430				43								reduced core	Rom		
0082	fs	rbt	1	830				25		thick buff ms both surfaces						reduced core	Rom		
0082		RT	3	195												V thin, 1 frag kept	Pmed		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0082		RBT	4	9440												Mortar all over, 1 kept	Rom		Y
0082		RBT	25	7835												1 with yellow mortar, 3 kept	Rom		Y
0082		RBT	2	2475												Heavily mortared, 1 kept	Rom		Y
0084	ms	RBT	1	930												With beige mortar on underside and scored	Rom		
0084		RT	6	215													LM/PM		
0084		RT	1	95												Burnt	LM/PM		
0084		RBT	30	8560												Mortar mainly on faces but also on fabric	Rom		
0084		RBT	20	5275												Mortar mainly on faces but also on fabric	Rom		
0084		RT	2	110													LM/PM		
0084		LB	1	95												Yellow brick, kept			Y
0084		RBT	22	6980												With mortar all over, c30mm	Rom		
0084		RT	1	155												With mortar	LM/PM		
0084		RBT	16	6070												With mostly white mortar, some white	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0084		TILE (?)	2	1550												Tile w heavy coarse yellow (ginger) mortar & lge pebbles, 1 kept			Y
0085	fsm	ft	1	4												LG glaze surface & edge	med?		
0085		RBT	27	2635												With mortar all over, 1 kept	Rom		Y
0087	ms	rtp	1	13												fully oxid	pmed		
0087		RT	10	405													LM/PM		
0087		RBT	2	235												Fine hard orange to mid brown fab w clay pellets	Rom		Y
0092	fs	rbt	1	675				35		thin all over				wavy line, straight & diag fm			Rom		Y
0092		RBT	8	7950												Mortar all over 25-30mm	Rom		
0092		RBT	9	5065												Mortar all over 25-30mm.	Rom		
0092		RBT	1	465												With coarse mortar	Rom		
0092		RBT	15	5290												With mortar all over	Rom		
0092		RBT	1	1605												With mortar all over, 40mm	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0092		RBT	16	5710												With mortar all over	Rom		
0092		RBT	1	64												With mortar and opsig	Rom		Y
0092		RBT	3	2940												With heavy mortar	Rom		
0092		RBT	2	445												With mortar, 40mm thick	Rom		
0092		RT	1	105													LM/PM		
0092		RT	1	95													LM/PM		
0092		RBT	13	2780												With mortar all round	Rom		
0092		RT	1	69												?Sandwich	Med/LM		Y
0092	fs	RBT	1	580												One surface fine pink mortar w cbt (opsig), other side cream mortar	Rom?		Y
0093		RBT	18	3735												With mortar all over, esp faces, 1 kept	Rom		Y
0093		RBT	1	81												40mm thick, kept	Rom		Y
0093		RBT	22	5455												With mortar all over	Rom		
0093		RBT	3	750												Yellow fabric w mortar, 1 kept	Rom		Y
0094	ms	rtm	1	3												surfaces lost, overfired	med/lmed		
0094		RT	9	38												1 kept	LM/PM		Y
0094		RT	1	5												Curved Post-Roman tile	LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0094		RBT	13	4800												With mortar all over	Rom		
0094	fs	RBT	1	5												Mortar and burnt	Rom		Y
0094		RBT	1	655												Cream fabric withpink, fine with voids, no mortar	Rom		Y
0094		RBT	2	7												No mortar	Rom		
0094		RBT	2	95												Thin, c 10mm, 1 kept	Rom		Y
0094		RT	16	290												Without mortar	LM/PM		
0094		RT	1	145												Sl. Reduced core, v sandy fabric w flint	Med/Lmed		
0094		RBT	41	7515												With mortar	Rom		
0094		RBT	2	205												Burnt with mortar	Rom		
0094		RBT	1	215												With mortar	Rom		
0094		RBT	5	6												Without mortar	Rom		
0094		RT	2	2													LM/PM		
0095		RBT	58	3275												Some w light mortaring	Rom		
0096		RBT	5	2375										Yes		1 with sig kept, ash and burning evidence	Rom		Y
0099	fs	rbt	3	65												burnt	Rom		Y
0099	wfs	rbt	1	25												flake, pinkish	Rom		Y
0103	fs	rbt	1	2225		>195	>175	43		pinkish ms, 15mm thick on base,							Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
										patchy on top									
0103	fs	rbt	1	2150		>230	>175	35		ms patches all over						sunken margins	Rom		Y
0103	fs	rbt	1	4255		295	>240	35		ms patches all over						two sides worn/eroded	Rom		
0103	fs	rbt	1	775				40-55								overfired, blown	Rom		Y
0103	fs	lyd	1	2365		>313	>155	26		patchy ms							Rom		Y
0103		RBT	5	530												Mortar over	Rom		
0103		RBT	1	290												Burnt	Rom		
0103		RT	5	80													Rom		
0103		RT	2	9													LM/PM		
0103		RBT	5	925												Mortared all over	Rom		
0103		RBT	20	6115												Heavily mortared	Rom		
0103		RBT	3	1155												Mortared and burnt, 1 kept	Rom		Y
0103		RBT	1	248												20mm thick, mortared, kept	Rom		Y
0103		RBT	11	9025												With mortar all round, 1 lge piece w 2 dimensions kept	Rom		Y
0103		RBT	17	4065												With mortar all over	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0103		RBT	1	2315												RBT with op sig on underside, kept	Rom		Y
0103		RT	7	430												All with traces of mortar	LM/PM		
0103		RBT	13	3535												Mortar all over, some tiles shattered by heat?	Rom		
0103		RBT	12	2980												Mortar all over	Rom		
0103		RBT	17	8485												Mortar all over, 30-35mm thick	Rom		
0103		RBT	43	7040												Mortar all over, some laminated	Rom		
0103		RBT	1	25												Mortar and burnt	Rom		
0103		RT	1	75													LM/PM		
0103		RT	2	115													LM/PM		
0103		RBT	22	927												Mortar all round	Rom		
0103		RBT	43	3695												Mortar all round	Rom		
0105		RBT	3	13												Mortar all over	Rom		
0105		RT	11	625												With mortar on face	LM/PM		
0105		RT	2	135												With burning and mortar	LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0105		RBT	24	7065												Mortar all over, 2 kept	Rom		Y
0105		RBT	39	4045												Most with white mortar	Rom		
0105		STON	1	165												Stone with white mortar			
0106	fscq	rbt	1	865				34								reduced core	Rom		
0106		RBT	42	592												W mortar all over, some laminating and shattering, 2 kept	Rom		Y
0106		RBT	21	1425												W mortar all over, some laminating and shattering	Rom		
0106		RBT	4	465												With mortar and burnt, 1 kept	Rom		Y
0106		RBT	1	61												With opsig.	Rom		
0109	mscp	rtm	1	12												reduced	med/lmed		
0109		RBT	40	7200										yes		2 w sign marks. Mostly brick, some evidence of re-use on broken edges	Rom		
0109		BOX?	1	122												With possible hobnail impression	Rom		Y
0109		RT?	2	78												Or frag of box flue	LM/PM		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0109		RT	2	76												Softer, sandier fabric	LM/PM		Y
0109		RBT	89	8016													Rom		
0109		RBT	32	9000													Rom		
0109		RBT	1	481												Burnt cbm with mortar on broken edge	Rom		
0109		RBT	1	124												Fine dark red fabric	Rom		
0109		RBRICK	63	1300										YES		6 bricks, 1 with sig mark	Rom		
0109		RBRICK	27	4700										YES		Includes 3 bricks, 1 with sign mark	Rom		
0109		RBT	76	1150													Rom		
0116	fs	box	1	110	+			20		white on surface					vert & diag, 10+ teeth		Rom		
0116	fsf	FLT	1	55								40				reduced core	Rom		
0116		BOX	1	140												Large criss cross scoring	Rom		Y
0116		RT	151	4171												1 or 2 with reduced core	LM/PM		
0116		RT	121	4312												3 w circ pegholes, Sample kept	LM/PM		Y
0116		RT	31	756													LM/PM		
0116		RBT	36	1200												1 brick kept, rest discarded	Rom		Y
0116		RT	20	389													LM/PM		
0116		RBT	19	1800													Rom		
0116		RBT	37	5585													Rom		
0116		RBT	25	986													Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0116		RBT	35	800													Rom		
0116	fs	FLT	1	75								30				odd profile. Brig	Rom		Y
0116		RT	117	850												Pegtiles, some with circ holes	LM/PM		
0116		RBT	7	315													Rom		
0117	mscq	rtm	1	19												reduced	med/lmed		
0117		RBT	38	670													Rom		
0117		RBT	1	100												Retained as slightly odd fabric, abraded	Rom		Y
0117		RBT	20	1300													Rom		
0117		rbt	26	650												Includes 1 with cream fabric, retained	Rom		Y
0117		RT	2	90													LM/PM		
0117		RBT	23	600												Includes 1 abraded teg frag, kept	Rom		Y
0117		RT	43	800												Fully oxid, some circ pegholes, very little mortar	LM/PM		
0117		RT	47	500												Fully oxid, some circ pegholes, very	LM/PM		
0117		RT	84	1559												Fully oxid, some circ pegholes	LM/PM		
0117		RT	39	500													LM/PM		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0117		RT	60	800												Includes some w reduced core & pegholes, example kept	Med/LM		Y
0117		IMB?	2	38												2 joining, retained	Rom?		Y
0117		RT	4	37													LM/PM		
0117		RBT	107	500												Very chopped up	Rom		
0117		RBT	15	600													Rom		
0117		RT	62	600													LM/PM		
0117		RT	132	3585													LM/PM		
0117		RBT	83	3830													Rom		
0117		RT	102	2370												Very scrappy, occ reduced cores	M/PM		
0120		RBT	1	595										Yes		With sig	Rom		Y
0120		RBT	25	8545												W mortar, inc vcream chalking mortar, 2 kept	Rom		Y
0120		RBT	1	219												Mortar	Rom		
0120		RT	18	620													LM/PM		
0120		RT	1	45												Burnt	LM/PM		
0120		RBT	4	1225												Without mortar, 1 kept	Rom		Y
0120		RBT	59	9540												With mortar, 2 kept	Rom		Y
0121	ms	rtp?	1	5													pmed?		
0121		RBT	92	5245										Yes		W some mortar. 1 frag w 2 signs not kept	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0124	cs	rtm	2	110	+												med		Y
0124	fscq	rtp?	2	35												whitish buff	lmed/pmed?		Y
0124	mscq	rtm	1	85													med/lmed		Y
0124	mscq	hip	1	500				14		patches ms cream						reduced core	med/lmed		Y
0124		RBT	5	140												No mortar	Rom		
0124		RT	10	820												With mortar, 2 kept	LM/PM		Y
0124		RT	2	9													LM/PM		
0124		RT	6	14												Burnt, 1 kept	LM/PM		Y
0124		RT?	2	165												Curved tile with perforations, kept	LM/PM?		Y
0124		RBT?	6	365												Thicker, kept	Rom		Y
0124		RT	84	4055													LM/PM		
0125	fs	rbt	1	1140				34		ms on base							Rom		
0126		RBT	9	895												With mortar on faces	Rom		
0129		RBT	33	3425												With mortar on faces	Rom		
0130	fs	rbt	1	385				35		thin all over							Rom		
0130	fs	rbt	1	300				35		thin all over						reduced core	Rom		
0130	fs	box?	2	180	+			22		ms cream						joining; v fine orange, cut-out? Poss half-box?	Rom		
0131		RBT	1	15												Laminated frag, def RBT	Rom		
0131		RBT	17	3405												All burnt, 2 kept	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0131		RBT	5	8080												All lge pieces 35mm thick, 1 w burning kept	Rom		Y
0133	fsvf	un	2	135				19	1 x R?							joining frags, poss RTM or IMB?			Y
0133	fscp	rbt	1	25												edge frag with KT	Rom		
0133	fs	rtm	2	20	+											1 reduced surfaces, 1 reduced core	med		Y
0133	fs	tess	1	35		35	27	18		pozz						surface whitewashed or slipped?	Rom		Y
0133	wfs	imb	1	150				17									Rom		
0133	fs	box	1	215	+			16							vert & diag, 5+ teeth		Rom		
0133	fs	flt	1	230	+			20			1	50	27				Rom		
0133	fs	flt	1	400	+			23		thick ms white on base	2	43	30			laminated	Rom		
0133		RT	85	3091												Oxidised, some with pegholes	LM/PM		
0133		RBT	40	7325										YES		Re-used, 2 w remains of sig marks some larger frags	Rom		
0133		RT	1	18												Curved	LM/PM		
0133		RBT	148	4575												Mainly v fragmentary	Rom		
0133		RBRICK	1	194													Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0133		RBT	1	83												+ mortar	Rom		Y
0135		RBT	19	5370												With some mortar on on face. 1 kept	Rom		Y
0135		RBT	2	31												With burnt face, 1 kept	Rom		Y
0135		RBT	6	34												Without mortar	Rom		
0135		RT?	14	670												1 with mortar, 2kept	PM?		Y
0139		RBT	2	1155												Burnt	Rom		
0146	fsv	rbt	1	465				32		patches						reduced core	Rom		Y
0146	fs	box	1	160				14							knife lattice	rectangular cut-out	Rom		Y
0146	fs	flt	1	330	+			25		white ms all over	2?	51	25				Rom		
0146		RT	20	785												No mortar	LM/PM		
0146		RT	5	195													Med/Lmed		Y
0146		RT	1	45												With mortar	LM/PM		Y
0146		RBT?	10	75													Rom		Y
0146		RBT	55	8850												All with mortar, 3 kept	Rom		Y
0146		RT	9	0												No weight	LM/Pmed		
0146		FLT	1	27													Rom		
0146		RBT	1	12												With mortar	Rom		
0146		RT	1	35												Sandwich fabric	M/LM		
0152		RBT	10	255												All frags except 1 kept	Rom		Y
0153	fs	rbt	1	135													Rom		
0153		RBT	4	545												Burnt	Rom		
0154	fs	box?	1	105				14							diag, 5 teeth	KT edge	Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0154		RBT	7	4965												Re-used, mortar on fabric, 2 kept	Rom		Y
0154		RBT	21	2925												With mortar on at least 1 face, 1 kept	Rom		Y
0154		RBT	59	4415												No mortar	Rom		
0154		LB	1	8												Yellow brick	Rom		
0154		RBT/OPSIG	1	37												Kept	Rom		Y
0157	fs	un	1	80	++											burnt, rounded, poss Rom or LB?			Y
0157	fs	rbt	9	140													Rom		
0157	fs	rbt	1	35				33									Rom		
0157	fs	rbt	1	110				41									Rom		
0157	fs	rbt?	1	10												pale orange flake	Rom?		
0157	fs	rtm	1	30												reduced core	med		
0160	fs	rbt	1	310				25		thin patches all over				vert double fm		prob FLT	Rom		
0160	wfs	tess	1	35		31	31	19		pozz patches						surface slipped?	Rom		Y
0160	wfv	imb	1	185				18									Rom		Y
0160	fs	rbt	2	95													Rom		
0160		RT	1	65													LM/PM		
0160		RBT	51	565												2 kept	Rom		Y
0160		FLT?	2	22	+											Kept	Rom		Y
0164		RBT	13	121													Rom		
0164		BOX?	1	90												Adjoins 0185, scored tile, kept	Rom		Y
0165		RBT	3	1158													Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0166		RBRICK	3	1256												Overfired, re-used, real edge, not tegula. Mort on broken edges. Nos 1661-166.3.	Rom		Y
0169	fsc	flt	1	160				20								overfired reduced with oxid margins	Rom		Y
0169	fsv	box	1	15	+			11							curving		Rom		Y
0169	fs	rbt	4	17												flakes	Rom		
0169		RBT	64	6840												with mortar on at least 1 face	Rom		
0169		RBT	5	215												Without mortar	Rom		
0169		RBT	2	665													Rom		Y
0169		RT	24	8865												Roof tile, no mortar	LM/PM		
0169		RT	7	135												Roof tile, with mortar	LM/PM		
0169		RT	3	65												thin tile, reduced fabric	?		
0169		RT	283	1480												Roof tile, no mortar	LM/PM		
0169		RT	12	385												Roof tile, with mortar	LM/PM		
0169		RT	209	6295												Roof tile, without mortar	LM/PM		
0169		RBT	20	550													Rom		
0169		FLT?	2	28	++												Rom		Y

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0169		RT	13	38												Tile w reduced core, 2 frags kept	LM/PM		Y
0169		IMB?	4	245												Very abraded	Rom		Y
0169		RBT	59	9595												Up to 3cm height. About 30% with mortar	Rom		
0169		RBT	89	3395													Rom		
0169		BOX	2	130												Kept	Rom		Y
0169		RBT	6	740												Odd fabric, 2 kept	Rom		
0169		RBT	2	190													Rom		
0169		RBT/OPSIG	2	135													Rom		Y
0169		RBT	1	225												Burnt, kept	Rom		Y
0169		RBT	45	9550												All with mortar on 1 face	Rom		
0169		RBT	2	415												Fine cream fab, 1 w op sig, 1 retained	Rom		Y
0169		BOX	1	30												Fs fabric, wavy scoring	Rom		Y
0169		BOX	1	110												Wide scoring, v abr, sl corner	Rom		Y
0170	fsg	rbt	1	580				45						cfm			Rom		
0170	fs	rbt	1	625				37								fingermarks, or poss pawprint, not clear	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0170	fs	rbt	1	2075				38		fs white, up to 28mm thick on both surfaces							Rom		
0170	ms	RT?	2	15												Probably post-med rooftile	LM/PM?		Y
0170	fs	RBT	48	7045												Cream mortar w sparse cbt, 3 kept	Rom		
0170		LB	1	185												? Woolpit brick, very abraded, kept	PM		Y
0180	fs	FLt	1	425				17			1	45	35				Rom		Y
0180		RBT	80	4180												With mortar	Rom		
0180		RBT	1	440												Tegula	Rom		Y
0180		RBT	1	95												12mm thick, with mortar	Rom		
0180		RT	1	15													Rom		
0183	fsc	box	1	35				14		pozz on surface					vert & diag		Rom		
0183	msf	rtm	1	15												oxid	med/lmed		
0183		RT	17	75												Thin tile	LM/PM		
0183		RBT	97	5950												3 cm ish, 1 kept	Rom		Y
0183		LB?	1	25												Yellow woolpit brick?	PM		
0183		RBT	1	32												With possible signature mark?	Rom		
0184	fs	rbt	1	390				38								surface reduced, cracked, burnt	Rom		Y
0184	fs	rbt	2	3												flakes	Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0184		RT?	6	260												Peg tile or Roman flue tile, kept	Rom		Y
0184		RBT	44	9565												Much w whie creamy mortar on face, mostly v thin. C2.5-3.5cm thick	Rom		
0184		RBT	122	6740												Much with creamy white mortar	Rom		
0184		RBT	2	785												Kept, has surface	Rom		Y
0184		RBT	1	40												Slight burning	Rom		Y
0184		RBT	1	43												c. 4cm thick	Rom		Y
0185		BOX?	1	75												Adjoins 0164, scored tile, kept	Rom		Y
0185		RT	1	32													LM/PM		
0185		FLT	1	225								44					Rom		Y
0185		RBRICK	1	340												With marks, re-used, mortar	Rom		Y
0185		RBT	27	485													Rom		
0185		RBT	8	1175													Rom		
0185		BOX	1	4												Score marks, dark brown fabric	Rom		Y
0185		RBT	8	475													Rom		
0185		RBT	1	20												Fine cream fabric	Rom		Y
0186	fs	rbt	1	970				41									Rom		
0186	fs	rbt	1	410				35									Rom		
0186	fs	rbt	1	260													Rom		

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0186	fs	rbt	1	1180				35								corner frag, slightly sunken margins	Rom		
0186	fs	flt	1	90							1		38				Rom		
0186	wfs	rbt?	1	30												flake, buff	Rom		
0186	fscp	rtp	1	440			178	12		cream ms patches							pmed		Y
0186	fscp	rtp	1	370			164	9		cream ms patches							pmed		Y
0186	fscp	rtp	4	390					1 x R								pmed		
0186	ms	rtp	1	105													pmed		
0186	ms	rtm	2	85					1 x R							reduced surfaces	med/lmed		
0186	mscq	rtm	6	535												reduced core	med/lmed		
0186		RBT	76	845												All with mortar, 3 kept	Rom		Y
0186		LB	1	45												Yellow brick, kept	Rom?		Y
0186		RBT	1	29												With burnt surface	Rom		Y
0186		RBT	1	105												edge piece	Rom		Y
0186		RT	33	1695												3 kept	LM/PM		Y
0186		RT	41	1670												3 kept?	LM/PM		Y
0186		RT	20	211												Roof tile (LM?) w mortar, 3 kept	LM/PM		Y
0186		RT	14	88												Med/late med sandwich fabric, 3 kept	M/LM		Y
0186		RT	7	215												Pegtiles with burnt face?	LM/PM		
0186		RT?	2	3												?? tile with red surface			

Ctxt	Fabric	Form	No.	Wt(g)	Abr	L. (mm)	W. (mm)	H. (mm)	Peg	Mortar	Flue type	FlH (mm)	FlW (mm)	Signature	Combing	Comments	Date	Retained Sample	Keep
0186		RBT	39	364													Rom		
0188	fs	box	1	15											curved		Rom		
0188		RBT	45	859												Fragmentary, 2.5-3cm thick	Rom		
0188	fs	RBT	2	1995												2 bricks w corners kept , 1 heavily mortared, 1 w no mortar & grey core	Rom		Y
0188	fs	RBT	1	125												1 with hobnail impression, kept	Rom		Y
0188	fsf	RBT	1	255												Brick not tegula, burnt	Rom		
0188		BOX?	2	160												c. 1.5cm thick, poss box or floortile	Rom		
0194		RBT	8	170												194.1 (Jono). V burnt/laminated Brick	Rom		
Tr.1 u/s	fs	rbt	1	205				45									Rom		

Table B4 The Mortar Catalogue, by Trench and Context

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0002	1		1	95		Hard off white, irreg, no cbt
0002	1		1	88	A	Flat with limewash, burnt pink
0004	1		1	44	B	Op sig
0004	1		9	180	A	2 pink
0004	1		2	50	H	
0004	1		12	32	B	Very fine op sig
0012	1		10	130		Some w surrfaces & pink mortars but more like plaster than op sig. Revisit.
0013	1		?	?		Hard w white surface, same as 0011?
0013	1		1	355	M	Hard ?floor surface
0013	1		1	60	A	Flat with limewash, not burnt
0016	1		1	950	A	Pink/burnt, retained as good example
0017	1		1	20	B	
0017	1		2	145	A	Both with flat surfaces
0019	1		1	15	A	Flat gingery
0019	1		1	20	C?	coarser fabric but gingery
0020	1		19	500	A	
0020	1		2	25	B	
0020	1		5	30	H	Has black shell ?cockle in fabric
0021	1		6	34		Small frags w different mortars
0026	1		2	28	A	
0027	1		2	24	H	Hard coarse fabric
0027	1		4	150	A	
0027	1		8	195	H	
0027	1		2	90	C	Soft beige w frequent large chalk incs
0027	1		2	25	H	
0027	1		1	20	A	Flat, pink with limewash
0033	1		6	120	A	4 burnt, 3 with limewash
0033	1		1	25	B	
0033	1		1	45	C	
0034	1		1	50	M?	Soft gingery with lge pebbles
0035	1		2	4	C?	
0035	1		14	716	A	
0036	1		1	38	H	
0041	1		2	150	C?	
0046	1		1	70	A*	Pink sandy with lime moulding, separated and assigned SF No
0046	1		1	110	G?	Similar to other fabric but has cbt
0046	1		6	215	A	2 w flat surfaces, one of which has sooting/burning

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0046	1		1	15	X	
0047	1		1	135	B	Op sig
0047	1		13	450	A	Some with flat surfaces, 3 with limewash, 4 small frags pink through burning
0047	1		1	3	H	
0051	1		1	100	A	Pink, flat
0051	1		4	420	A	
0051	1		14	577	A	All cream w chjalk w flat surfaces, 2 retained
0051	1		18	539	A	Flat
0051	1		4	328	B	
0051	1		1	34	B	
0051	1		3	99	A	With surface
0051	1		1	185	C	Like fabric A but thicker mortar
0051	1		1	23	H or Z	coarse yellow with pebbles
0051	1		11	1289	A	
0051	1		2	1885	A	1 v large frag Fab A weighing 1811g
0051	1		1	30	B	Fine op sig
0052	1		5	130	B	
0052	1		5	125	A	Includes 2 with limewash in gd condition & 4 w flat surfaces
0057	1		12	885	A	Includes some flat facing bits as well as lumps, 1 with ? limewash
0057	1		5	1510	B	1 with flat surface
0057	1		5	275	H	
0057	1		1	30	C?	Like fabric A but coarse pebbles, poss Fabric C
0057	1		3	22	B	
0057	1		1	75	M?	Flat surface
0058	1		3	15	Z	
0058	1		7	935	M	
0058	1		2	125	A	1 flat w limewash/pink/burnt
0058	1		1	40	M	
0059	1		0	180		Proper mortar sample, small bag. V limey with large pebbles, poss Fabric H
0060	1		0	75		Proper mortar sample, small bag. Soft limey w large chalk incls. Poss Fabric C
0071	**1**		**11**	**705**	**A**	**Burnt with flat surface, 1 frag has melted copper adhering… small find**
0071	1		1	10	B	
0071	1		4	120	A	Flat, 1 with limewash, pink
0071	1		1	60	A	Flat, 1 with limewash, pink
0071	1		3	90	A	3 flat, 2 with pink w limewash

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0071	1		1	30	B	
0071	1		1	20	M	
0071	1		1	486	H	
0082	1		1	43	A	With flat surface
0084	1		1	2	B	
0084	1		1	25		Poss RPWP, red pigment, burnt fabric, worn
0084	1		3	1055	H	
0084	1		3	40	H	1 piece has large cbt
0084	1		4	35	A	With flat surfaces, all burnt pink/orange, 1 corner frag? Sooted surface
0085	1		18	265	A	Some flat surfaces, 1 with limewash
0085	1		1	75	A/H	With limewash
0085	1		1	35	B	
0085	1		2	48	A	Flat, pink with limewash
0086	1		2	150	A	
0086	1		2	205	H	
0087	1		15	1145	A?H?	Like fabric H but quite beige pink, 1 frag retained
0092	1		1	25	A	
0092	1		1	145	H	1 with shell in hard gingery matrix
0092	1		2	45	B	
0092	1		3	150	A	
0092	1		1	75	H	
0092	1		1	110	B	Flat surface
0092	1		3	1020	M	Large clumpy coarse gingery
0092	1		3	265	A	2 with flat surfaces
0099	1		10	230	A	
0099	1		5	205	H	
0103	1		1	30	B	
0103	1		3	40	H?	Limey, golden
0103	1		3	95	H?	1 pink. All coarse w large pebbles
0105	1		3	100	A	slightly burnt
0106	1		16	605	A	Some pink, some with flat surfaces, 8 with evidence of limewash
0106	1		1	90	G?	fine chalky thick op sig like but not lge cbt - pink, poss Fabric G
0106	1		1	25	H	
0106	1		26	2020	A	Many w flat surfaces, some pink through burning. Gingery
0106	1		2	645	C	Chunky, 2 x flat surfaces
0115	1		5	40	Z	

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0120	1		22	848	H or Z	Orange/cream mortar, no flat surfaces, w chalk and large pebbles. ?Floor
0128	1	5004	95	359	H	From Sample 5004. Many small frags. No pink or burnt frags. 2 frags taken for mortar analysis to confirm fabric
0128	1		1	22	B	
0128	1	5004	11	77	C	From Sample 5004. Many small frags. No pink or burnt frags
0129	1		4	60	H	
0129	1		8	165	B	
0129	1		3	120	H	
0130	1		1	20	A	Flat and pink
0131	1	5006	850	4920	A/C	From Sample 5006. Some Fab A, some with flat surfaces, some pink w limewash. Some
0131	1		5	290	X	Burnt mortar
0131	1		60	1445	A	All burnt, many frags flat w limewash. Photo?
0131	1		67	2320	A	
0131	1		8	330	A	Flat pink with limewash, sooted externally x 3
0131	1		202	339	A	Gingery orange mortar, flat surfaces, burnt etc
0131	1		3	157	H	
0131	1		5	92	X	Misc mortars
0133	1		1	9	B	
0133	1		1	12	A	
0133	1		6	422		Yellow coarse with pebbles, prob H or Z
0133	1		1	114	H	Cream layer of mortar, hard , sandy with no cbt. Not much lime
0133	1		4	275	M	Hard sandy
0133	1		1	90	D	
0133	1		2	45	A	
0133	1		1	15	X	Poss moulding, separated out for Sfing. Pink/white fine, almost chalk
0135	1		5	315	R	Flint embedded in ginger mortar - PHOTO
0135	1		5	50		Poss same as mortar on the back of Fabric R flint
0135	1		2	70	B	
0144	1		10	222	B	
0144	1		3	318	Z	
0144	1		12	685	H	
0144	1		13	430	A	Burnt pink, flat surface, 1 with remains of whitewash

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0144	1		29	2216	C	
0152	1		4	50	A	1 with flat surface
0152	1		1	10	G	Pink burnt
0152	1		20	350	H	With shell inclusions
0152	1		1	30		Flat surface, hard with lime lumps
0153	1	5005	365	1281	A/C	From Sample 5005. Many small frags, many burnt pink, some w limewash. No op sig or hard concrety fabrics
0153	1		5	85	A	Linewash, burnt
0153	1		23	395	A	Pink, burnt
0153	1		4	75		Mixed mortars with flat surfaces -bagged separately
0153	1		48	1770	A	some flat surfaces, some poss joint A/H
0153	1		22	134	A	Gingery hard sandy fab w chalk, 2 joining
0153	1		21	1030	A	Good group. 1 large frag w shallow ?timber impression on reverse
0153	1		1	280	A	Moulding with limewash, separated for small finding. Photo!
0153	1		4	135	H	
0153	1		3	80	H	
0165	1	5007	710	3531	A/C	From Sample 5007. Many burnt frags Fab A & some w limewashed surfaces
0165	1		218	5150	A	Burnt, white limewash over orange chalky fab, some blackened. 12 frags kept
0165	1		3	1137	A	No surfaces 1 large frag retained
0165	1		5	1422	M?	Ginger mortar, large flint
0166	1		1	10	A?	Dirty
0190	1		3	10	B	
0190	1		2	50	M	Harder than Fabric A
0005	2		2	20		Hard off white
0005	2		1	49		Cream, soft & limey
0010	2		1	35		Coarse w large pebbles & limerich
0011	2		1	75	A	Flat, buff
0011	2		1	35	H	Hard, stoney
0011	2		2	50		Smooth whit surfaces, v hard cream mort w occ black incs
0014	2		2	120	B	Op sig
0015	2		3	29	B	
0043	2		2	115	A	
0043	2		1	90	A	
0043	2		1	30	B	
0043	2		1	320	H	
0043	2		1	245	H	

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0043	2		2	60	Z	Flat white surface, v hard
0044	2		1	24	A	
0044	2		51	5325	A	Soft, beige with chalk, 5 frags retained as sample
0044	2		24	1400	A	No surfaces, all disc
0044	2		3	25	B	Fine op sig
0044	2		2	120	B	
0044	2		2	280	C	Has flat surface but rough
0044	2		1	15	H	
0044	2		12	1110	H	Harder, off white with large pebbles, 2 frags retained
0044	2		2	35	Z	
0044	2		11	985		
0045	2		7	410	A	
0045	2		7	555	A	Some flat surfaces
0045	2		1	30	B	
0045	2		3	345	C	1 with much white shell
0045	2		3	420	D	
0045	2		9	810	H	
0045	2		9	250	H	
0045	2		13	510	Z	Hard white w smooth white surface, gingery mortar w bivalve shell and occ. Cbt
0045	2		1	15	Z	
0048	2		11	435	A	
0048	2		35	1245	H	
0048	2		1	8	Z	Hard
0049	2		4	630	A	all moulding frags removed for small finding
0049	2		11	2675	A	All flat pieces
0049	2		1	1155	A	Corner frag w limewash on surface, needs cleaning & closer examination
0049	2		25	980	A	Some flat pieces, some burnt
0049	2		8	250	A	Some affected by heat
0049	2		1	20	B	
0049	2		4	155	B	Flat surfaces, 1 possible faint surface, mortar sample
			513	24972		
0049	2		6	165	B	The mortar from this context needs to be checked properly/requant
0049	2		1	795	H	Floor makeup level? Impression of plank or structural element
0049	2		1	200	Z	With hard white surface, poss floor surface, similar to Fabric H

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0053	2		2	50	A	
0053	2		1	75	A?	Dirty
0054	2		1	20	A	
0054	2		6	286	A	some with surface and corner kept
0054	2		3	50	B	1 with flat surface
0054	2		3	84	B	
0054	2		3	91	H or Z	Coarse fabric with pebbles
0054	2		1	40	Z	Has impression on the reverse
0055	2		6	565	A	Flat edges, 2 with rounded edges almost like corners
0055	2		4	220	B	
0064	2		1	60	A	Burnt, mortar on flat surface
0064	2		3	125	A	Gingery hard sandy fab w chalk, 2 joining
0064	2		91	1724	A/H	Many frags small mortar mixed in w small chalk lumps. Some pinky through burning. A few w flat surfaces, 1 with a corner separated out. All A of H
0064	2		3	205	H	
0064	2		1	10	Z	
0066	2		1	20	A	Flat, pink
0066	2		1	??	C	flat surface
0066	2		3	250	H	Very coarse
			11	2870		
0066	2		1	35	X	Diff mortar w flat surface, very hard
0066	2		2	35	Z	Has surface
0070	2		6	250	A	Includes 3 burnt pink, 3 with flat surfaces (gingery)
0070	2		3	430	A	3 with flat surfaces
0070	2		1	25	B	
0070	2		3	355	B	Fine BT in pink limey mortar
0070	2		1	570	H	
0079	2		1	18	A	Burnt with flat surface
0081	2		1	60	A	
0081	2		10	230	B	
0081	2		5	625	C	
0081	2	5001	198	1425		From sample 5001. Many mixed frags including fabrics A & C
0095	2		6	230	A	Flat surface. Possible limewash? 1 corner fragment
0095	2		1	10	H	
0096	2		63	1205	A	Very broadly Fabric A, some pink/burnt, some w flat surfaces
0096	2		31	350	A	Very broadly Fabric A

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0096	2		2	50	a	2 moulding frags separated out
0096	2		4	215	A	All flat surfaces, 2 burnt, 2 sooted?
0096	2		1	135	A/H	Flat with limewash
0096	2	5003	0	1620	C and poss D	From Sample 5003. Many small fragments, many of which are burnt, mixed with pebbles, chalk etc.
0096	2		25	565	H	
0096	2		8	525	H	Poss burnt Fabric H, pink sandy with large pebbles
0096	2		80	470		Many small miscellaneous frags not assigned to a fabric type
0111	2		2	25	A	? ON LABEL. Both pink flat with limewash
0121	2		3	65	A	All flat pieces
0121	2		1	20	A	burnt, pink
0121	2		1	240	A/H	Could be important frag. Fab A with remains of Fab H, second layer?
0121	2		6	400	A/H	Very worn fabric A with rough limewash. Remains of second layer of arriccio = Fabric H
0121	2		4	890	A/H	
0121	2		3	735	A/H?	Large frags, discarded
0121	2		1	35	A?	Says bottom layer on label, poss A or could be C
0121	2		0	4790	D	Large sack, frags not counted as too many
0121	2		2	65	Z	With surfaces, burnt
0125	2		0	210	Z?	Worn, poss hybrid, check
0126	2		64	1410	A	Sample retained
0126	2		4	275	M	cream hard sandy fab w chalk, 2 joining
0127	2		0	155		Proper mortar sample, small bag. Coarse limey w large pebbles. Poss Fabric H.
0149	2		0	270	X	Degraded frags, damp and mouldy, lime-rich and soft
0154	2		44	1165	A	Cream mortar w chalk, some flat surfaces, 3 pieces kept
0154	2		1	18	B	
0154	2		30	283	H	Crude concretey
0154	2		2	95	R	Mortar onto flint- flat surface, poss Post-Roman wall, both retained. Photo?
0202	2		0	195		Proper mortar sample, small bag. Mainly med sand, some small lumps with RCBM attached and chalk
0056	4		3	5	H?	
0073	4		1	10	H	
0073	4		3	8	H	

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0075	4		1	3	H	
0076	4		3	10	B	
0076	4		1	60	D	
0076	4		4	25	H	
0076	4		1	45	H	
0077	4		6	390	X	All same fab, v limey cream w large lime incs up to 7mm in length
0077	4		1	25	Z?	Worm action? Weird
0078	4		2	20	A	
0078	4		1	20	A	?burnt
0078	4		6	270	C	Some flat surfaces
0091	4		4	165	H	
0091	4		1	30		Soft beige mortar w some black incs
0094	4		2	125	A	1 slightly curved, retained
0094	4		2	35	B	
0094	4		1	245	D	
0094	4		1	20	H	
0094	4		5	40	Z	
0109	4		3	303	A	
0109	4		5	151	A	
0109	4		9	218	A	
0109	4		7	165	A	
0109	4		1	25	B	
0109	4		1	31	B	
0109	4		1	70	C	
0109	4		1	45	H	
0109	4		1	10	H	
0109	4		4	742	H or Z	Lumpy buff with pebbles
0109	4		1	525	M?	Worn surface, possibly floor
0109	4		31	400	Z	Many fragments with flat surfaces, some with very smooth, not the same as Fab A in square building
0109	4		2	60	Z	Hard white surface
0109	4		6	45	Z	
0110	4		1	5	A?	
0110	4		3	15	B?	
0122	4		1	20	Z	
0155	4		3	20	C	
0155	4		2	25	H	
0155	4		2	25	H	
0155	4		2	20	M?	

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0155	4		5	60	Z	
0155	4	5008	8	18		From sample 5008. 1 fabric C @ 4g, remainder Fabric H @ 14g
0116	6		2	10	A	
0117	6		2	5	A	
0117	6		4	36	H	Cream, coarse pebbly
0117	6		4	30	M	Ginger buff, coarse with shell
0146	6		1	111	B	Pink traditional op sig
0146	6		6	1218	H or Z	Concretey yellow buff w large pebbles, like floor surface
0156	6		0	23	H	
0157	6		2	60	H	Shelly, very burnt
0160	6		4	40	A	
0160	6		2	170	B	
0160	6		5	65	B	Coarse op sig
0160	6		2	15	H	
0161	6		135	3198	A	
0161	6		1	86	H or Z	Coarse buff mortar
0163	6		8	760	A	Gingery w flat surfaces, 1 w ridge on reverse
0163	6		5	1950	M	similar gingery fab but coarser and deeper, probably from flooring
0164	6		1	25	A	With flat surface
0164	6		1	25	B	
0170	6		2	186	B	
0170	6		1	331	H or Z	Dark cream, very pebbly
0170	6		1	153	X	cream corner bit
0180	6		8	225	A	Some with flat surfaces.
0180	6		5	25	B	
0186	6		6	55	A	
0186	6		7	185	B	
0186	6		1	60	B	Coarse
0191	6		0	115		Proper mortar sample, small bag. Coarse soft w large pebbles, poss Fabric H or M
0169	7		1	100	A	flat surface
0169	7		3	85	A	2 with plaster layer <4mm & buff limey mortar w sparse chalk incs <5mm diam
0169	7		16	330	A	Buff fabric
0169	7		24	650	A	With flat surfaces
0169	7		1	68	**B**	
0169	7		1	45	C	
0169	7		12	815	D	

Context	Trench	Sample No	Count	Wt (g)	Fabric code	Description
0169	7		13	219	X	
0183	7		1	55	A	Flat surface. Good example of fabric type.
0183	7		10	19	A	
0183	7		13	245	A	
0183	7		10	155	C	
0183	7		3	185	D	
0184	7		3	550	A	With flat surfaces, included shaped piece removed as SF
0184	7		1	68	A	Flat surface
0184	7		8	940	A	Creamy lime with flat surface
0184	7		1	120	B	
0184	7		3	21	B	
0184	7		1	235	H	
0188	7		4	235	A	With surfaces
0188	7		4	580	A	Includes 1 corner fragment, keep
0188	7		34	4005	A	creamy lime mortar, most with surfaces
0188	7		3	95	B	
0188	7		3	1810	B	Includes 1 large lump, 1 with flat surface
0188	7		1	1165	C	Has sparse cbt
0188	7		2	125	M?	With flat surfaces
0169 0184	7		5	35	A	Muddled in bags. Unclear which context mortar comes from
0169 0184	7		6	125	B	Muddled in bags. Unclear which context mortar comes from

Table B5 The Small Finds Catalogue

SF No	Context No	Material	Date	Object	Description	X-ray plate
1001	0003	Copper alloy	Lmed/Pmed	Lacetag	Complete, probably type 2.	
1002	0002	Copper alloy	Uncertain	Waste?	Amorphous piece of copper alloy slag with piece of silver sheet attached/corroded to one side.	
1003	0003	Copper alloy	Lmed/pmed	Lacetag?	Complete lace tag, with globular terminal. *c.* 14th-17th century.	DR003
1004	0001	Copper alloy	Uncertain	Waste	Amorphous piece of copper alloy slag waste. Sub-triangular in plan.	
1005	0003	Iron/other	Modern	Unident	Iron core wrapped with something else. Same as 1009	
1006	0003	Copper alloy	Lmed/Pmed	Lacetag	Complete	
1007	0004	Ceramic	Late Saxon	Tile	Fragment of light red tile with remains of polychrome relief petal-shaped decoration, slightly chamfered	
1008	0002	Ceramic	Late Saxon	Tile	Fragment of redware tile with remains of polychrome relief two joining circles	
1009	0003	Iron/other	Modern?		Iron core wrapped with something else. Same as 1005.	
1010	0005	Copper alloy	Late med	Lacetag	Complete lace tag, slightly tapering along its length. The edges meet but do not overlap. No sign of rivet fitting; open at the base of the tag. Probably a Type 1; a form primarily dating to the 15th century (Margeson, 1993, 22).	
1011	0005	Copper alloy	Post-med/modern	Strip	Strip of copper alloy, slightly tapering, rounded ends. The narrow end has rivet	
1012	0005	Copper alloy	Modern?	Bull ring?	Solid curved piece of copper alloy, sub-ovoid in section, irregular in diameter	
1013	0002	Copper alloy		Waste?	Amorphous piece of copper alloy casting waste. Sub-rectangular in plan.	
1014	0004	Copper alloy	Lmed/Pmed	Lacetag	Complete lace tag, slightly tapering along its length. The edges meet but do not overlap. Perforations at the top of the tag for rivet fitting; open at the base of the tag. Probably a Type 1; a form primarily dating to the 15th century (Margeson, 1993, 22).	
1015	0011	Iron	Lsaxon/early med	Knife	The small corroded whittle tanged knife could belong to form A under Ottaway's York typology with a back which might angle down to the tip. This form is most common during the Mid/Late Saxon period from the 9th-11th centuries, but it is possble that it is later.	DR003
1016	0017	Iron	Early-late Saxon	Balance	Incomplete beam arm, circular in cross section, from a hand-held rigid balance with central triangular pointer. Both terminals are truncated.In form SF1016 is comparable to an early copper alloy example known from a 9th century context in Ipswich (ibid, 70, fig. 2, no. c 63/4601). In East Anglia such balances are usually found within urban contexts and would most likely have been the property of merchants or craftsmen (ibid, 68); but they can also be found in funerary contexts. For a similar balance in copper alloy from Bedfield see the PAS, which also probably cites the Ipswich example in the paperwork (Record ID: SF-A58107 - EARLY MEDIEVAL balance). A long-lived type within the Saxon period, perhaps more EAS rather than M/LAS.	DR003
1017	0055	Lead	Uncertain	Came	Strip of cast window came, H-shape in cross section, twisted at one end; following Knight's typology it is classified as Type C	
1018	0056	Copper alloy	Post-med	Thimble	Complete lathe-turned, squashed	
1019	0045	Glass	Med?	Window	Dense dark glass, thick, probably undecorated	
1020	0056	Copper alloy	Post-med	Hooked tag	Hooked tag with moulded human classical bust in profile, trapezoidal loop. It is a Read (2008) Class E, Type 3 of early post-medieval date.	
1021	0033	Copper alloy	Uncertain	Sheet	Crumpled fragment of folded cu alloy	DR003
1022	0004	Iron	Uncertain	Hasp	Complete, possible small hasp or perforated fitting with triangular plate and looped eye at narrowest end. From a chest or similar.	

SF No	Context No	Material	Date	Object	Description	X-ray plate
1023	0072	Copper alloy	Late med	Lacetag	Incomplete lace tag, slightly tapering along its length. The edges meet but do not overlap. No sign of rivet fitting; open at the base of the tag. Probably a Type 1; a form primarily dating to the 15th century (Margeson, 1993, 22).	
1024	0072	Copper alloy	Post-med	Jetton	Jetton, anonymous issue of Nuremberg, rose-orb type. Obverse: orb in trilobe within outer circular border, BVE/BVENO:/VENOB etc. Reverse: lis and crowns alternating around central rose, BVE/B:VENO/VENOB etc. Worn, corroded, chipped. Diameter: 24.2mm. Weight: 1.25g. Compare Mitchiner (1988, 381-383) nos. 1227-1247. Date: 1500-1550.	
1025	0005	Glass	Pmed	Window	Plain clear glass	
1026	0071	Copper alloy?	Modern?		Folded sheet, possibly modern	
1027	0073	Silver	Med	Coin	John, penny, shortcross type. Class 4b, moneyer HENRI at the mint of London. Obverse: crowned bust facing holding sceptre in right hand, hENR[ICVS R]/EX. Reverse: voided short cross quartering coin, quatrefoil in each angle within inner pelleted border, +hE[….]N.LVN (V and N ligated). Diameter: 17.7mm. Weight: 1.07g. North (1994), 220, no. 968/2. Die duplicate of Mass (2002) pl. 41, no. 1105. Date:1199-1216.	
1028	0003	Silver	Post-med	Coin	Elizabeth I, halfgroat. Tower mint, third issue, initial mark: tun (1592-1595). Obverse: crowned bust left within inner border, two pellets behind, [E.D].G ROSA.SINE.SPIN[A]. Reverse: cross fourchée quartering Royal arms, CIVI/[TAS]/LON/DON. Diameter: 16.5mm. Weight; 0.82g. Worn, clipped. North (1991), 137, no. 2016. Use of the tun initial mark dates this coin to the third issue (1583-1603), specifically 1592-1595.	
1029	0058	Copper alloy	Lmed/Pmed	Lacetag	Complete lace tag, slightly tapering along its length. The edges meet but do not overlap. No evidence for a rivet fitting; overlapping at the base of the tag. Prob a Type 1, a form primarily dating to the 15th century (Margeson, 1993, 22).	
1030	0078	Silver	Med	Coin	Robert III of Bethune, sterling imitation. Mint of Ghent. Obverse: crowned bust facing, [EDL ROBERT]VS COME[S]. Reverse: long cross quartering coin, three pellets in each angle within inner pelleted border, MON/ETA/[GAN]/DES. Diameter: 16.2mm. Weight: 0.85g. Very worn, clipped, slightly bent. Mayhew (1983) no. 210. Robert III of Béthune (1249-1322), Count of Nevers (1273-1322) and Flanders (1305-1322). Struck circa 1317 at Ghent in modern-day Belgium, it belongs to a second 'wave' of imitations which began to be produced in the early 14th century.	DR003
1031	0056	Copper alloy	Med	Buckle	Fragment of gilded decorated buckle. Single loop, D-shaped frame with expanded outer edge and narrowed, offset strap bar. The outer edge is decorated with stamped, radiating grooves;	
1032	0056	Lead	Uncertain	Rove	Strip of narrow lead (possibly with a recess) attached to diamond shaped rove	
1033	0081	Bone	Uncertain	Waste?	3 joining fragments of cut metapodial, both ends chopped off	
1034	0003	Copper alloy	L Saxon	Hooked tag	Complete circular, flat hooked tag cut from sheet copper alloy. It has a small rearward hook. The front is decorated with ring and dot motifs and it has two holes at the apex for attachment. It has a further central perforation. The form is Read's (2008) Class A type 2, usually dated quite widely from the later Middle Saxon to the Late Anglo-Saxon period. Examples of circular design seem to be a development of the later 8th century according to the Flixborough report, becoming more popular and increasingly common in contexts of the 10th-11th century. The Court Knoll example could be dated to AD 750-1100 but with the caveat that it is most likely to be from c. 900-1100. Two virtually identical tags from Norwich came from contexts of 1000-1050 and 1150-1300 respectively – the latter is almost certainly residual.	DR003

SF No	Context No	Material	Date	Object	Description	X-ray plate
1036	0117	Iron	Pmed	Key	Complete rotary key. The bow is kidney-shaped and is possibly pelta-style, with the remnants of two curved projections inside at the point where the bow meets the stem. 16th century.	DR003
1037	0133	Copper alloy	Mid to late Saxon?	Chape?	An unusual object which is not necessarily a chape but could potentially be the socketed head from a bone hairpin (missing its hollow terminal, see PAS link below), a ferrule or alternatively some kind of strap fitting/strap end. The use of ring-dot is suggestive of a later MAS to earlier LAS date, ring-dot decorated tweezers from Flixborough go from about AD 750 up to AD 950 which may provide a useful yardstick for dating here.PAS link: Record ID: LIN-C71A35 - EARLY MEDIEVAL chape. It could perhaps be part of a stylus fitting or similar implement given the history of the site.	DR003
1038	0120	Copper alloy	Post-med	Dress pin	Wire wound head pin, Type 1 dating to the 15th-16th century (Margeson, 1003, 13).	
1039	0133	Copper alloy	L Medieval	Jetton	Jetton, issue of Tournai. Muling of 'crown' and 'arms of France' types. Obverse: crown containing rose flanked by two annulets within inner pelleted border, cinquefoils in left and right fields, +AVE MARIA: GRACIA*. Reverse: arms of France (three lis in shield), acorn and two leaves projecting from upper edge, +AVE:MARIA.GRACIA*. Well preserved. Diameter: 25.5mm. Weight: 2.88g. Mitchiner (1988) - , though no. 664 for 'crown' side. 15th century.	
1040	0133	Lead	Uncertain	Cam	Strip of cast window came, H-shape in cross section; following Knight's typology it is classified as Type C (King, 1987, 39, fig. 35).	
1041	0182	Copper alloy	Pmed	Buckle	Fragment of a cast, double loop buckle frame, trapezoidal in plan. Pointed knop on outer edge. Dates to *c.* 1620 – 1680 AD (Whitehead, 1996, no. 519).	
1042	0131	Ceramic	Late Saxon	Tile	Fragments of polychrome relief tile , two joining circles, redware fabric, slightly chamfered	
1044	0131	Ceramic	Late Saxon	Tile	Small fragment of glazed tile, probably part of polychrome relief dec	
1045	0131	Ceramic	Late Saxon	Tile	Fragment of redware tile with remains of polychrome relief petal shaped decoration, glaze on more than one face	
1046	0153	Ceramic	Late Saxon	Tile	Small fragment of polychrome relief tile, red fabric, joining circle design, abraded	
1047	0131	Ceramic	Late Saxon	Tile?	Moulded redware ceramic, possibly related to SF1004, terracotta type	
1048	0131	Ceramic	Late Saxon	Tile	Fragment of redware tile with remains of polychrome relief petal shaped decoration	
1049	0131	Ceramic	Late Saxon	Tile	Fragment of redware tile with remains of polychrome relief petal-shaped decoration, glaze on more than one face	
1050	0131	Ceramic	Late Saxon	Tile	Fragment of fine light red tile with remains of polychrome relief petal-shaped decoration	
1051	0131	Iron	Uncertain	Stud	Corroded shaft with ?circular stud head	
1052	0131	Iron	Uncertain	Nail		
1053	0165	Ceramic	Late Saxon	Tile	2 joining frags of ceramic moulding similar to SF1044	
1054	0165	Ceramic	Late Saxon	Tile	Small fragment of relief decorated tile, corner frag, chevron type dec with lead glaze	
1055	0169	Copper alloy	Medieval	Horse fitting	Incomplete horse harness pendant. The object is tear-drop shaped and has an ovate, concavo-convex plate with an integral, suspension loop at the apex that has been truncated.	
1056	0179	Copper alloy?	Medieval	Mount	Incomplete gilded fragment of casket strip mount with circular, perforated terminal, comparable to a mount recovered from a 12th century context in London (Pritchard, 1991, 151, fig. 334, no. 104).	DR003
1057	0116	Iron	Saxon/E Med?	Knife?	Possibly a knife blade fragment but difficult to ID in current state, though seems to have a rectangular rather than triangular cross-section. Undiagnostic, if it is a knife blade could be Saxon to Med.	DR003
1058	0131	Iron	Uncertain		Sub-rectangular fragment of iron	DR003

SF No	Context No	Material	Date	Object	Description	X-ray plate
1059	0054	Iron	Uncertain	Strip fitting	Irregular thin plate of iron.	DR003
1060	0023	Iron	Uncertain	Nail	Narrow wedge-shaped fragment of iron, probably a headless type of carpentry nail.	DR003
1061	0029	Iron	Saxon/E Med	Knife	The small whittle tanged knife could belong to form C1 under Ottaway's York typology with a generally straight back which curves down to the tip. This form is known throughout the A/S period (and beyond) but a very similar knife was found at Bishopstone Manor, which had its floruit in the 10th-11th century.	
1062	0046	Copper alloy	Uncertain	Waste?	Melted/burnt lump of metal/waste/casting spill with charcoal adhering.	DR003
1063	0183	Stone	Medieval	Hone	Fragment of smoothed ?sandstone. Sub-square in cross section; all corners rounded. One face flattened through use.	
1064	0131	Bone?	Uncertain	Unident	2 tiny fragments of possible bone, small found given the context.	
1065	0131	MWD?	Uncertain	Unident	Fragments of possible metalworking debris, or burnt cu alloy?	
1066						
1067	0004	Iron	Medieval	Shears	Incomplete, arm and blade from a pair of iron shears. The blade is plain, lacking any recesses, comparable to an example from London of 12th century date (Cowgill, et al, 1987, 107, fig. 70, no. 311) and also to examples from York that date between the 9th to 15th centuries.	
1068	0003	Iron	Post-med	Knife	Incomplete, whittle-tang knife blade with integral bolster between blade and tang. The back of the blade is horizontal and the cutting edge curves upwards towards the now missing tip. Knives of similar form were recovered from 17th century deposits in Norwich (Margeson, 1993, 131, fig. 96, nos. 873 and 875).	
1069	0003	Iron	Post-med/modern	Tool	Elongated object with tapering and curved blade. Centrally placed tang, broken. Rectangular in cross section.	
1070	0117	Copper alloy	Uncertain	Waste	Fragments of corroded copper alloy casting waste; amorphous in shape.	
1071	0033	Copper alloy	Uncertain	Waste	Fragments of corroded and amorphous copper alloy. One piece has a protrusion, could be a heavily corroded object.	
1072	0033	Copper alloy	Uncertain	Waste	Fragments of corroded copper alloy; one piece appears to be a sheet object – such as a buckle plate. The other fragments are amorphous.	
1073	0084	Copper alloy	Medieval?	Object	Curved fragment of copper alloy sheet with lug attached. The lug is circular in profile and double ridged with a central gully.	
1074	0117	Copper alloy		Waste?	Copper alloy fragment, waste or possible casting spill.	
1075	0071	Copper alloy	Uncertain	Waste	Melted copper alloy, perhaps casting spill or waste.	
1076	0071	Copper alloy	Uncertain	Sheet	Fragments of sheet copper alloy; corrosion and dirt masking detail. Some pieces are more amorphous/vitrified and may be waste products. Poss pieces of a brooch/belt plate.	
1077	0117	Organics	Uncertain	Leather & wood	Small elongated piece of wood and a curved offcut of leather. Possibly a shoe fragment?	
1078	Topsoil Tr 4	Lead	Uncertain	Nail	Nail with flat, lozenge shaped head and tapering shank, square in section. Shank bent against the head.	
1079	Topsoil Tr 4	Lead	Modern?	Flashing and washer	Two objects: strip of lead waste, folded over on itself. Probably a piece of flashing. Circular, flat washer; perforated in the centre.	
1080	Topsoil Tr 4	Copper alloy	Uncertain	Ring	Fragment of a copper alloy ring/hoop. Circular in section and corroded.	
1081	Topsoil Tr 4	Copper alloy	Uncertain	Strip	Curved strip of copper alloy sheet; corroded.	

SF No	Context No	Material	Date	Object	Description	X-ray plate
1082	0009	Iron	Medieval	Horseshoe	Near complete horseshoe with narrow arms that have a lobate outer profile. Sub-rectangular holes for nails. In length: 97mm. Clark Type 2b horseshoe that predominantly dates to the 12th century.	
1083	0009	Iron	Medieval	Arrowhead	Highly corroded socketed arrowhead with one side of the blade broken away. The socket is long and the damaged blade is leaf-shaped, which suggests it belongs to Jessop's military form M10 – an armour-piercing type dating 1150-1500 but probably most common in the 13th-14th century.	
1084	0033	Slate	Modern	Pencil	Fragments of a slate pencil, circular in section.	
1085	0033	Bone	Uncertain	Unident	Fragment of bone; possibly worked. Oval in section; elongated and tapering in length. Possible tooth for a tool/comb?	
1086	0005	Iron	Early med	Staples	Two small, rectangular staples with tapering arms. Both have damaged arms.	
1087	0004	Iron	Med/late med	Staple	Staple fragment with elongated body, rectangular in section and tapering. At one end is an incomplete arm, rectangular in section.	
1088	0167	Charcoal	Uncertain	Unident	Small fragment of charcoal, check if any evidence of working given the context.	
1089	0056	Iron	Early med?	Fishing hook	Piece of wrought iron wire, square in section. Bent into a hook at one end.	
1090	0005	Slate	Modern	Pencil	Elongated fragment of slate, tapering at one end to a blunt point; broken at the other. Circular in section.	
1091	0094	Lead	Uncertain	Nail	Two nails; one near complete; one only the shank remains. The complete nail has a flat, lozenge shaped head and tapering shank, square in section. The shank is bent towards the tip. Cast and trimmed.	
1092	U/S T5	Copper alloy	Post-med?	Chape?	Strip of copper alloy with two arms forming a V-shaped frame. It has an in situ circular headed rivet on one side. In cross section it is rectangular; convex on the front.	
1093						
1094	0076	Iron	Med?	Bucket binding	Strip of iron, curved along its length. Midway is a protruding attachment fitting; square in plan with a central, circular perforation. It is likely to be a rim binding for the top of a wooden bucket/container.	
1095	0131	Charcoal	Uncertain	Unident	Possibly a worked fragment of burnt wood, small finded because of context.	
1096	0131	Bone?	Uncertain	Fragments	2 tiny frags of possible bone, small finded because of context.	
1097	0131	Copper alloy	Uncertain	Copper alloy	Fragments of possible metalworking debris, or burnt cu alloy?	

Table B6 The Window Glass

Context no.	Ref no.	Colour	Description	Dims	Area cm^2
131	1	Covered with opaque brown weathering	Flat fragment, with 2 partial grozed edges, opposite each other, 20mm apart; 16mm and 12mm in length. 4 further cleanly broken edges.	30x20x3.3-3.8mm	5
131	2	Covered with opaque brown weathering	Slightly bent fragment, 3 cleanly and 2 roughly broken edges (2 adjoining fragments)	19x12x3.6mm	1
131	3	Covered with opaque brown weathering	Flat fragment, 3 cleanly broken and 1 roughly broken edge	34x25x3.5mm	5
131	4	Covered with opaque brown weathering	Flat fragment, 3 cleanly broken and 2 roughly broken edges	17x10x2.7mm	1
131	5	Covered with opaque brown weathering	Bent fragment, 1 cleanly broken/rounded edge, 3-4 roughly broken edges	20x13x3.9+mm	2
131	6	Covered with opaque brown weathering	Bent fragment, 1 clean/rounded edge, 3 cleanly broken edges, 1 short poss grozed edge (8mm in length)	27x20x3.3-3.6mm	5
131	7	Covered with opaque brown weathering	Very bent fragment, with wrinkles, c.2 rounded edges, c.2 roughly broken edges	26x27xc.4.3mm	6
131	8	Covered with opaque brown weathering	Flat fragment with 4 cleanly broken, 1 roughly broken edge	33x22x4mm	6
131	9	Covered with opaque brown weathering	Bent fragment with 1 rounded, 1 cleanly broken curved edge, 1 roughly broken edges	24x17x4-4.5mm	3
131	10	Covered with opaque brown weathering, much of cream crystallized layers exposed	Small flat fragment, 3 roughly broken edges, 1 clean at an angle edge	12x10x3.1+mm	1
131	11	Covered with opaque brown weathering	Small flat fragment, 2 clean, 2 roughly broken edges	8x8x2.9mm	1
131	12	Covered with opaque brown weathering	Small flat fragment, 2 clean, 1 roughly broken edge	8x6x4mm	<1
131	13	Covered with opaque brown weathering	Flat fragment, 3 cleanly broken and 3 roughly broken edges	18x13x3-3.1mm	2
131	14	Covered with opaque brown weathering	2 adjoining flat fragments, 4 clean and 1 roughly broken edge	26x14x2.5-2.9mm	3
131	15	Covered with opaque brown weathering	Small flat fragment, 1 roughly broken, 2 clean but curved and angular edges - poss grozed? (15mm and 11mm in length)	15x11x3.8mm	1
131	16	Covered with opaque brown weathering	Slightly bent fragment, 2 cleanly slightly rounded and 1 roughly broken edges	13x11x3.2-3.7mm	1
131	17	Covered with opaque brown weathering	Flat fragment, 4 cleanly and 2 roughly broken edges	20x17x3.4mm	3
131	18	Covered with opaque brown weathering	Flat fragment, 3 cleanly, 1 roughly broken edge	23x15x3.4-3.7mm	3
131	19	Covered with opaque brown weathering	Slightly bent fragment, 1 probable grozed edge (14mm length), 3 roughly broken edges	16x12x4mm	2
131	20	Covered with opaque brown weathering	Flat fragment, 2 cleanly broken, 2 slightly rough and angular (grozed?) edges	20x12x2.6-2.9mm	
131	21	Covered with opaque brown weathering	Flat fragment, 2 cleanly and 2 roughly broken edges	16x15x2.3-2.5mm	2

Context no.	Ref no.	Colour	Description	Dims	Area cm^2
131	22	Covered with opaque brown weathering	Slightly bent fragment, 1 short probably grozed edge (11mm length), 1 cleanly broken edge, 1 rounded edge, 2 roughly broken edge	23x21x2.8-3mm	4
131	23	Covered with opaque brown weathering	Flat fragment, 4 quite cleanly and 1 roughly broken edge	21x22x2.8-3.1mm	4
131	24	Covered with opaque brown weathering	Slightly bent fragment, 3 cleanly and 1 roughly cut edge	20x16x2.8-2.9mm	3
131	25	Covered with opaque brown weathering	Tiny fragment, 1 clean, 3 rough cut edges	10x6x2.7mm	1
131	26	Covered with opaque brown weathering	Tiny fragment, 1 rounded edge, the rest weathered	0	<1
131	27-31	Showing internal opaque white/cream/blue crystallisation and opaque brown layer on surface	4 small fragments, none with full thickness. All showing internal opaque white/cream/blue crystallisation	0	3
131	32-33	Showing internal opaque white/cream/blue crystallisation and opaque brown layer on surface	2 fragments, none with full thickness	0	2
131	34	Showing internal opaque white/cream/blue crystallisation and opaque brown layer on surface	A number of disintegrating small fragments and flakes similar to glass above	0	0
165	35	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 1 clean and 3 roughly broken edges	16x15x2.9-3.3mm	2
165	36	Covered by opaque brown surface weathering, crystallised opaque grey inside	Flattish fragment, 1 clean and 3 roughly broken edges	24x14x2.8-3mm	3
165	37	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 4 irregular damaged edges	20x16x2.7mm	2
165	38	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 3 irregular damaged edges	16x13x3.1mm	2
165	39	Covered by opaque brown surface weathering, crystallised opaque white/grey inside	Fat fragment, badly damaged surfaces and edges, although 2 adjacent sides at approx right angle are not as damaged and could possibly be original?	29x17x<4.7mm	3
165	40	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, all 4 edges damaged to different degrees	17x13x4mm	2
165	41-43	Showing internal opaque white/cream/blue crystallisation and opaque brown layer on surface	3 small flat fragments, all damaged	0	1
165	44	Opaque brown	Fragment that appears to have lead mixed into the surface layer, but crystallised cream glass layers internally; 'tear' into one edge; feels heavy; uneven surfaces	29x18x2.8+mm	5
165	45	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 1 roughly broken edge, 3 less damaged edges	21x10x3.3mm	2

Context no.	Ref no.	Colour	Description	Dims	Area cm^2
165	46	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 2 roughly broken edges, 1 less damaged	18x16x3.4-3.8mm	2
165	47	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	Flat fragment, 1 curved edge around fragment less damaged (original?), 1 roughly broken edge	18x15x3.6mm	1
165	48-51	Disintegrating fragments, opaque blue/white internally, opaque brown on surfaces	4 disintegrating fragments of glass, not the full thickness	0	1
165	52	Covered by opaque brown surface weathering, crystallised opaque cream/grey inside	1 small fragment damaged on all edges and surfaces	10x7x2.9mm	1
165	53-60	Disintegrating fragments, opaque blue/cream internally, opaque brown on surfaces	8 very small fragments, not all with full thickness, very badly damaged	<3.6mm	2
165	61	Showing internal opaque white/cream/blue crystallisation and opaque brown layer on surface	A number of disintegrating small fragments and flakes similar to glass above	0	0

APPENDIX C: THE ENVIRONMENTAL TABLES

Table C1. The Animal Bone Catalogue

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
0001		2	16	Mammal	2								
0002		3	21	Mammal	3								
0003		21	227	Equid	1	1				lower molar			
0003				Cattle	2	2				upper molars			
0003				Sheep/goat	2	2				talus, proximal phalange			
0003				Pig	1			1		humerus	cut		robust humerus and possibly infected
0003				Mammal	15								
0004		20	196	Cattle	1					tibia	chopped		
0004				Sheep/goat	2					lower molars			
0004				Pig	6			6		femur, tibias, radii, humerus			
0004				Mammal	11								
0005		27	273	Cattle	4	4				phalange, metacarpal, tibia	chopped, cut		
0005				Sheep/goat	4	4				metacarpal, molars	chopped		
0005				Mammal	18								
0005				SM - Polecat	1	1				joined tibia/fibia			Polecat or Ferret
0006		2	3	Mammal	2								
0008		33	257	Cattle	3					phalanges	cut		1 cut from skinning
0008				Sheep/goat	8					mandible, isolated teeth			
0008				SM - Cat	1					pelvis			
0008				Bird - Fowl	2					humerus, scapula			
0008				Mammal	19								
0009		13	105	Sheep/goat	2	2				humerus and tibia frags			dark stained bone
0009				Mammal	10								dark stained bone
0010		2	4	Mammal	2								
0011		9	85	Pig	1		1			humerus			
0011				Mammal	8								
0012		5	96	Cattle	1	1				upper molar			
0012				Sheep/goat	2	2				humerus, metacarpal frag			
0012				Bird - Goose	1	1				femur	chopped		distal
0012				Bird - Pigeon	1	1				humerus			
0013		8	91	Cattle	1	1				ulna fragment			
0013				Mammal	7								
0014		11	66	Sheep/goat	2	2				pelvis, radius	cut, chopped		
0014				Pig	2		1	1	2	juv metapodial,			

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
										neonatal humerus			
0014				Bird - Duck	2		2			humerus frag			
0014				Fish - Pike	1					veretbra			
0014				Mammal	4								
0015		8	18	SM - Hare	1	1				metapodial			
0015				Mammal	7								
0019		5	10	Mammal	5								
0021		2	7	Cattle	1	1				tarsal			
0021				Mammal	1								
0026		1	4	Mammal	1								
0029		30	360	Cattle	3	3				mandible fragments, proximal phalange			
0029				Sheep/goat	4	2				teeth, humerus, calcaneus			includes well worn third molar
0029				Pig	4		2			scapula frags, tusk, tooth			
0029				Mammal	26								
0029				Deer - Fallow	1	1				tibia	chopped		meat use
0029				Bird - Goose	1	1				coracoid			
0029				Bird - Fowl	1	1				femur			
0030		1	7	Mammal	1								
0031		4	90	Cattle	4		4			humerus fragments, intermediate phalange	cut, chopped		
0032		1	7	Mammal	1								
0033		7	192	Cattle	1	1				radius fragment			
0033				Mammal	6								
0034		3	12	Mammal	3								
0035		1	1	Mammal	1								
0036		2	4	Mammal	2								
0040		1	1	Mammal	1								
0042		1	2	Mammal	1								
0043		18	67	Pig	3			3		teeth, scapula			
0043				Bird - Fowl	4	4				carpometacarpus, radius, coracoid, humerus			
0043				Mammal	12								
0044		1	7	Mammal	1								
0046		6	34	Sheep/goat	1	1				pelvis frag			
0046				Bird - Fowl	1	1				tibia fragment			
0046				Mammal	4								
0047		4	29	Sheep/goat	1	1				radius	chopped		
0047				Mammal	3								
0048		3	8	Pig	3		3			metapodial frags			
0049		10	36	Bird - Fowl	1	1				humerus			
0049				Mammal	9								
0051		1	63	Pig	1								
0052		1	1	Mammal	1								
0053		1	1	Mammal	1								

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
0054		13	63	Sheep/goat	2	2				metatarsal, proximal phalange		1	light gnawing on metatarsal
0054				Mammal	10								
0054				Pig	1					tusk frag			
0055		11	100	Sheep/goat	5	5				teeth, humerus	chopped		
0055				Mammal	6								
0056		47	279	Cattle	4	4				phalange, upper molars			
0056				Sheep/goat	18	8				metacarpal, humerus, teeth	chopped	1	gnawed metacarpal shaft
0056				Pig	1			1		femur			
0056				Bird - misc	2		2						
0056				Mammal	21								
0057		13	250	Bird - Fowl	7	7				tibiotarsus, femur fragments			
0057				SM - Hare	2	2				femur, tibia	cut		cut tibia
0057				Sheep/goat	1	1				metatarsal			
0057				Cattle	1	1				distal phalange (hoof)			
0057				Pig	1			1		neonatal ulna			
0057				Mammal	1					inc rib frags	chopped		
0058		3	8	Bird - Goose	1	1				carpometacarpus			?cut
0058				SM - Stoat	1	1				femur			
0058				Mammal	1								
0062		2	16	Mammal	2								
0064		14	50	Mammal	14								
0064	5002	8	6	Mammal	8								burnt fragments, burnt to white colour
0066		33	318	Cattle	1	1				femur	chopped		proximal end
0066				Sheep/goat	3		3			tibia, humerus, radius	cut, chopped		
0066				Pig	2		2			talus, tibia, pelvis	cut, chopped		
0066				SM - Hare	2	2				sacrum, femur			
0066				Bird - Fowl	6	2				humerus, tibia, scapula, wishbone	cut		
0066				Mammal	19								
0070		26	73	Cattle	1	1				ulna fragment	chopped		
0070				Sheep/goat	1		1			humerus	cut, chopped		small breed
0070				Pig	3		3			metapodials, scapula	cut		scapula cut
0070				Bird - Fowl	9	9				wishbone, humeri, coracoid, vertebra	cut		
0070				Mammal	12								

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
0071		4	9	Mammal	4								
0072		19	79	Sheep/goat	2	2				humerus, well worn molar 3	chopped		
0072				Mammal	17								
0073		19	260	Sheep/goat	4	4				femur, scapula and humerus shaft frags	chopepd		
0073				Cattle	3	3				Lower molar 1, radius	chopped		
0073				Mammal	12								
0075		9	74	Cattle	2	2				upper molars			
0075				Mammal	7								
0076		23	986	Bird - Goose	1	1				phalange			
0076				Cattle	4	4				skull and mandible fragments, metacarpal fragment	cut, chopped		MC GL = 165, shoulder height: 1.03m
0076				Sheep/goat	4	3				teeth and radius shaft, humerus	chopped		
0076				Equid	1	1				proximal phlanage			small horse sized
0076				Mammal	14								
0078		18	411	Cattle	10	10				various teeth, vertebrae fargs			
0078				Sheep/goat	3	3				teeth, tibia			
0078				Pig	1			1		neonatal ulna			
0078				Bird - Fowl	1	1				synsacrum			
0078				Fish - Pike	3					vertebrae			
0079		1	13	Mammal									
0081		177	946	Cattle	4	4				femur, calcaneus, vertebra	cut, chopped		
0081				Sheep/goat	4		4			scap, femur,	cut, chopped		
0081				Pig	14		14			tibias, ulna, jaws, isolated teeth, metapodials, calcaneus			
0081				SM - Hare	1	1				pelvis	cut		
0081				Bird - Fowl	16	16				leg and wing bones, scapuals	chopped, cut		
0081				Bird - Woodcock	2	2				femur, humerus			
0081				Bird - Goose	1	1				humerus			
0081				Bird - Wader sp.	1	1				tibia	cut		
0081				Fish - Salmon	2					vertebra			
0081				Fish - Trout	1					vertebra			
0081				Mammal	131								some invertebrate damage
0081	5001	78	21	Pig	1		1			phalange			
0081	5001			Bird - Fowl	5	5				coracoid, carpometac	cut		

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
										arpus			
0081	5001			Bird - Woodcock	3	3				humerus, coracoid, scapula			
0081	5001			Bird - Misc	12								
0081	5001			Fish - Trout	3					vertebra			
0081	5001			Fish - Herring	6					vertebra			
0081	5001			Fish - Misc	4					fragments			
0081	5001			Herpetofauna - Toad	1	1				humerus			
0081	5001			Mammal	43								
0084		1	3	Pig	1		1			metapodial			
0085		1	4	Mammal	1								
0091		11	72	Sheep/goat	2	2				humerus	chopped		
0091				Bird - Misc	1								
0091				Mammal	8								
0092		1	7	Mammal	1								
0094		1	58	SM - unidentified	1					shaft fragment			?rabbit
0095		4	3	Mammal	4								
0096	5003	36	34	Mammal	36								burnt fragments
0099		2	1	Mammal	2								
0100		1	1	Mammal	1								
0103		2	1	Bird - Wader sp.	1	1				tibiotarsus			?Godwit
0103				Mammal	1								
0105		2	1	Herpetofauna - Toad	2	2				humerus fragments			
0110		9	100	Cattle	1		1			femur	chopped		juvenile distal femur
0110				Mammal	8								
0113		2	49	Mammal	2								
0115		2	100	Equid	2					upper molars			
0116		1	142	Mammal	1								
0116		10	106	Cattle	1	1				lower molar			
0116				Pig	2		2			humerus x 2	chopped, cut		
0116				Mammal	7								
0119		14	31	Sheep/goat	2	2				humerus and tibia frags	chopped, cut		
0119				Herpetofauna - Frog	1	1				radioulna			
0119				Mammal	11								
0120		5	2	Mammal	5								
0121		9	100	Cattle	1	1				tibia	chopped		
0121				Sheep/goat	2	2				scapula, phalange	cut		
0121				Mammal	6								
0122		8	197	Cattle	3	1				mandible, isolated teeth	cut		skinning cut, heavy dental calculus
0122				Bird - Fowl	4	4				fowl			
0122				Mammal	1								
0124		7	94	Mammal	7								
0125		2	4	Mammal	2								
0128		2	20	Pig	2		2			radius x 2			
0128	5004	8	8	Fish - Herring	1					vert			
0128	5004			Bird - Misc	1								
0128	5004			Mammal	6								

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
0130		2	1	Bird - Robin	2	2				tarsometatarsus, femur			
0131	5006	1	1	Mammal	1								burnt white
0133		9	93	Bird - Fowl	1	1				ulna			
0133				Mammal	7								
0133				Bird - ?Fowl	1	1				ulna			
0134		1	2	Fish - Salmon	1	1				skull fragment			
0135		9	26	Mammal	9								
0137		3	16	Pig	1		1			ulna			
0137				Mammal	2								
0146		11	183	Equid	5	5				metacarpal and proximal phalange, distal metatarsal, MPs 3 and 4			complete metacarpal GL = 220, estimated 14 HH
0146				Pig	1			1		femur			
0146				Mammal	4								
0146				Cattle	1	1				scapula	cut		
0154		12	146	Cattle	1	1				tibia	chopped		
0154				Pig	2		2			scapula, radius			
0154				SM - Hare	1	1				calcaneus			
0154				Mammal	8								
0155	5008	9	7	Mammal	9								
0155		12	185	Cattle	1	1				pelvis fragment	chopped		
0155				Sheep/goat	1	1				humerus	cut, chopped		
0155				Deer - Fallow	1	1				tibia	cuts	1	canid gnawing
0155				Bird - Goose	4	4				tibiotarsus, ulna, scapula			
0155				Bird - Fowl	2	2				ulna, tarsometatarsus			
0155				Bird - Woodcock	3	3				humerus, femur			
0156		1	1	Bird - Fowl	1	1				carpometacarpus			
0157		10	13	Bird - Snipe	1	1				tarsometatarsus			
0157				Mammal	9								
0160		2	17	Mammal	1								
0160				Sheep/goat	1								
0164		2	75	Pig	1		1			tusk			
0164				Mammal	1								
0169		65	759	Cattle	12	10	2		2	unfused metatarsal, adult scapula, pelvis, vertebra, humerus, femur, upper molars	cut, chopped		well worn adult teeth, eburnation (arthritic wear) i=on femur head
0169				Sheep/goat	3	3				humerus, radius, pel			
0169				Bird - Goose	3	3				humerus, phalange, ulna	cut		

Ctxt	Sample	Ctxt Qty	Wt (g)	Species	NISP	Ad	Juv	Neo	MNI	Element range	Butchering	Gnawed	Comments
0169				Mammal	47							3	some gnawing
0183		18	95	Pig	3		3			radius, humerus, lower molar			
0183				Bird - Goose	2	2				proximal humerus, coracoid	cut		
0183				Mammal	13								
0184		12	315	Sheep/goat	2	2				pelvis, humerus			
0184				Pig	1		1			metapodial			
0184				Mammal	3								
0184				Equid	6	6				tibia, pelvic frags, tibia			small horse sized
0185		1	2	Mammal	1								
0186		3	22	Mammal	3								
0188		1	10	Bird - ?Fowl	1	1				phalange			
0190		4	62	Sheep/goat	1	1				mandible	cut		molar 3 in full wear - mature, cut from skinning
0190				Mammal	3								
1024		8	15	Bird - Fowl	2	2				humerus frags			
1024				Mammal	6								
1088		1	2	Mammal	1								

APPENDIX D: THE SCIENTIFIC ANALYSES

Appendix D1 Chemical characterization by plasma spectrometry (ICPS) of Anglo Saxon tiles from Court Knoll, Nayland and the Abbey complex at Bury St Edmunds

Michael J. Hughes

Summary

Plasma spectrometry analysis of Anglo-Saxon tiles from Court Knoll, Nayland has confirmed that they were all made from a chemically consistent clay with a low iron percentage, typical of a single production group. Comparison was made with analyses from a previous study of similar Anglo Saxon Glazed Tiles found at Winchester, St Albans, London and Canterbury, and new analyses of tiles from the Abbey complex at Bury St Edmunds. This showed that the Court Knoll tiles most closely resembled in composition a tile from Canterbury and sufficiently close to fabric 2 tiles at Bury and fabric 3 tiles at Winchester to suggest they are variations to be expected within the range of products of different kilns in the same geographical/geological area. A single fabric 1 tile analysed from Bury matched the chemical pattern for fabric 1 tiles at Winchester, and so is from the same source. The analytical evidence suggest that the tiles analysed from all the sites, including those from Court Knoll and Bury St Edmunds, originated in the Winchester area, using clay from the Reading Beds.

Introduction

The aim of the present scientific investigation was to try to determine the origin of the Anglo Saxon tiles from Court Knoll using chemical analysis by inductively coupled plasma spectrometry (ICPS). Examples of such ceramic provenance studies which used ICPS include bricks and tiles from Hill Hall, Essex (Hughes 2009a); delftware pottery produced in London (Hughes 2008); London finds of Antwerp tiles (Hughes 2010), and tiles and other ceramics from Thetford Priory, Norfolk (Hughes 2013); and pottery from Hedingham (Hughes 2012).

Initially it was hoped to compare the analyses against examples of tiles from the abbey of Bury St Edmunds (Gem and Keen 1981), but they could not be found. After the Court Knoll tiles had been analysed and interpreted, those from the Anglo Saxon abbey complex at Bury were located in the English Heritage stores at Wrest Park, Bedfordshire - namely tiles derived from the 1957-64 excavations at the site. A second tranche of samples were therefore analysed including four examples of the Bury tiles and one repeat analysis of a Court Knoll tile. Comparison with the Court Knoll material suggested that one of the Bury tiles selected (EH no. 78106202) may be part of the pre-conquest assemblage, fabric 2. Table 1 list the analysed items from both tranches.

Anglo Saxon relief decorated tiles have been found at a limited number of locations in southern and eastern England, and their similarity across sites suggest production at a limited number of centres, as yet unlocated (Drury 1981, 129). The polychrome effect of the glazes was most successful on these Anglo Saxon tiles when the underlying clay fabric is completely oxidised and a fine white fabric results, but is less successful when part of the tile fabric is reduced near the surface and completely unsuccessful when an earthenware fabric was used (Gem and Keen 1981, 25). This sets quite specific limits on the type of clay required, and in turn on where such tiles could be made. Unlike earthenware medieval tiles made with red or grey iron-rich clay, light-firing clays (low in iron) are limited in occurrence. In southern England, their main outcrops are (and were used historically by potters) the Reading Beds/Lambeth deposits which lie in a rim around the Thames basin London Clay, for example medieval Surrey Whitewares, and in Hampshire. In East Anglia, the junction of the Chalk and London Clay runs diagonally SW/NE through Essex and Suffolk, and the Reading Beds terminate near Ipswich. The present investigation looked first for any evidence (in the form of ICP analyses) of such light-firing clays being used in East Anglia. An important constraint is that the methods of production required to make such tiles and in glazing them must have been extremely time-consuming and have been limited to a very small number of tilemakers with such skills. Probably only a small number of tiles could have been produced in one operation, unless many moulds of the same design were available (Gem and Keen 1981, 26).

A suitable database of analyses of tiles against which they could be compared was a project carried out on tiles from Winchester, St Albans, London and Canterbury (Hughes 2009b, 2014). Very few other analyses of light-firing ceramics from East Anglia exist, but a search has been made, and analyses of other ceramics from the region examined for comparison.

Table D1. Anglo Saxon tiles analysed by plasma spectrometry from Court Knoll and Bury St Edmunds. The Bury tile data includes their item number in Gem and Keen (1981, fig.15, p.21).

Sample No	**Lab No**	**S Find No**	**Context No**	**Description**
Court Knoll				
1	MH011	1008	0002	'Spectacle' type dec
2	MH012	1007	0004	Foliate/oval dec
3	MH013	1042	0131	'Spectacle' type dec
4	MH014	1050	0131	Raised curved dec
5	MH015	1045	0131	Frag foliate/oval dec
6	MH016	1049	0131	Foliate/oval dec
7	MH017	1095	0033	Squarish frag w raised dec
8	MH018	1046	0153	Small green gl frag
9	MH019	1044	0131	Small frag
10	MH020	1054	0165	Chevron, green gl
11	MH021	1048	0131	Large two foliate/oval dec
	MH022			
sample	EH cat.no.	Gem and Keen	description	other no.

Bury St Edmunds				
MH023	810707	6	ASGT fabric 2	SGT (6)
MH024	810710	9	ASGT fabric 2	SGT (5)
MH025	810711	10	ASGT fabric 1	SGT (1)
MH026	78106202		edge tile fabric 2	(F1) T 710

ICPS Analysis (Inductively-Coupled Plasma Atomic Emission Spectrometry (ICP-AES) and Mass spectrometry (ICP-MS)

For the first tranche of samples from Court Knoll (analyses MH011-21), small chips were broken off the tiles, each about 1 gram. For the second tranche of samples (analyses MH022-026) powdered samples were obtained by drilling with a 3mm solid tungsten carbide drill fitted in a low-voltage hand-held drill – the Court Knoll tile 11 was sent to the author and the Bury tiles were sampled at Wrest Park.

For both tranches the samples were sent for analysis by OMAC Laboratories Limited, IDA Business Park, Dublin Road, Loughrea, Co.Galway H62 PN80 Ireland. The laboratory crushed the solid fragments in the first tranche to powder before analysis using manual pulverization (Lab code PUL-31mp); both tranches were then analysed using their 48 Element Four Acid ICP-MS procedure (ME-MS61).

The results of the analyses are given in Table 2, and Table 3 compares them against analyses of relevant single tiles and groups. It is striking that the analyses of Court Knoll tiles 1-10 and analysis MH022 of tile 11 show a very consistent chemical pattern throughout, with none significantly different to the rest. They form a compact chemical group (Table 3) which from previous analyses of medieval tiles, suggests a common source for all the tiles. The tiles are notably lower in iron oxide (average 2.3%) compared to most pottery and tile clays, which suggests deliberate selection of a lighter fabric. In striking contrast, analysis MH021 of tile 11 shows a high calcium content and very low levels of other elements. This suggests the sample either wholly or in part of lime mortar, of an unknown date. Analysis MH022 of tile 11 was of a sample drilled from the interior of the tile and is consistent with the analyses of 1-10.

Of the tiles from Bury St Edmunds, 810711 (analysis MH025) had a higher aluminium but notably lower iron content and sodium and potassium than the other three, consistent with its identification as fabric 1 at Bury St Edmunds. Tiles 810707 and 810710 are close to each other across all elements, but lower in aluminium and many elements than either the Court Knoll tiles or 810711. Also, they do not have the characteristically high rare earth element pattern if the Court Knoll tiles. Their analyses are consistent with their identification as fabric 2 at Bury. As a first conclusion, they differ significantly from the Court Knoll tiles. The edge tile 78106202 from Bury St Edmunds is different again to this pair but has quite similar

concentrations of many elements to the Court Knoll tiles, except for iron, chromium and magnesium which are higher in the edge tile.

Previous analyses of medieval floor tiles from the Midlands using neutron activation analysis (Hughes et al 1982; Leese et al 1986; Stopford et al 1991), from Yorkshire using ICPS (Hughes 2005) and ceramic building materials from Hill Hall (Hughes 2009a), have shown that repeat analyses of decorated tiles made with the same die stamp and of the same dimensions (a 'production group', defined by Stopford, 1990) have very similar analyses, indicating the use of a common clay batch. Tile in different designs made at the same place have slightly different analyses (probably different 'batches' of clay), though the chemical groups showed a common general composition 'signature' but are different to tiles made elsewhere. The Court Knoll tiles seem chemically to conform to a single 'production group'.

In the sections which follow, the analyses of the Court Knoll tiles 1-11 are first compared visually to published ICP analyses of major groups of pottery and tiles from East Anglia, and then in more detail using statistical methods to the Winchester tiles ICP project.

Survey of available analyses of possible comparator material from East Anglia and elsewhere.

Analysis of the Court Knoll tiles confirms that they are made of a fundamentally different clay type other than the common earthenware clays used for most pottery found in East Anglia. A search was made through the principal published scientific analysis studies of East Anglian ceramics to look for evidence of the use of low-iron clays.

Betts (1986) used neutron activation and petrographic analysis to characterize Anglo-Saxon tiles from York. He concluded they were local products and could be distinguished petrologically from similar tiles from Coventry (not analysed by neutron activation). He noted the fabrics of the tiles from both sites were unlike those found in southern England. Although the neutron activation data from York might be retrievable from the author's PhD thesis, it is very unlikely to relate to the present investigation.

In discussing the Bury tiles, Betts (1986, 41) noted there were two distinct fabrics, although one design appears in both fabrics (Gem and Keen 1981, 20). One fabric is described as a white sandy clay with a granular appearance, which suggests a link to the St Albans - London – Winchester group. The other fabric is a red earthenware less sandy in appearance (Gem and Keen 1981, 20). A brief scientific examination and analysis by X-ray fluorescence of typical examples of these tiles was carried out by the Ancient Monuments Laboratory and showed that the main significant elements detected in the glazes were lead, iron and copper

(Gem and Keen 1981, 25 and fn.67). The white firing fabric was found to contain a low but detectable amount of iron, as found in the present investigation.

A major study of Roman period ceramics produced at Colchester was carried out by ICP (Hart et al 1987), including Colchester-produced Samian and colour coated wares. They showed very similar chemical patterns for the colour coated and Samian wares, consistent with the use of local London Clay. Their analyses differ quite significantly from the Court Knoll tiles in that the Colchester pottery was produced from clays containing c. 16-17% alumina, c. 6% iron oxide, 2-3% magnesium oxide, 0.5 – 1% calcium oxide, c. 0.5% sodium oxide, c. 3% potassium oxide and c. 1% titanium oxide. The Court Knoll tiles by contrast have much lower aluminium (11-12%), iron (2-2.5%), magnesium (c.0.5%) and titanium (c.0.5%). The researchers also took a line of samples of Colchester brickearths. While the brickearth showed a similarly high level of aluminium to local London Clay, it was much lower in most of the other major elements including iron (2.65%), magnesium (0.48%), calcium (0.59%), sodium (0.13%), potassium (0.66%) and titanium (0.84%). Compared to the Court Knoll tiles while it had some common features there were significant differences in the alumina (Court Knoll 11-12%; brickearth 18.5%), sodium (0.5-0.8%; 0.13%), and potassium (2.0-2.3%; 0.66%). Among the trace elements, the rare earths were if the same order in both, chromium was lower in the tiles (mean c.65ppm; 120 ppm), as was cobalt (6-7ppm; 14ppm), yttrium (20-24ppm; 40ppm). The differences in some important elements between the Colchester brickearth and the tiles suggest the brickearth is quite unlikely to be the source of the clay used for the tiles but is closer than other red clays to the type of deposit from which the tiles were made.

Ely wares and associated wares showed no examples containing less than 4% iron oxide and the majority were in the range 5-7%, with low sodium oxide (0.1-0.3%), made of Jurassic clays (Spoerry and Vince 2008). Ceramics thought to be made locally in Thetford have been analysed by ICP, including typical examples of floor tiles from Thetford Priory including two 16th C yellow plain tiles without nail holes 120mm sq; two of the large 215mm sq tiles, one each of the yellow and black glaze examples; and two brick fragments from the 1524 vault of the Howard Dukes of Norfolk (Hughes 2013). All the Thetford local tiles and bricks form a consistent chemical pattern, suggesting the use of clays from the same location. Each pair of tiles of the same type showed close chemical consistency within each type, very probably indicating each pair were from the same clay batch. The local Thetford material averages about 10% aluminium oxide, 5% iron oxide and 5% calcium oxide, and as such are unlike the pattern for the Court Knoll tiles. Also analysed were three Anglo-Flemish tiles from Thetford Priory which when compared with a large database of Flemish tiles found in Yorkshire and

Cornwall showed the closest chemical match to tiles from Launceston Castle, Cornwall and a tile from Blanket Row Hull (Hughes 2024).

A major ICP and thin section study of Ipswich wares from Ipswich and Brandon showed a uniform chemical composition (Blinkhorn et al 2012). The aluminium (11-17% of the oxide) and iron were typical for earthenware clay. The magnesium and calcium levels were quite low suggesting there was no addition of calcium carbonate minerals. The site of pottery production in Ipswich was on London Clay and is highly probable that it was the source material; Reading Beds clay low in iron was available nearby but from the ICP analyses was not used for Ipswich wares. While tables of ICP results were not given (and do not seem to be online), their published plots of pairs of elements show the characteristics of typical red clays: magnesium oxide 1.2 – 2.0% and titanium oxide 0.8-1.1%. Comparing these results to the Court Knoll tiles confirms that the Ipswich wares were not made of low-iron clays.

The single example that could be found in East Anglia of a low-iron light-firing clay were 12-14th century Hedingham Finewares, most likely made of Lambeth Formation clays outcropping to the north of Hedingham (Hughes 2012, 158). Their ICP analysis showed a consistent chemical group which does however differ significantly from the Court Knoll tiles, even though it shares a similarly low level of iron oxide (mean 3.5%; Hughes 2012, 157 table 13). Its aluminium oxide level is higher than Court Knoll (16.7%) as is potassium oxide (2.81%), magnesium oxide (0.93%), rubidium (134 ppm) and chromium (94 ppm); but calcium oxide is lower (0.48%) and sodium oxide (0.17%). Hedingham Coarsewares were made of local London Clay, typically with iron oxide contents over 6%. Coarseware pottery from nearby Halstead contained 8.4% iron oxide (Hughes 2012, 157 table 13), and Colchester-type pottery produced at Great Horkesley, Essex contained an average of 7.7% iron oxide (Hughes, 2000).

Previous ICP analyses of Anglo-Saxon relief-decorated floor tiles

For the Court Knoll Anglo-Saxon tiles the main source of comparison analyses is an unpublished study of similar tiles from Winchester and St Albans, a few from London and Canterbury, and contemporary pottery from the Winchester area (Hughes 2009b, 2014). These tiles are technically and chronologically like those at Court Knoll and have been discussed extensively in the literature, including their local occurrence at Bury St Edmunds (Gem and Keen (1981). A brief review of the unpublished study of ICP analyses of Winchester and St Albans AS tiles follows.

Winchester

The unpublished ICP study of Anglo Saxon glazed tiles included seven Anglo Saxon Glazed tiles (ASGT) tiles in the most common fabric 1 (white/grey/cream, medium grained) from

Winchester, together with one rare fabric 2 (pink-buff, very fine grained with an intermittent narrow grey core) and two less common fabric 3 (brick red, fine grained with a thick grey core). The local pottery from Winchester analysed included Winchester Ware and the products of a kiln at Michelmersh, thought to have supplied pottery to Winchester. All the fabric 1 tiles formed a single composition group, containing 17.3+/- 1.8% aluminium oxide, and 0.53+/- 0.08% potassium oxide, strikingly low in potassium and quite high in aluminium oxide (the averages for fabric 1 and 3 tiles are given in Table 3). The Winchester fabric 2 tiles contained more aluminium , iron, potassium etc though still low in iron; in contrast the Winchester fabric 3 tiles were in a quite different, slightly iron-rich clay. The Winchester fabric 1 tiles were unlike the composition of the Court Knoll tiles, but more typical of some of the high-alumina pottery made from the Reading Beds/Lambeth Formation (see below for further discussion on these deposits).

A study of pottery from 26-27 Staple Gardens, Winchester using thin section and ICP analyses led to the conclusion that Winchester Ware contained abundant angular quartz grains – the groundmass consisted of light-coloured or light-brown clay (Steane and Vince 2004). This description was similar to the fine whiteware clays used, for example, at Stamford and on the Surrey/Hampshire border. The ICP analyses showed the Winchester Ware samples had a very different composition to that of any other Winchester pottery and formed a very distinct chemical cluster, with less alumina and more iron than the Winchester fabric 1 tiles.

St Albans Abbey (SAA)

Ten Anglo Saxon Glazed tiles (ASGT) were analysed from St Albans Abbey by ICP, together with: nine Anglo Norman glazed tiles (ANGT); four Relief-decorated floor tiles (RDFT) and another from Great Missenden. All these tiles contained over 14% alumina, except two ASGT Type D tiles (Hughes 2014, nos. 8 (7008) and 10 (8004)). The SAA tiles fall into three composition groups: most of the ASGT, probably Reading Beds clay. The more chemically uniform (and extensive) alluvial clays were used for the ANGT and RDFT tiles. The ANGT tiles with rather more iron; and the RDFT tiles with even more iron, higher calcium and rare earth elements than any other tiles analysed in the project. Although there is more variation in the St Albans ASGT tiles than Winchester fabric 1 tiles, the statistical tests showed that most conformed to a single basic clay composition, very low in iron oxide (none were greater than 0.3%). The Court Knoll tiles lie outside the ranges for both elements and are not part of the sequence used at St Albans. The single RDFT from Missenden Abbey appears to be consistent with the clay chemistry of St Albans RDFT tiles. There are a few St Albans ASGT tiles which are in different chemical groups to the rest of their type, suggesting different clay

sources in use at the same period. The two ASGT type D tiles (7806 and 8004) are of the higher iron clay used later for the RDFT tiles. The SAA ASGT type U tile is an outlier.

Within the St Albans Abbey ASGT tiles there were four different chemical sub-groups. One group of two tiles (Type F, 7806 and 8004) had low aluminium contents (mean 12.3%) and similar to the level in the Court Knoll tiles, though they differed in other elements; three groups varied from an average of 15.5% (2 tiles) to 16.7% (-tiles) and one contained 27.1%. It seems probable that the variations reflect inhomogeneity within the clay source itself which the tilers may have recognised. Surrey whitewares produced at Cheam from Reading formation clays (Cowell, 1988, 184, table 129) are not dissimilar in overall chemical composition from redwares produced in the area (author's unpublished analyses), differing only in the whitewares contain significantly less iron.

While the St Albans and Winchester tiles showed chemical differences from each other for the most part, there were tiles in a particular fabric from one site were closer chemically to tiles from the other. This suggested that while there were some broad differences in the chemical pattern for tiles from the two sites, they were not entirely separate. A discussion of the significance of this in the light of ICP investigations on other light-firing ceramics appears below.

The Research Laboratory for Archaeology at Oxford characterized 20 Anglo Saxon Floor tiles from St Albans Abbey (Tite and Hatcher, 1996). Six of these were selected for examination and analysis with a scanning electron microscope representing the glaze colours present (honey, green, dark brown). The bodies consisted of a clay matrix containing rounded quartz sand grains, typically 200-400 microns across, added as temper. The clay matrix was analysed with an attached energy-dispersive X-ray fluorescence spectrometer and had essentially the same composition in all six. It was non-calcareous with a high alumina content (average c. 25% aluminium oxide), and a comparatively low iron content (less than 3% iron oxide) so is broadly comparable analytically with the light-firing tiles discussed here. They also contained averages of c. 1.5% potassium oxide and 1.5% titanium oxide.

London

Two ASGT tiles were found in London at Westminster Abbey and the Guildhall Yard excavations, in a white or pale pink sandy fabric (Betts n.d., 1991, 1995). The fabric was noted to be very similar to that used for such tiles found at Winchester, and was thought to probably be a product of the region around Winchester. A third was later found at 10 Gresham Street, in a distinctive greyish white fired sandy clay (Betts 2013). The two tiles found earlier were included in the ICP study of the Winchester and St Albans Abbey tiles and were

chemically similar to the St Albans Abbey tiles in fabric 1 (Hughes 2009, table 4). Compared with the Court Knoll tiles (Figure 1) one is in the bottom centre of the Figure, aligned horizontally with the Court Knoll tiles but with the Winchester fabric 3 tiles intermediate between them. The other London tile plots slightly left of centre in the Figure, nearer to the Winchester fabric 1 tiles but closest to two St Albans Abbey Anglo Saxon tiles of type E. Hence they are not identical in manufacture but do belong to the general chemical pattern for such tiles.

Canterbury

Fragments of two Anglo Saxon relief-decorated tiles of the same size and identical decoration were found in the excavations below the floor of the nave at Canterbury Cathedral (Kjolbe-Biddle 1997). They were unique in having a raised frame around the edges; similar titles but without the frame have been found at St Albans Abbey (St Albans group 1, Type A, Fabric 1, Edge 1: Kjolbe-Biddle 1997, 198). Another similar tile was found by Ian Betts in the material from the excavations at Whitefriars, Canterbury (tile m.17 CW21 C3688; Hicks 2015; Betts n.d.). This had raised decoration with the remains of two colours between the raised areas. The tile was 19mm thick and appears to have been burnt so it is not clear what the original glaze colours would have been (Betts, n.d.). The clay used to make the Canterbury tiles appeared different from that used elsewhere in southern England, namely Winchester, St Albans and London - in a pale coloured sandy clay. Betts (n.d.) suggested the Winchester tilers moved around to manufacture at other sites using local clay but the conclusion of this report differs from this suggestion. The clay used to make Canterbury Saxon pottery is very similar to medieval Tyler Hill Ware suggesting pottery production may have commenced as early as the 9th century (Cotter 1991, 49-56). It was uncertain whether these tiles matched the second, finer fabric found at Bury St Edmunds, though it has been suggested they are probably from the same source as the other southern England tiles, as one of the designs is also found at St Albans (Betts 1986, 41). The Whitefriars tile was analysed by ICP as part of the investigation into Winchester and St Albans Abbey tiles (Hughes 2009b).

The petrology and chemical analyses of some later Canterbury tiles of Medieval date from St Gregory's Priory shows them to be of common red clay, with an average of 7.34% iron oxide (Vince 1998). The rest of the elements also show differences to the Court Knoll tiles. Samples of pottery from Tyler Hill nearby show iron oxide contents above 6% (data extracted from the online Alan Vince ICP database, Vince 2010).

Considering the question whether the Court Knoll tiles could have been made from Reading Beds clays around London and in Surrey, there is the absence of evidence in the actual distribution of such tiles. Also analytically for example, they do not compare to the composition

of Verulamium White Ware of the Roman period, made from such deposits at Brockley Hill near St Albans.

Interpretation of the Winchester ICP ASGT tiles reports

A major finding of the Winchester tile ICP project was the occurrence of both tiles and pottery in two chemical groups. The largest group (containing an average of c.1.5% iron oxide) included all the Winchester tiles in fabrics 1 and 2, most of the St Albans Abbey ASGT tiles, and Winchester Ware pottery and South Hants White Ware (Hughes 2009). The smaller group (containing c.3.5% or more iron oxide) included the Winchester tiles in fabric 3, Winchester-type pottery and sherds from two kilns at Michelmersh, which could be distinguished from each other chemically, and the two St Albans tiles analysed in fabric F.

The interpretation of the apparently separate but related chemical groups for the tiles from Winchester, St Albans, Court Knoll, Canterbury and London can benefit from conclusions drawn from examples of ICP analyses of light-firing clays from other ceramics projects:

Studies of ICPS analyses of Scottish White Gritty Wares made from light-firing clays found at St Andrews, Scotland showed they occurred in three fabrics and four petrological groups, all characterised by relatively high potassium (Jones et al 2002-3, 65 table 1, and 67 table 2). These whitewares did not form a homogeneous chemical group, and differences in the alumina content were particularly noted (Jones et al 200-3, 75). The composition differences at St Andrews were thought likely to be chronological (Jones et al 2002-3-, 75).

Recent ICP analyses on Saintonge wares from a shipwreck in Tresco Channel, Isles of Scilly (Allan et al 2022) have been compared with a previous study of such pottery from Boston, Dublin and Ardglass by the late Alan Vince (Vince 2011). He showed that these three groups fell into two broad chemical patterns, either high or low in potassium and magnesium, and that wares from the three sites could be distinguished from each other in secondary chemical characteristics. The Tresco analyses of Saintonge pottery produced the same chemical pattern with high (jugs and mortars) and low (polychrome and more delicate wares) potassium and magnesium. Vince proposed that two different clay types, one coarser than the other, were used for different pottery types. The Tresco data were also different to Saintonge from Boston, Dublin and Ardglass by containing systematically more sodium, aluminium and titanium, but less iron, manganese and copper. This suggested that each site received material from one kiln, which used two different clays for different wares. There was a strong degree of homogeneity in chemical composition between samples from the same site, indicating the same production centre, but with very little overlapping between sites. It was therefore proposed that the sampled pots from the three consumer sites derive from three

different sources – perhaps workshops or groups of kilns – and that two different clays were used at each workshop for making different types of ware. A further possible explanation could be that there were temporal differences between the Tresco/Boston/ Dublin assemblages. The respective potters might have worked a good source, then exhausted it and moved elsewhere to open up new areas of potting clay.

It is striking that the ceramics from the Winchester tile ICP project, like the Saintonge pottery, also fall into two groups principally distinguished by iron oxide, though potassium differences were also clear (the larger, low iron group contained less than 1% potassium oxide, the smaller c.2.3%). It has been thought that all the ASGT produced in this light-coloured fabric were made in the Winchester area, rather than at their respective find sites. The St Andrews and Saintonge pottery projects show that light-firing ceramics in slightly different chemical patterns can be produced within a single area, and it would not be inconsistent to conclude from the analysis that all the Anglo Saxon tiles were made in the Winchester area where the finds are most numerous, using slightly different clay sources, and/or different temporal frames.

Another support for this hypothesis are the instances where tiles from St Albans and Winchester share similar chemistry, for example Winchester fabrics 2 and 3 and many St Albans ASGT. Two clays from Winchester were analysed, and showed similar analyses to the St Albans tiles (though none from Winchester) (Hughes 2009b). With such overlaps occurring it was not possible to completely separate chemically the tiles from the two sites.

Principal Components Analysis comparing the Court Knoll tiles against relevant tile data

As a final step in interpreting the analyses of the Court Knoll tiles, a statistical test was set up to compare them and the Bury St Edmunds tiles against typical examples of tiles from the Winchester project. This included seven in Winchester tile fabric 1, one fabric 2 and two fabric 3. All the tiles from St Albans previously listed were included, the two tiles from London and one from Canterbury. The Principal Components Analysis used the concentrations of 23 chemical elements out of those analysed by ICP, representing a cross-section of the Periodic Table. It is quite usual to exclude some analysed elements which may be contaminants, or mobile in firing or post-deposition conditions. The 23 elements chosen for inclusion were a comprehensive selection of well-measured elements.

The multivariate statistics technique of Principal Components Analysis (PCA) was used (Manly 2005; Tabachnick and Fidell 2007). Descriptions of its application to archaeology have been given elsewhere (see for example, Baxter 1994 and 2003; Shennan 1997). The program MINITAB version 16 was used with the ‘PCA’ procedure (Ryan et al 2005). Natural logarithms

were taken of all elements before subjecting the data to multivariate statistics – taking logs is regularly used in such applications. Before running the program, the log-centred ratio method was applied, as previously used on medieval tiles from Bordesley Abbey , Worcestershire (Stopford et al 1991), and more recently Saintonge pottery from Tresco (Allan et al 2022). It allows the underlying chemical patterns of ceramics to emerge free from the effects of temper, either natural or deliberately added - this particularly affects analyses of coarse building material rather than pottery made from a prepared clay. It results in more compact groups in plots of principal components, which makes interpretation easier.

Having applied log-centring (LCRD), while five principal components were statistically significant most of the chemical differences between samples were present in the first principal component (41.5% of the variability). Further components contained decreasing amounts of the variation: the second, 14.1% and the third 10.7%. It is usual to plot pairs of components (in this case the first and second) to help interpret the data with a chemical 'map' showing the individual items (Figure 1). The labelled items show Winchester tiles by fabric group (1,2 3) and St Albans tiles by tile type (A, B C etc). Samples which plot towards the right of the Figure contain more aluminium, scandium, vanadium, titanium, copper, thorium, chromium, uranium, niobium and cobalt, but less iron, cerium and manganese. Items towards the top of the Figure contain more nickel, yttrium, calcium, lithium and manganese, but less potassium and rubidium.

The Court Knoll tiles form a compact group on the lower far left of Figure 1 with the Canterbury tile, with only tile 3 deviating slightly – solely because it contains more calcium (2.57% calcium oxide) compared to the rest (0.5 – 1.5%: cf Table 3). This is very probably the result of accidentally including some adhering mortar during sample preparation, or slight ingress of calcium ions into the fabric after laying. In contrast, six of the Winchester fabric 1 tiles from College Green (WCG) are on the far right (i.e. very different in chemical composition), while the seventh fabric 1 tile (site WBC) fell in the lower centre of the plot close to others from Winchester in fabrics 2 and 3. These latter three are adjacent to some St Albans ASGT tiles, within the spread of tiles in the centre between these two groups, and including the two London tiles.

Very small numbers of other tiles are close to the Court Knoll tiles including two in Winchester fabric 3 which are just to their right in Figure 1. The two St Albans D tiles, high in iron, lie in a quite separate group in the upper left, with two of later St Albans Anglo-Norman and four Relief Decorated tiles. All this group contain significantly more iron and appear to be made of common red clay. The main group of Anglo-Norman St Albans tiles lie in this Figure in another cluster between them and the St Albans Anglo Saxon tiles (but see below the second test by

principal components). This Figure is on the whole very satisfactory in that it shows good similarities in chemical composition between tiles of the same origin and type and differences between the various groups. Strikingly, in the Figure the compact spread of the Court Knoll tiles is echoed by the Winchester fabric 1 tiles. Similarly the majority of the pairs of St Albans tiles in the same lettered fabric form close pairs. Each tile group, including the Court Knoll tiles seem very probably to conform to the chemical pattern for a 'production group', made at the same time and in the same location (Stopford 1990). The existence of a production group has been confirmed in neutron activation analysis projects on decorated floor tiles from Nottinghamshire and Derbyshire (Hughes et al 1982; Leese et al 1986), Bordesley Abbey, Worcestershire (Stopford et al 1991), and pairs of tiles from Thetford Priory (Hughes 2013).

The Bury tiles include some very significant chemical patterns – the single fabric 1 tile (810711) falls very definitely among the main group of Winchester fabric 1 tiles, implying transport from the Winchester area (cf their analyses in Table 3). The two tiles 810707 and 810710 in Bury fabric 2 lie quite close to each other, and one Anglo Saxon type C tile from St Albans. A significantly lower sodium, potassium and rare earth element pattern differentiates them from the Court Knoll tiles in this region of the Figure. The border tile (78106202) falls between this latter group and an outlier from the other St Albans ASGT tiles, of type U. The border tile's very different analysis to the Bury fabric 1 tile, and its closeness in the Figure to the two Bury fabric 2 tiles points to it being fabric 2. The border tile is similar to the Court Knoll tiles (cf Table 3) in many trace elements and all its major elements, except for significantly higher iron and chromium. All the Bury tiles in fabric 2 fell close to each other and tentatively indicate the chemical 'signature' for this fabric at Bury. In Figure 1, the pair of Bury tiles also overlap with some of the St Albans Anglo Norman tiles; however on the third principal component, the Anglo Norman are definitely separate from them. This contrasts with the other tile groups namely, the Court Knoll, Winchester fabrics 1-3, and the mixed St Albans group in the upper left of the Figure (including two other Anglo Norman tiles) – all these retain their distinct coherence on all 3 principal components. We conclude the Bury fabric 2 and St Albans Anglo Norman tiles do not belong together as a chemical group.

The Canterbury tile is closest to the Court Knoll tiles in Figure 1 (cf. Table 3) - its only significant difference is higher sodium and titanium and slightly lower caesium. Next closest are the two Winchester tiles in fabric 3; they have slightly higher values on the first (horizontal) principal component (i.e. to the right of CK), but similar values on the second (vertical) component. They do have much higher aluminium, but lower amounts of cerium, caesium, sodium, strontium and zinc (Table 3). Their lower copper and caesium particularly separate them further from the Court Knoll tiles on the fourth and fifth principal components (not illustrated).

On the 4th and 5th components the Canterbury tile lies midway between the fabric 3 and Court Knoll tiles, further evidence of its relationship to these two tile groups. The Winchester fabric 3 tiles seem to belong to a common clay source which is related to that used for the Court Knoll tiles. In the Winchester tiles project the fabric 3 tiles were very similar chemically across a whole range of elements to pottery wasters from a Saxo-Norman kiln at Michelmersh (cf Table 3). This kiln is a few miles north of Southampton, producing stamped wares, and using local Reading Beds clays (Addyman et al 1972). The wares were in in a sandy fabric with wide colour range from very pale yellow through buff and red to black (op cit, 128). The products of a second, late Saxon kiln found only c.100m from the first and producing a broadly comparable though not identical range of wares, have been analysed (Vince 2007). The fabric is hard-fired, medium grained, sandy, and generally mid-gtey (Mepham and Brown 2007, 41). Significantly the pottery differs chemically from the first in having lower concentrations of the main elements, aluminium, iron and potassium (which is very low) and many trace elements, but higher rare earth elements. These physically close kilns show significant chemical differences analogous to the pattern for two Saintonge fabrics discussed above. They support the contention of multiple chemical patterns being typical for ceramics made from Reading Beds clays. The Court Knoll tiles thus show from analysis a resemblance chemically to pottery and tiles made at Michelmersh, albeit from a lower iron (whiter) clay.

While it is true that no tile from either Winchester or St Albans has exactly the same chemical features as the Court Knoll tiles, it is entirely consistent to associate the production of the Court Knoll/Canterbury tiles with those from the other two sites, pointing to production in the Winchester area. On Figure 1, the Court Knoll tiles separate from the St Albans and Winchester tiles but with a chemistry similar to that of the smaller group found in the Winchester project (containing the Winchester fabric 3 tiles and St Albans Abbey type F tiles).

It can be questioned whether the inclusion in the principal components of tile data from periods other than Anglo Saxon had complicated the interpretation of the Court Knoll data. In particular the St Albans Abbey Relief Decorated Floor Tiles (RDFT) formed a separate group on the second component (upper left, Figure 1), accompanied by two St Albans type D Anglo Saxon tiles (which chemically distinguished from all other St Albans ASGT tiles) and two Anglo Norman Glazed tiles. Because these had such different analyses to the Court Knoll and other tiles, it was felt appropriate to remove them and the other Anglo Norman Glazed tiles from the dataset and re-run the principal components. The resulting graph of the first two principal components is shown in Figure 2; the first component now has 45% of the chemical variation and the second 12%. The Court Knoll and Winchester tile groups remain as coherent and distinct groups as before. Bury tile 810711 plots again with the Winchester fabric 1 tiles. The

Canterbury tile is slightly separated chemically from the Court Knoll group, but the two Winchester fabric 3 tiles have moved closer to them than in Figure 1. The remaining three Bury tiles plot below the Court Knoll tiles in what is probably the characteristic chemical pattern for Bury St Edmunds tiles in fabric 2, different but still close to the Court Knoll group, and suggests a similarity in particular clay source. These separate from the group of Winchester, St Albans and London ASGT tiles in the centre of the plot – these are interpreted as from a source or sources in the Winchester area intermediate between the two composition patterns represented by the Winchester type 1 and 3 tiles.

Conclusions

A key issue in the use of chemical analyses to source ceramics is how to interpret the patterns in the data, compared to a database of previous analyses. Given the visual and chemical indication that they were made from a low-iron clay, attention turned to seeking analyses of ceramics made from such clays. The only comparable data was the Winchester tiles project on Anglo Saxon glazed tiles from sites in Southern England.

The consistent chemical pattern shown by all the Court Knoll tiles is very typical of that shown for a single tile 'production group', made at the same time and place. The fabric contained a typical alumina content with only a few percent of iron and relatively low amounts of other elements. Comparing them against the Winchester project analysis database, the closest match was to a single tile analysed from Canterbury from which they differed only slightly in analysis. Next closest were tiles from Winchester in fabric 3, previously shown to be very comparable analytically to Saxo-Norman stamped wares made at a kiln in Michelmersh, Hampshire. The apparent link between the Court Knoll tiles and the Michelmersh kilns should be regarded only as an indication that the tiles were products of the Hampshire region, since we lack enough comparative data to be more specific. The Court Knoll tiles were very different in chemistry from the most common such tiles found at Winchester, in fabric 1 – this was of a high alumina clay very low in iron and other elements.

Although only very small numbers if representative tiles were analysed from the Abbey at Bury St Edmunds, there are now tentative indications of the chemical features of both fabrics found there. One in fabric 1 shared almost exactly the same chemistry as the fabric 1 tiles from Winchester suggesting they shared a common production location. Two of the fabric 2 tiles were a fairly close pair chemically, while an edge tile in the same fabric shared similar though slightly different chemical characteristics. All three Bury fabric 2 tiles showed much closer similarity to Court Knoll than to the Winchester fabric 1 group. We conclude that the Court Knoll, Canterbury, Bury fabric 2 and Winchester fabric 3 tiles are related to each other as

regards their general area of production and within that, the specific light-firing clay type selected for them.

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Figure D1. Principal Component Analysis of the ICPS results on the Court Knoll tiles (labelled 1-10) against the database of tiles from Winchester (sites WCG and WBC with fabric number); St Albans (SAA) including Anglo-Norman glazed tiles (ANGT), Anglo-Saxon (ASGT in groups A-F and U) and Relief Decorated (RDFT); London (2 sites); and Canterbury. The original data was converted to logs and the log-centring technique applied before statistical analysis, which used 23 elements selected from across the Periodic Table.

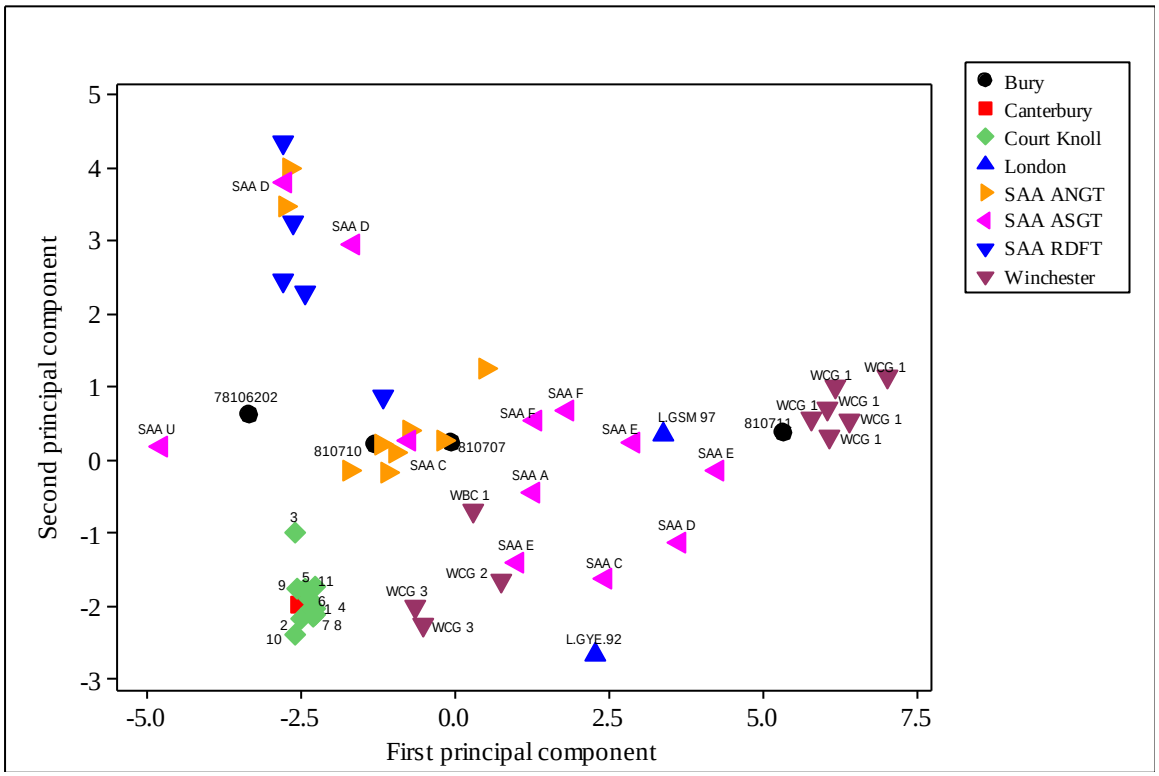

Figure D2. Re-run of Principal Component Analysis of Figure 1 omitting the St Albans (SAA) Anglo-Norman glazed tiles (ANGT), 2 Anglo-Saxon (ASGT) type D and the Relief Decorated (RDFT) tiles.

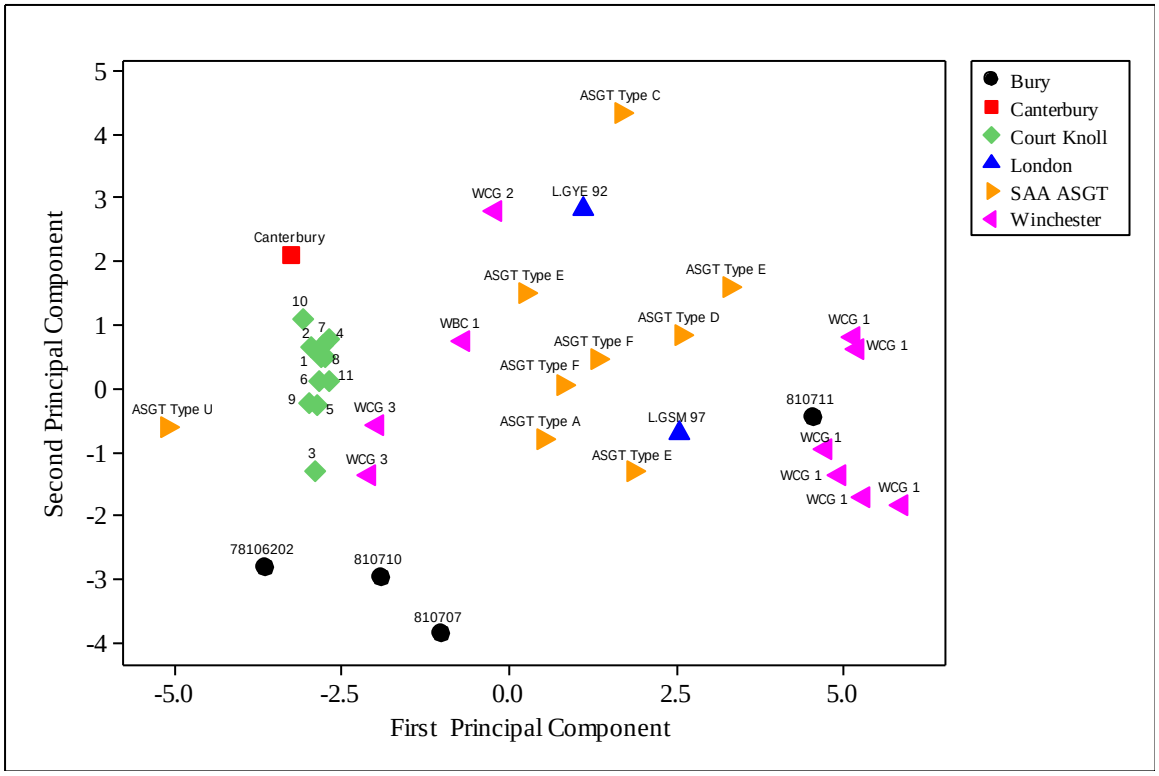

Table D2 Full set of ICPS analyses on the items listed in Table 1. Chemical element symbols: Al2O3 aluminium; Fe2O3 iron; MgO magnesium; CaO calcium; Na2O sodium; K2O potassium; TiO2 titanium; P2O5 phosphorus; MnO manganese; Ba barium; Co cobalt; Cr chromium; Cu copper; Li lithium; Ni nickel; Sc scandium; Sr strontium; V vanadium; Zn zinc; U uranium; Th thorium; Rb rubidium; Cs caesium; Y yttrium; La lanthanum; Ce cerium; Ag silver; As arsenic; Be beryllium; Bi bismuth; Cd cadmium; Ga gallium; Ge germanium; Hf hafnium; In Indium; Mo molybdenum; Nb niobium; Pb lead; Re Ruthenium; S sulphur; Sb antimony; Se selenium; Sn tin; Ta tantalum; Te technetium; Tl thallium; W tungsten; Zr zirconium; The elements AL2O3 to MnO are in weight percent; all the rest are in parts per million (ppm).

cat. no.	Lab. No.	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Ba	Co	Cr	Cu	Li	Ni	Sc	Sr	V	Zn	U	Th	Rb	Cs	Y	La	Ce	Ag	As	Be	Bi	Cd	Ga	Ge	Hf	In	Mo	Nb	Pb	Re	S	Sb	Se	Sn	Ta	Te	Tl	W	Zr
		%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Court Knoll tiles																																																
1	MH0111	11.73	2.35	0.56	0.64	0.32	2.24	0.38	0.09	0.009	410	6.8	63	19.4	29.5	26.4	10.6	74	91	65	1.40	8.87	90.8	65.5	21.7	46.7	98.6	0.01	91.1	1.87	0.22	0.04	15.3	0.32	1.90	0.046	0.53	13.7	6070	<0.002	0.01	0.64	1.0	43	0.92	0.05	0.49	1.4	61
2	MH0112	11.67	2.26	0.58	0.55	0.32	2.24	0.39	0.04	0.007	400	6.6	65	13.6	30.6	25.9	10.5	94	86	62	1.30	8.76	93.2	68.8	21.6	46.4	89.8	0.02	91.1	1.91	0.17	0.02	15.0	0.35	1.80	0.045	0.54	13.7	1400	<0.002	0.01	0.45	1.0	23	0.92	<0.05	0.52	1.4	59
3	MH0113	10.69	2.15	0.51	2.57	0.28	2.07	0.36	0.04	0.007	380	6.4	57	15.1	31.5	23.6	9.9	187	81	65	1.10	7.85	79.0	61.0	19.2	38.7	74.7	0.47	67	1.76	0.11	<0.002	14.4	0.40	1.60	0.038	0.52	12.8	>100000	<0.002	0.01	0.59	1.0	31	0.86	<0.05	0.49	1.2	52
4	MH0114	11.75	2.26	0.56	0.57	0.28	2.23	0.39	0.03	0.007	390	6.5	68	14.2	33.0	25.9	10.7	74	89	59	1.20	8.59	97.5	72.0	21.5	47.0	92.0	0.03	101	1.82	0.20	0.02	15.4	0.38	1.60	0.044	0.58	13.9	101	<0.002	0.01	0.43	1.0	25	0.91	0.05	0.52	1.5	52
5	MH0115	11.35	2.17	0.53	1.41	0.27	2.13	0.36	0.03	0.007	360	6.1	62	150	29.6	22.9	10.0	176	83	56	1.30	8.03	90.3	69.1	20.7	46.3	91.9	0.23	83	1.65	0.15	0.02	16.1	0.26	1.50	0.040	0.61	12.5	3530	0.004	0.01	0.54	1.0	23	0.85	<0.05	0.52	1.2	79
6	MH0116	11.39	2.23	0.55	1.47	0.30	2.16	0.37	0.04	0.009	350	6.4	68	14.7	29.5	22.9	10.0	96	86	55	1.40	8.60	91.6	69.9	21.7	47.4	93.6	0.09	84	1.65	0.23	0.03	16.0	0.37	1.70	0.043	0.71	12.6	2290	0.005	0.01	0.57	1.0	23	0.87	<0.05	0.51	1.3	68

7	MH017	11.92	2.30	0.58	0.76	0.30	2.23	0.38	0.03	0.007	360	6.8	66	21.0	31.7	24.4	10.4	92	91	61	1.40	8.37	95.2	7.55	22.0	48.2	103.5	0.08	7.5	1.80	0.13	0.03	16.4	0.39	1.70	0.044	0.72	13.3	77	0.004	0.01	0.53	1.0	2.9	0.90	<0.05	0.56	1.3	76
8	MH018	12.64	2.57	0.61	0.49	0.28	2.33	0.40	0.03	0.008	350	7.4	101	13.4	36.1	28.1	10.6	63	107	64	1.30	7.72	88.6	7.89	22.0	43.5	87.7	0.03	5.8	2.02	0.05	<0.02	18.3	0.39	1.30	0.049	0.75	13.9	47.1	0.005	0.01	0.56	1.0	2.7	0.93	<0.05	0.58	1.5	55
9	MH019	11.62	2.25	0.56	1.86	0.32	2.23	0.37	0.04	0.008	370	6.6	64	17.6	30.7	24.1	10.5	157	89	57	1.40	8.49	91.4	7.03	22.2	48.6	100.0	0.18	8.2	1.80	0.18	0.03	16.2	0.42	1.70	0.046	0.65	12.7	5320	0.003	0.01	0.56	1.0	2.5	0.87	<0.05	0.50	1.3	65
10	MH020	12.03	2.33	0.58	0.70	0.32	2.27	0.39	0.03	0.008	360	7.1	62	13.2	29.5	25.1	10.7	74	97	59	1.30	8.44	92.9	7.48	21.7	48.7	100.5	0.21	6.4	1.90	0.07	<0.02	17.1	0.42	1.50	0.034	0.76	13.1	9460	0.005	0.01	0.63	1.0	2.4	0.91	<0.05	0.54	1.4	65
11	MH021	4.55	1.49	0.23	17.49	0.16	0.98	0.16	0.13	0.036	220	4.4	38	10.4	13.9	11.5	4.2	258	41	35	0.80	3.77	39.7	2.51	11.5	21.8	41.2	0.06	5.7	0.78	0.08	0.1	6.2	0.24	0.80	0.017	0.39	5.4	767	0.004	0.01	0.40	1.0	1.1	0.36	<0.05	0.23	0.8	34
11	MH022	11.35	2.302	0.55	0.98	0.283	2.2	0.39	0.03	0.01	390	8.5	69	21.5	30	24.7	10.8	92.9	82	54	1.2	8.06	87.7	6.76	21.6	46.7	94.8	0.58	9.5	1.86	0.2	<0.02	17	0.16	1.7	0.04	0.63	12.7	48.6	<0.002	<0.01	0.49	2	2.3	0.85	<0.05	0.5	22.9	57.8
Bury St Edmunds tiles																																																	
810707	MH023	6.725	2.174	0.32	0.95	0.094	0.8	0.29	0.08	0.01	170	5.3	52	72.5	21.6	13.9	5.8	59.2	43	61	0.8	6.36	52.2	3.24	6	19.1	37.3	0.12	3.6	0.79	1.1	0.04	8.88	0.08	1.2	0.03	0.27	9.5	124.5	<0.002	0.01	0.38	2	1.4	0.63	<0.05	0.32	12.9	39.2
810710	MH024	6.12	2.145	0.28	1.01	0.135	0.8	0.27	1	0.01	170	5.9	46	11.7	20	15	5.9	53.7	44	52	0.8	6.31	47.5	2.8	8	20.3	39.4	0.61	3.7	0.88	0.14	0.04	8.37	0.08	1.5	0.03	0.31	8.7	1920	<0.002	0.01	0.41	2	1.3	0.59	<0.05	0.27	10.1	46.1
810711	MH025	14.73	1.015	0.25	0.57	0.094	0.4	0.57	0.03	0	200	10.7	70	59.5	27.5	19.5	19.1	83.5	99	17	1.1	7.42	33.8	4.7	16.6	34.4	55.4	0.28	2.4	1.62	0.5	0.02	24.6	0.08	1.7	0.12	0.99	13.2	2070	<0.002	0.01	0.82	2	3.2	0.87	0.17	0.26	19.7	61.5
78106202	MH026	12.45	6.75	1.09	1.08	0.377	2.3	0.55	0.11	0.03	360	20.4	148	34.8	46.9	52.4	15.2	87.4	130	76	1.5	9.21	97.9	6.85	23.8	37.7	77.5	0.56	8.2	2	0.15	0.13	18.7	0.14	2.3	0.06	1.28	16.9	1770	<0.002	0.01	4	2	3.4	1.07	0.09	0.47	33.1	81.3

Table D3 Average analyses (mean} and one standard deviation (s.d.) for the Court Knoll tiles and analyses of comparable groups and single tiles.

Tiles by site and fabric	site no/ cat no	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO	Ba	Co	Cr	Cu	Li	Ni	Sc	Sr	V	Zn	U	Th	Rb	Nb	Cs	Y	La	Ce
Court Knoll tiles mean		11.7	2.29	0.56	1.10	0.30	2.21	0.38	0.04	0.008	373	7	68	16	31	25	10.4	109	90	60	1.31	8.37	91.1	13.2	7.06	21.4	46.2	93.2
s.d.		0.5	0.12	0.03	0.70	0.02	0.07	0.01	0.02	0.001	21	0	12	3	2	2	0.3	46	7	4	0.10	0.38	4.9	0.6	0.51	0.9	3.0	8.3
Canterbury	CW2100-405 (3688) FNo9854 Lab no RM35	12.2	2.91	0.76	0.39	0.64	2.26	0.83	0.11	0.03	397	26	77	12	52	21	11.9	82	107	50	2.14	9.78	99.5	19.1	5.88	20.7	39.9	82.0
Bury St Edmunds edge tile	78106202	12.4	6.75	1.09	1.08	0.38	2.27	0.55	0.11	0.034	360	20	148	35	47	52	15.2	87	130	76	1.50	9.21	97.9	16.9	6.85	23.8	37.7	77.5
Michelmersh'Four Seasons' kiln mean		15.5	6.48	1.00	0.26	0.12	2.34	0.65	0.11	0.010	372	22	59	22	41	37	15.7	97	105	72	1.98	11.68	126.6	12.3	8.45	14.2	40.2	72.4
(Addyman et al 1972) s.d.		1.4	0.64	0.16	0.07	0.01	0.20	0.02	0.03	0.002	52	7	7	3	12	15	1.5	26	13	17	0.28	0.90	15.8	1.2	1.05	6.5	9.3	24.1
Winchester tiles in fabric 3	WCG0440 Lab no X15	18.4	7.57	0.95	0.49	0.21	2.54	0.91	0.07	0.008	393	31	95	40	37	24	17.0	186	139	75	2.75	12.70	142.7	17.9	8.51	13.2	38.7	65.5
	WCG0103 Lab	22.1	8.99	1.16	0.87	0.20	3.16	0.96	0.29	0.011	526	27	117	55	37	29	21.0	205	157	90	3.07	14.64	168.3	18.3	9.69	16.6	44.4	74.7

	no X20																											
Winchester tiles in fabric 1 (n=6) mean		17.3	1.28	0.28	0.79	0.13	0.53	1.02	0.21	0.003	238	33	69	56	26	22	20.9	63	130	42	1.56	8.80	41.4	15.3	5.05	21.6	24.4	39.3
s.d.		1.8	0.17	0.04	0.38	0.03	0.08	0.10	0.19	0.001	40	7	12	5	5	3	2.0	14	26	2	0.11	0.80	6.1	1.8	0.72	2.2	8.8	10.5
Bury St Edmunds tile in fabric 1	810711	14.7	1.02	0.25	0.57	0.09	0.43	0.57	0.03	0.003	200	11	70	60	28	20	19.1	84	99	17	1.10	7.42	33.8	13.2	4.70	16.6	34.4	55.4

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LABORATORY REPORT NO: M936A

Mortar Analysis

CLIENT:	Cotswold Archaeology	**DATE:**	21/10/2019
		FILE:	559
ATTN:	Richenda Goffin	**JOB NO:**	19572
ANALYSTS:	Paula Rosser Dr Michael J R Schwar	**SIGNED:**	

1.0 INTRODUCTION

PROPERTY:	Court Knoll, Stoke by Nayland, Suffolk	**SAMPLED BY:**	Richenda Goffin
ARTEFACT:	Various Mortar	**DATE SAMPLED:**	6/9/ 2019
AGE:		**DATE RECEIVED:**	24/8/2109

2.0 SAMPLE DETAILS

Client ref	Lab ref	Description (location, colour, hardness, inclusions)
Sample 1 **NYW 006** **0060** Wall of Square Building	**P0528**	Sample as received weighed 48.4g of which 2.2g was dust; the length of the largest piece was 45mm and the thickness was up to 20mm; the moisture content was 0.5%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/2); surface could be scribed with finger nail with ease and crushed in hand with ease also.
Sample 2 **NYW 006** **0127** Wall, large chunk of fallen masonry south	**P0529**	Sample as received weighed 82.2g of which 0g was dust; the length of the largest piece was 60mm and the thickness was up to 40mm; the moisture content was 1.2%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/2); surface could be scribed with finger nail with difficulty and crushed in hand with difficulty also.

of wall footing 0149		
Sample 3 **NYW 006** **0059** Wall, rounded wall against East side of Tr1, 'apse' feature	**P0530**	Sample as received weighed 150.4g of which all was dust; the moisture content was 0.5%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/2).
Sample 4 **NYW 006** **0205** Mortar rich layer cut by possible ditch 0195	**P0531**	Sample as received weighed 142.0g of which all was dust; the moisture content was 0.4%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/4).

3.0 RESULTS

Client ref:	**1**	**2**	**3**	**4**
Lab ref:	**P0528**	**P0529**	**P0530**	**P0531**
Chemical analysis, % mass				
Acid/alkali insoluble:	70.0	62.5	73.3	74.5
Soluble silica, SiO_2:	0.1	1.0	0.6	0.4
Calcium oxide, CaO:	15.4	18.7	13.7	13.5
Sulphate, SO_3:	0.0	0.0	0.0	0.0
Insoluble aggregate, % mass:				
Munsell colour:	10yr7/3	10yr6/3	10yr7/4	10yr7/6
Passing 2.36mm:	81	99	88	100
1.18mm:	76	96	76	96
0.60mm:	63	87	53	75
0.30mm:	19	56	21	24
0.15mm:	4	28	7	7
Grain roundness:	A-sr	Sa-sr	Sa-sr	Sa-sr
Sphericity:	High	High	High	High
Hair loading, kg/m^3 mix:	-	-	-	-

4.0 METHODOLOGY

A representative portion of sample received was analysed by documented in-house method No 1099, based on BS4551, Part 2: 1998, Methods of Testing Mortars, Screeds and Plasters. The interpretation of the results was carried out using an in-house program SeleX-T2© developed by Schwar Consulting in association with Cliveden Conservation. To advise on the best match to the insoluble aggregate in respect of colour and size distribution, an in-house program SeleX-S©, also developed jointly by Schwar Consulting and Cliveden Conservation, is used to identify the nearest quarry to the building of interest, and aggregate type listed in the English Heritage Directory of Building Sands and Aggregates, published by Donhead , Shaftesbury, 2000.

5.0 INTERPRETATION OF RESULTS

NOTE: The interpretation of these samples is in terms of the defined ingredients specified in Section 7. It is always possible that other ingredients or ingredient mixes are present which have a composition the same as that included in this list. For example cured lime will have a composition very similar to calcium carbonate, or 'old' lime, or hydrated lime which has gone 'off'.

Experience tells us that mortar and plaster mixes are rarely present in concentrations greater than that of the aggregate. When the results obtained using BS4551 or SeleX© indicate such an apparent anomaly the suggested trial mix will indicate an aggregate: binder mix of n:1 where the binder comprises 1 part and the aggregate comprises a mixture of 1 part sand and (n-1) parts chalk.

6.0 ASSUMPTIONS

Ingredients\Properties	Insoluble, %	Soluble silica, %	Calcium oxide, %	Sulphate, %	Dry density, kg/m^3
Sand	99.5	0.0	0.0	0.0	1,630
Chalk	1.4	2.3	52.5	0.0	1,200
WPC	0.4	20.7	58.1	1.6	1,130
OPC	1.1	16.4	53.6	2.9	1,140
NHL5	2.5	13.6	53.4	1.0	830
NHL3.5	3.3	8.9	46.2	0.7	570
NHL2	1.6	5.9	48.0	0.5	410
Lime putty	0.0	0.6	56.1	0.1	1,250
Plaster of Paris	0.8	3.5	29.9	40.6	890

The standard error associated with the results presented in Section 3 are, for insoluble, 2%; soluble silica, 11%; calcium oxide, 9%; and sulphate, 7% of the reported results. The interpretation of the analytical results assumes that the mortar may comprises up to four of the following ingredients: lime putty, NHL2, NHL3.5, NHL5, OPC, WPC, plaster of Paris, setting plaster of Paris, calcium carbonate, chalk, Bath stone dust, inert sand, Stowe sand, PFA, Trass, Lamb's brick dust, crushed lime putty mortar, crushed hydraulic mortar and crushed cement mortar. It is possible that the same chemical analysis results can be obtained

from a variety of different ingredients.

Those results which correspond most closely to a traditional mix would normally be selected when suggesting a trial mix for the client's consideration. No guarantee is implied or inferred that the mix suggested will necessarily be the most suitable mix for conservation or replication purposes. This will depend very much on local conditions and circumstances.

7.0 DISCUSSION

Sample P0528

NYW 006 0060 Wall of Square Building

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate of sand with a small portion of ash (possibly lime ash*) in the approximate proportions of 1:1 with ⅛ ash.

For repair purposes the following trial mix could be considered:

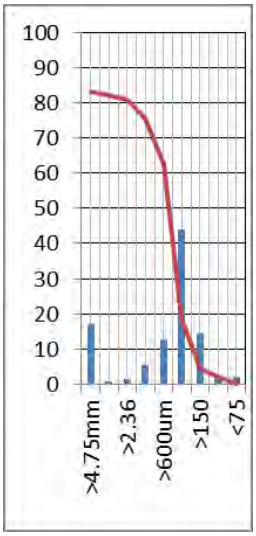
1 part Lime Putty

1 part Sand

⅛ part ash (ie crushed charcoal) <600µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached the Insoluble aggregate for P0528 and the following graph showing the size distribution of the insoluble aggregate:



The grain roundness ranged from angular to sub rounded and ash/charcoal particles could be detected <600µm.

Sample P0529

NYW 006 0127 Wall, large chunk of fallen masonry South of wall footing 0149

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate of sand with a small portion of ash (possibly lime ash*) in the approximate proportions of 1:1 with ¼ part ash.

For repair purposes the following trial mix could be considered:

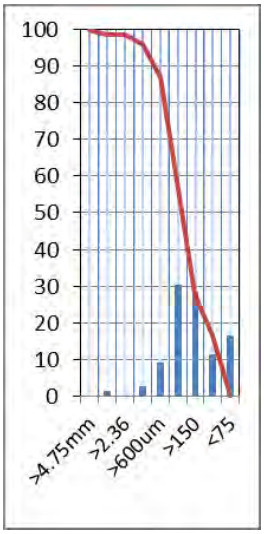
1 part Lime Putty

1 part Sand

¼ part Ash (in the form of crushed charcoal) <600µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0529 and the following graph showing the size distribution of the insoluble aggregate:



The grain roundness ranged from sub angular to sub rounded and ash/charcoal particles could be detected <600µm.

Sample P0530

NYW 006 0059 Wall, rounded wall against east side of Tr1, 'apse' feature

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate of sand with a small portion of pozzolanic material, (judging by the insoluble aggregate to be a combination of brick or terracotta particles/dust and ash – possibly lime ash*) in the approximate proportions of 1½:2½ with ¼ part pozzolan.

For repair purposes the following trial mix could be considered:

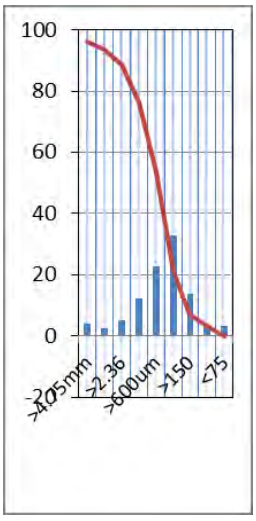
1½ parts Lime Putty

2½ part Sand

¼ part blend of Ash/charcoal <150µm and brick dust 2.36mm - 75µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0530 and the following graph showing the size distribution of the insoluble aggregate (minus the coarse aggregate):



Above is a photograph of the loose, coarse aggregate that was removed from the original sample before analysis . The aggregate to the far right is shell. The aggregate has been washed with acid to dissolve any remnants of mortar so that a true representation of colour can be seen.

The grain roundness ranged from sub angular to sub rounded and brick/terracotta particles could be detected between the grades 2.36mm-75µm and ash/charcoal <150µm.

Sample P0531

NYW 006 0205 Mortar rich layer cut by possible ditch 0195

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate of sand in the approximate proportions of 1½:2½.

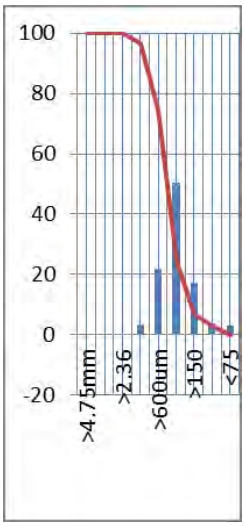
For repair purposes the following trial mix could be considered:

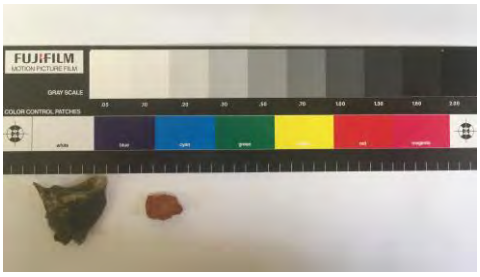
1½ parts Lime Putty

2½ part Sand

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0530 and the following graph showing the size distribution of the insoluble aggregate (minus the coarse aggregate):





Above is a photograph of the coarse aggregate that was removed from the original sample before analysis . To the left is flint and to the right red brick. The aggregate has been washed with acid to dissolve any remnants of mortar so that a true representation of colour can be seen.

The grain roundness ranged from sub angular to sub rounded.

Lime ash is from the residue found at the bottom of a wood fired lime kiln and consists of waste lime and wood ash.

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LABORATORY REPORT NO: M936B

Mortar Analysis

CLIENT:	Cotswold Archaeology	**DATE:**	21/10/2019
		FILE:	559
ATTN:	Richenda Goffin	**JOB NO:**	19572
ANALYSTS:	Paula Rosser Dr Michael J R Schwar	**SIGNED:**	

1.0 INTRODUCTION

PROPERTY:	Court Knoll, Stoke by Nayland, Suffolk	**SAMPLED BY:**	Richenda Goffin
ARTEFACT:	Various Mortar	**DATE SAMPLED:**	6/9/ 2019
AGE:		**DATE RECEIVED:**	24/8/2019

2.0 SAMPLE DETAILS

Client ref	Lab ref	Description (location, colour, hardness, inclusions)
Sample 5 **NYW006** **0131** Demolition Layer	**P0532**	Sample as received weighed 65.9g of which 0g was dust; the length of the largest piece was 60mm and the thickness was up to 25mm; the moisture content was 0.4%; the Munsell colour code of the matrix was Light Reddish Brown (5yr6/4); surface could be scribed with finger nail with difficulty and crushed in hand with difficulty also.
Sample 6 **NYW 006** **0191** E-W wall, largely robbed out. Similar to	**P0533**	Sample as received weighed 75.6g of which 1.2g was dust; the length of the largest piece was 50mm and the thickness was up to 35mm; the moisture content was 0.5%; the Munsell colour code of the matrix was Yellow (10yr7/6); surface could be scribed with finger nail with difficulty and crushed in hand with difficulty also.

0060 but larger blocks

Sample 7 **NYW 006** **0049** Mortar in bottom of S end of Tr2	**P0534**	Sample as received weighed 55.1g of which 0g was dust; the length of the largest piece was 55mm and the thickness was up to 20mm the moisture content was 0.5%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/4); surface could be scribed with finger nail with difficulty and crushed in hand with difficulty also.
Sample 8 **NYW 006** **0128** Thin layer of silt + mortar lumps	**P0535**	Sample as received weighed 32.1g of which 0g was dust; the length of the largest piece was 40mm and the thickness was up to 20mm the moisture content was 0.4%; the Munsell colour code of the matrix was Very Pale Brown (10yr8/4); surface could be scribed with finger nail with difficulty and crushed in hand with difficulty also.

3.0 RESULTS

Client ref:	**5**	**6**	**7**	**8**
Lab ref:	**P0532**	**P0533**	**P0534**	**P0535**
Chemical analysis, % mass				
Acid/alkali insoluble:	83.5	72.0	61.5	86.7
Soluble silica, SiO_2:	0.3	0.4	0.3	0.5
Calcium oxide, CaO:	8.7	14.6	20.0	6.9
Sulphate, SO_3:	0.0	0.0	0.0	0.0
Insoluble aggregate, % mass:				
Munsell colour:	5yr6/4	10yr6/7	10yr7/3	10yr7/4
Passing 2.36mm:	98	100	98	60
1.18mm:	97	97	97	53
0.60mm:	92	86	92	32
0.30mm:	69	55	66	11
0.15mm:	27	20	26	4
Grain roundness:	Sa-sr	Sa-r	Sa-sr	A-sr
Sphericity:	High	High	High	High
Hair loading, kg/m^3 mix:	-	-	-	-

4.0 METHODOLOGY

A representative portion of sample received was analysed by documented in-house method No 1099, based on BS4551, Part 2: 1998, Methods of Testing Mortars, Screeds and Plasters. The interpretation of the results was carried out using an in-house program SeleX-T2© developed by Schwar Consulting in association with Cliveden Conservation. To advise on the best match to the insoluble aggregate in respect of colour and size distribution, an in-house program SeleX-S©, also developed jointly by Schwar Consulting and Cliveden Conservation, is used to identify the nearest quarry to the building of interest, and aggregate type listed in the English Heritage Directory of Building Sands and Aggregates, published by Donhead , Shaftesbury, 2000.

5.0 INTERPRETATION OF RESULTS

NOTE: The interpretation of these samples is in terms of the defined ingredients specified in Section 7. It is always possible that other ingredients or ingredient mixes are present which have a composition the same as that included in this list. For example cured lime will have a composition very similar to calcium carbonate, or 'old' lime, or hydrated lime which has gone 'off'.

Experience tells us that mortar and plaster mixes are rarely present in concentrations greater than that of the aggregate. When the results obtained using BS4551 or SeleX© indicate such an apparent anomaly the suggested trial mix will indicate an aggregate: binder mix of n:1 where the binder comprises 1 part and the aggregate comprises a mixture of 1 part sand and (n-1) parts chalk.

6.0 ASSUMPTIONS

Ingredients\Properties	Insoluble, %	Soluble silica, %	Calcium oxide, %	Sulphate, %	Dry density, kg/m^3
Sand	99.5	0.0	0.0	0.0	1,630
Chalk	1.4	2.3	52.5	0.0	1,200
WPC	0.4	20.7	58.1	1.6	1,130
OPC	1.1	16.4	53.6	2.9	1,140
NHL5	2.5	13.6	53.4	1.0	830
NHL3.5	3.3	8.9	46.2	0.7	570
NHL2	1.6	5.9	48.0	0.5	410
Lime putty	0.0	0.6	56.1	0.1	1,250
Plaster of Paris	0.8	3.5	29.9	40.6	890

The standard error associated with the results presented in Section 3 are, for insoluble, 2%; soluble silica, 11%; calcium oxide, 9%; and sulphate, 7% of the reported results. The interpretation of the analytical results assumes that the mortar may comprises up to four of

the following ingredients: lime putty, NHL2, NHL3.5, NHL5, OPC, WPC, plaster of Paris, setting plaster of Paris, calcium carbonate, chalk, Bath stone dust, inert sand, Stowe sand, PFA, Trass, Lamb's brick dust, crushed lime putty mortar, crushed hydraulic mortar and crushed cement mortar. It is possible that the same chemical analysis results can be obtained from a variety of different ingredients.

Those results which correspond most closely to a traditional mix would normally be selected when suggesting a trial mix for the client's consideration. No guarantee is implied or inferred that the mix suggested will necessarily be the most suitable mix for conservation or replication purposes. This will depend very much on local conditions and circumstances.

7.0 DISCUSSION

Sample P0532

NYW006 0131 Demolition Layer

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate blend of sand and pozzolanic material, such as brick/terracotta dust, in the approximate proportions of 1¼:1¾:1.

For repair purposes the following trial mix could be considered:

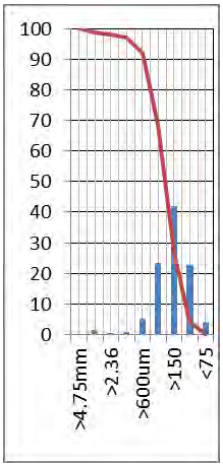
1¼ parts Lime Putty

1¾ parts Sand

1 part brick/terracotta dust >600µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0532 and the following graph showing the size distribution of the insoluble aggregate:



The grain roundness ranged from sub angular to sub rounded and brick/terracotta dust/particles could be detected <600µm.

Sample P0533

NYW 006 0191 E-W wall, largely robbed out. Similar to 0060 but larger blocks

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate blend of sand and ash (possibly lime ash*) in the approximate proportions of 1¾:1½:¾.

For repair purposes the following trial mix could be considered:

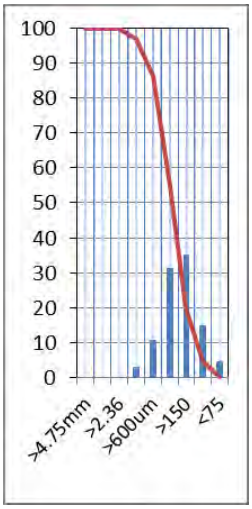
1¾ parts Lime Putty

1½ part Sand

¾ Ash(in the form of crushed charcoal) <150µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0533 and the following graph showing the size distribution of the insoluble aggregate (minus the coarse aggregate):



Above is a photograph of the coarse aggregate that was removed from the original sample before analysis. The aggregate has been washed with acid to dissolve any remnants of mortar so that a true representation of colour can be seen. The sample continued to effervesce in hydrochloric acid once the mortar was removed suggesting it is calcium carbonate based.

The grain roundness ranged from sub angular to rounded and ash particles could be detected <150µm.

Sample P0534

NYW 006 0049 Mortar in bottom of S end of Tr2

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate blend of sand and ash (possibly lime ash*) in the approximate proportions of 2:1½:¾.

For repair purposes the following trial mix could be considered:

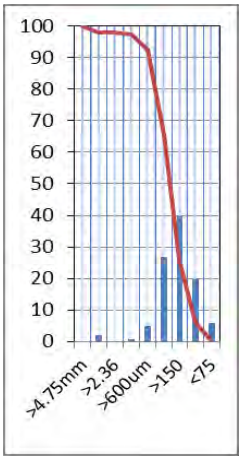
2 parts Lime Putty

1½ part Sand

¾ Ash/charcoal <150µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0534 and the following graph showing the size distribution of the insoluble aggregate:



The grain roundness ranged from sub angular to sub rounded and ash/charcoal particles could be detected <150µm.

Sample P0535

NYW 006 0128 Thin layer of silt +mortar lumps

The results of the analysis are consistent with a mortar mix consisting of a Lime binder and an aggregate blend of sand and ash (possibly lime ash*) in the approximate proportions of 1:3:¼.

For repair purposes the following trial mix could be considered:

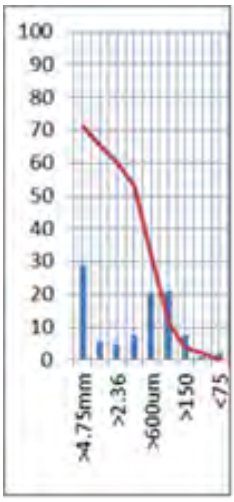
1 part Lime Putty

3 parts Sand

¼ part Ash/charcoal <150µm

(Please note: if a quicklime for hot mixing is to be considered for repair purposes, the sand portion of the mix should be increased to account for the expansion of the lime, for example a 1:3 quicklime to sand mix will often produce a mix that is 1:2/1:3 in proportions).

Please see attached Insoluble aggregate for P0535 and the following graph showing the size distribution of the insoluble aggregate:

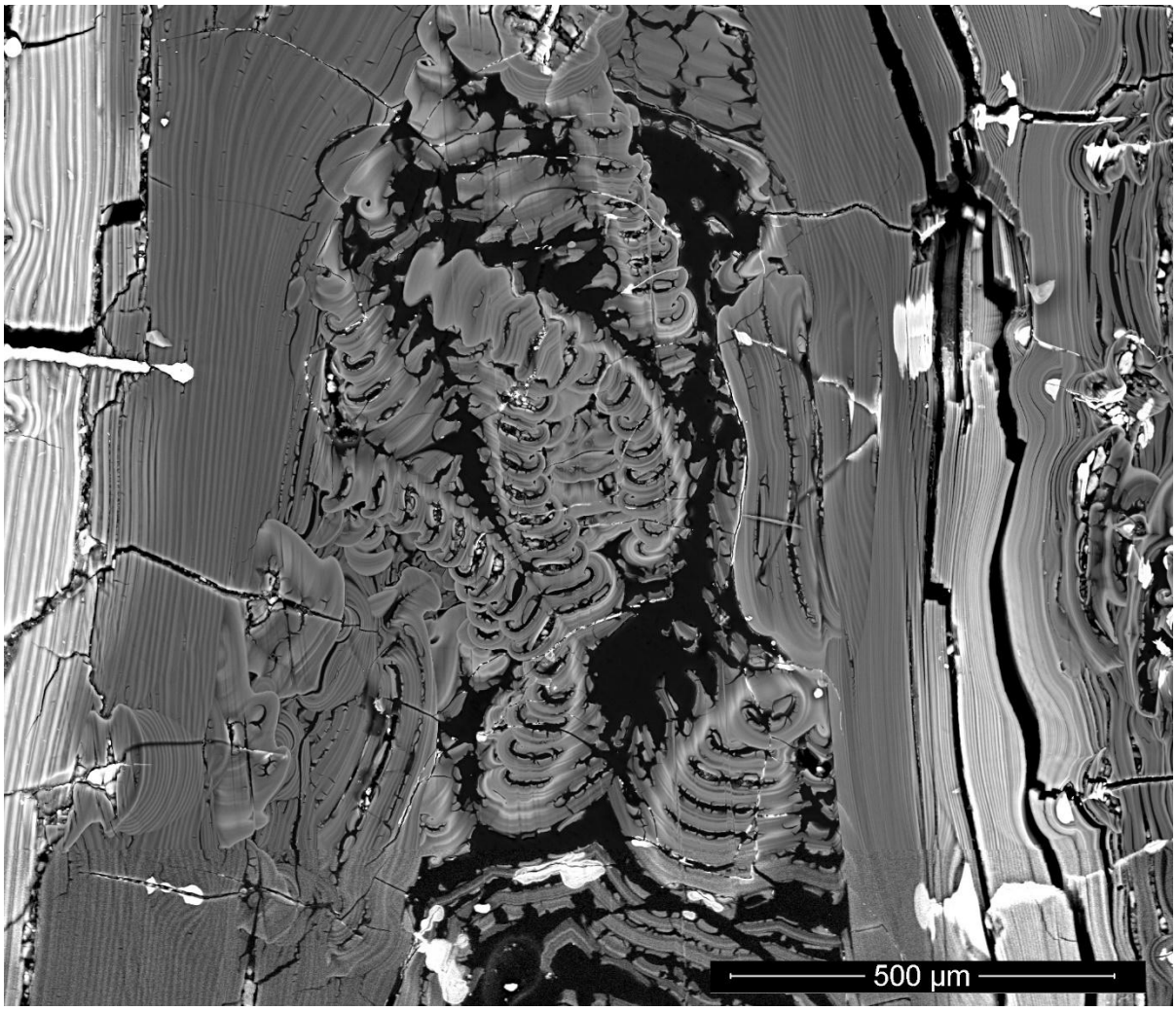


The grain roundness ranged from angular to sub rounded and ash/charcoal particles could be detected <150µm.

Lime ash is from the residue found at the bottom of a wood fired lime kiln and consists of waste lime and wood ash.

APPENDIX D3: ANALYSIS OF THE WINDOW GLASS FROM COURT KNOLL, NAYLAND

Sarah Paynter



Introduction

Approximately 60 fragments of window glass were recovered during excavations at Court Knoll during 2016, and assessed by glass specialist Rachel Tyson. Some were deformed through heat and all were in poor condition, delaminating quickly when handled, and an opaque dark colour, where they would originally have been transparent and lightly tinted.

The glass was found associated with tiles of the Late Saxon period and the condition of the glass suggested that it was forest glass of the type introduced towards the end of the 1st millennium AD and used through the first half of the 2nd millennium AD. The majority of fragments are from context 131, with small quantities from several other contexts. No decoration was discernible to aid dating. Rachel Tyson records the thickness as around 3mm, typical of glass from c.12th to 14th centuries (Tyson assessment report).

Background

In the 1st millennium AD, glass was imported to England, and often re-melted, recycled and worked, but there is no evidence that glass was actually made here from the raw materials until after the Norman Conquest. Documents refer to the French craftsmen who brought their expertise to the glazing of celestial buildings in Britain in the 8th century (Cramp 2005). The glass used was a soda-lime-silica type, sometimes known as natron glass, which survives very well in archaeological contexts.

In continental Europe at about the same time, a new types of glass was developed. It was made from the ashes of plants and sometimes called forest glass or potash glass because it contains high concentrations of potassium from the plant ashes (Wedepohl 1997). This potassium-lime-silica glass started to replace the earlier natron glass, although recycled natron glass was still used to make dark blue windows. Well preserved fragments of this dark blue glass have been found at UK sites, including York Minster, Eynsham Abbey and Winchester Cathedral, into the 12th century (Cox et al. 1979; Paynter and Doonan 2002).

Overtime, changes to the proportions of ash to sand, and the species and parts of the plants being ashed, resulted in a wide range of forest glass compositions being made across continental Europe and in the UK. These forest or wood ash glass types continued to be used well into the post-medieval period.

The English glass industry

The English glass industry developed mainly in the wooded areas of the Weald, of Surrey and Sussex, and in Cannock Chase, Staffordshire (Kenyon 1967; Linford and Welch 2004; Mortimer in Welch 1997; Crossley 1994). The wood was important as the furnaces were heavy consumers of fuel and the ashes of plants were also used as a raw material for the glass. The glassmakers in these areas are linked, via records of the time, to glazing schemes in notable buildings, including York Minster for Staffordshire and the Palace of Westminster and Windsor Castle for the Weald (see Kenyon 1967).

In the Weald, the earliest possible indications of a glass industry are records of a Frenchman Lawrence Vitrearius of Normandy who was granted land in Sussex in AD 1220, and in 1240 Henry III commissioned the glass for Westminster Abbey from him (although it is not always clear whether the person named only procured the glass or actually made it) (Kenyon 1967; Crossley 1994). No archaeological evidence for glassmaking in the 13th century has been found yet for the Weald but the furnace at Blunden's Wood, Surrey, had a final firing around AD 1330 (Dungworth and Paynter 2010). There are also furnace remains dated to the 13th century in Staffordshire (Linford and Welch 2004).

Glassmaking continued sporadically in both regions and glass was also obtained from continental Europe, especially in specialised colours (Freestone et al. 2010; Brill and Pongracz 2004; Spencer et al. 2018). In the 1560s, another influx of glassworkers from Lorraine and Normandy transformed the English industry (Kenyon 1967), which was thriving by this time (Crossley 1972). Although the glass was still made using plant ashes, it is likely that different species were used, and the glass composition changes to match contemporary glass in Europe, which by this time contains a lot more calcium. The resulting glass is far more resistant to weathering than the glass made by the earlier English industry.

Glass types

For the glass made in Britain, so far known, there is a fairly clear distinction between the earlier potash glass (of the 14th to the later 16th century), and the glass made after the 1560s, which has been established by analysing the glass waste found at glass furnace sites (Dungworth and Paynter 2010). The situation on the continent is far more complicated however, and glass was often imported from far afield for high status glazing schemes, particularly if specialised colours were required. Studies of cathedral window glass tend to identify a mixture of glass types, some imported and some perhaps local (Spencer et al. 2018; Freestone et al. 2010; Brill and Pongracz 2004). Continental glasses, particularly the earlier ones, do not fit neatly into the categories familiar in England, and efforts to differentiate consistently between French, German and English glass have met with varying success. There have been attempts to

establish a broad chronology for the different compositions (Wedepohl 1997; Brill 1999), although this chronology is still developing (Table D4).

Table D4: Tentative overview of changing window glass compositions, using descriptions based on Wedepohl (1997).

Suggested date range	Known as	Composition	Durability
Until 8th century (until 12th century for dark blue glass)	Natron glass or soda-lime-silica glass	Na_2O >15wt%	Very good
Late 8th to 10th centuries	Early forest, potash or woodash glass	K_2O ~10wt%, SiO_2 > 50wt% CaO/K_2O ~ 1-2	Poor
11th to 14th centuries (until ~1560s in England)	Forest, potash or woodash glass	K_2O >10wt%, as much as ~25wt% CaO/K_2O ~ 0.5-1.3 SiO_2 variable, possibly lower in German glass	Poor
12th to 14th centuries	Experimental woodash lime glass	CaO/K_2O ~2 SiO_2 ~50wt% or less	Very poor
15th century onwards (~1560s onwards in England)	Woodash lime glass, high lime low alkali (HLLA) glass	K_2O < 9wt% SiO_2 > 50wt% CaO/K_2O > 3	Good

Method

Medieval glass often survives very poorly but often a thin layer of unaltered glass is preserved, sandwiched between the outer weathering layers. In the Court Knoll glass, examination of most fragments failed to find surviving glass and the glass was soft and crumbled during sampling. One fragment (from context 131B) was firmer during sampling but this was heat deformed and discoloured.

Some pieces were mounted in resin for examination by scanning electron microscopy, in case tiny areas of surviving glass might be found at high magnification. Fragments were selected from the major contexts. Polishing of the fragments was very difficult as they were so soft but incremental layers were ground away and inspected at intervals for surviving glass.

The electron microscope was an FEI Inspect operated at 25KeV with an Inca X-act energy dispersive spectrometer for analysis of the composition. Corning glass standards of known composition were analysed at the same time to ensure the precision and accuracy of the results, which are given in Table D4.

Results

One small area of preserved glass, about a millimetre in diameter, was found in a sample from context 131B (Figure D3). There were no microstructural signs of weathering in this area, the

results came to a total of nearly 100%, and three analyses were undertaken, which all gave very similar results, so the analysis is thought to be representative of the original glass. The results are given in Table D5.

The remaining samples of glass were entirely weathered to different degrees (Figure D4 and cover). Unaltered glass should appear a uniform light grey in SEM images but instead many areas have devitrified, and the resulting crystals scatter light, causing the glass to appear milky and opaque. Minerals can be seen filling cracks in the glass, appearing as feathery black staining by eye. Some areas of glass looked intact at first, but on close inspection these areas contained weathering layers, and analysis showed that they were depleted in potassium, which is leached out in the early stages of the weathering process.

Some fragments had distinct layers on the surface, but these were seen on both the inside and outside surface, as well as the edges of the fragments, which is not consistent with painted decoration. Analysis identified these layers as weathering products, rich in calcium, phosphorus, and sometimes manganese. A fragment of glass was also scanned for chemical traces of paint using X-ray fluorescence spectrometry, but no signs of surface decoration were found.

Discussion

Although there are many window glass analyses with which to compare, few of the assemblages are closely dated. Medieval window glass often comes from mixed archaeological deposits (Paynter and Doonan 2002) or museum collections (Brill 1999), and is dated to within a few centuries by its appearance and style of decoration, although there are occasional analyses of dated windows *in situ* (Freestone et al. 2010). Most analytical data pertains to windows from the 14th century and later or from the continent; 11th- to 14th-century glass is not as well represented, particularly from the UK.

The Court Knoll glass is a forest type glass, made from plant ashes, but it is unusual in several respects and no exact match has been found for it. The composition of the glass is dependent on when and where the glass was made, both of which are unknowns here. Without an exact match, neither of these questions can be answered with certainty, but some possibilities are more likely than others, and these are discussed below.

Original appearance of the glass

In the single successfully analysed fragment of glass, the low levels of iron combined with the high manganese have combined to produce a pale pink hue, which was just visible in the polished section. Analysis of another glass fragment, although weathered, detected copper

and zinc at low levels. Similar levels of copper and zinc have been found in light blue medieval window glass, as in the 13th-century glass from Elgin Cathedral (Spencer et al. 2018). (Copper and zinc may also be found in red flashed glass and dark blue, cobalt coloured glass, but both seem less likely here as no strong colours were visible by eye). Therefore the glazing scheme may have originally featured pale pink/colourless, pale blue and pale green. No traces of painted decoration were detected on the fragments analysed, by SEM, XRF or by visual examination, but the condition of the surfaces was very poor so it cannot be completely ruled out.

Origins and date of the glass

If glassmakers use local raw materials, it results in distinctive chemical characteristics for the glass from that particular region, because the local geology influences the chemistry of the plant ashes and sand. The Court Knoll glass shares some distinctive characteristics of English glass, particularly the high magnesium content, which is seen in glass from both the Wealden and Staffordshire industries, and in window glass in the UK, such as the late 13th-century windows from York; the levels in French, German and Belgian glass are rarely as high (Brill and Pongracz 2004; Brill 1999; Wedepohl 1997; Van Wersch et al. 2014; Dungworth and Paynter 2010). English glass can also have a low aluminium content, similar to the unusually low (0.8wt%) levels in the Court Knoll glass, so the glass maybe British-made but at an early date.

There are documentary accounts suggesting production in the Weald from the first half of the 13th century and some Staffordshire glass furnaces have been dated to the second half of the 13th century (Kenyon 1967; Linford and Welch 1997). We do not know the composition of the glass they were making there however, because there are no analyses for the glass from these earlier sites yet, only slightly later ones in the same area (Dungworth and Paynter 2010; Mortimer in Welch 1997).

The Court Knoll glass is unusual because silica makes up less than half of the composition (Table D5). The glassmakers have added a larger proportion of lime-rich plant ashes to their batch, at the expense of silica, which has unfortunately made the glass inherently unstable. Most medieval glass contains at least 50wt% of silica (Table D4), and often a lot more (Brill 1999; Dungworth and Paynter 2010; Paynter and Doonan 2010; Wedepohl 1997).

A lot of medieval window glass was also imported. Some window glass with similarly low silica levels has been found, mostly in Germany, for example at Kloster Lorsch, Oppenheim, Augsburg, Bramwald, Corvey and Brunshausen, and mainly from the 12th to the 13th centuries (Brill 1999; Wedepohl 1997). There are fewer examples from France, such as

Avignon from the 14th century, and occasional finds from the UK, which are thought to be imported from Germany, including the 13th-century glass from Elgin Cathedral in Scotland (Spencer et al. 2018). Most forest glasses contain roughly equal amounts of calcium oxide (CaO) and potassium oxide (K2O), however, whereas the Court Knoll glass contains around twice as much of the former. This combination of low silica and high ratio of calcium to potassium also seems more common in German glass, around AD 1300, including from Oppenheim, Cologne and Laudengrund (Brill 1999; Wedepohl 1997) (the experimental woodash lime glass in Table 1). Despite these similarities, the high levels of magnesium oxide (MgO) and sodium oxide (Na2O) in the Court Knoll glass make it less likely to be a German import (Table D5).

Conclusion

The Court Knoll glass is very unusual and an exact match could not be found. The glass is inherently unstable, with its low silica content, and hasn't survived well, which may be part of the reason why there is nothing similar published to date.

The glass is a forest or woodash glass, made with an unusually high proportion of plant ashes and perhaps a clean sand. Although there are many analyses of window glass and glassworking waste, particularly from the 14th century onwards, the Court Knoll glass does not completely match any of these, so most likely predates them. There are some broadly similar analyses for glass from the 12th/13th century or earlier however, with the most similar being late 13th-century windows from York (Brill 1999). The unusual composition and the thickness of the glass are also consistent with a pre-14th century date (Tyson assessment). So the glass is perhaps from the 13th century AD or slightly earlier, in which case this is a rare, early example of the use of forest glass windows in England. Glazing for the Palace of Westminster was procured at about this time, and any contemporary glazed buildings would also have been of significant status.

The Court Knoll glass shares the characteristics of English glass; theoretically it could be made by combining similar raw materials in slightly different proportions but, as it is slightly different from any English glass so far published, this can't be confirmed. The other possibility is that it was imported, perhaps from continental Europe where some similar glass was made for a period in the 12th/ 13th centuries, although again there is no exact match amongst the examples analysed so far.

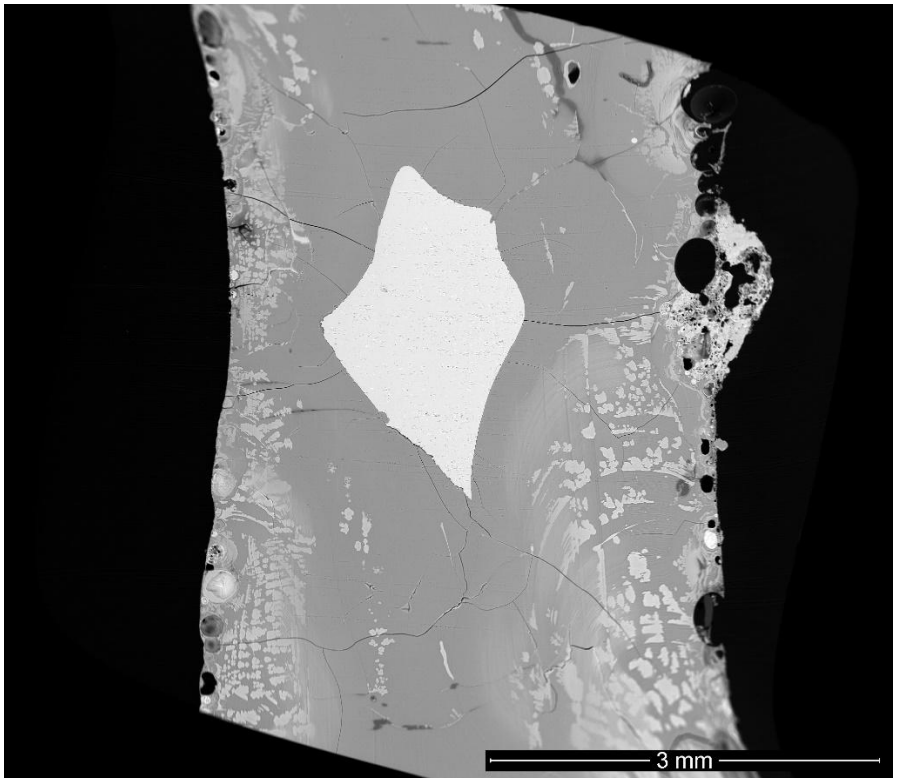


Figure D3: Cross section of glass fragment from context 131B, showing weathered and devitrified glass (grey with light grey patterns) and some central surviving glass (white).

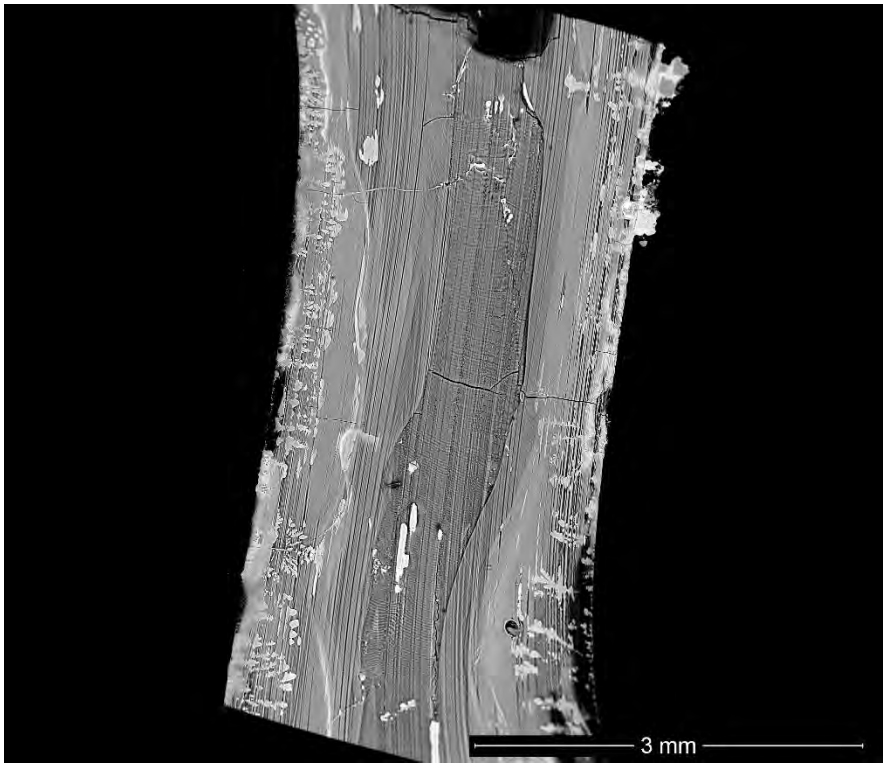


Figure D4: Cross section of another fragment from context 131B, showing degradation of the glass throughout its thickness. The thin, better preserved strips remaining in the centre (white), have unfortunately also started to degrade by loss of potassium.

Table D5: EDS analysis of standard glass Corning D, with the known composition for comparison, and the composition of the single surviving glass sample from Court Knoll (average of 3 analyses in each case, normalised, bd = below detection limit).

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	MnO	Fe_2O_3	CoO	CuO	ZnO	SrO	SnO_2	Sb_2O_5	BaO	PbO
Corning D Known	1.2	3.94	5.3	55.24	3.93	0.3	0.4	11.3	14.8	0.38	0.55	0.52	0.02	0.38	0.1	0.06	0.1	0.97	0.51	0.48
Corning D measured	1.29	4.02	5.17	54.28	3.75	0.27	0.23	11.75	14.91	0.44	0.57	0.50	0.01	0.39	0.10	0.33	0.53	0.94	0.29	0.23
Court Knoll	2.89	7.22	0.83	47.92	3.78	0.25	0.41	10.53	22.45	0.08	2.19	0.31	bd	bd	bd	0.22	0.58	bd	bd	0.00

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APPENDIX E: RADIOCARBON DATES

Scottish Universities Environmental Research Centre

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor R M Ellam Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

15 December 2016

Laboratory Code	SUERC-70733 (GU42514)
Submitter	Richenda Goffin Suffolk Archaeology CIC Unit 5, Plot 11 Maitland Road, Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ
Site Reference	NYW0006 Court Knoll Nayland with Wissington
Context Reference	200
Sample Reference	Sample 1
Material	Bone : Human
$\delta^{13}C$ relative to VPDB	-20.0 ‰
$\delta^{15}N$ relative to air	9.5 ‰
C/N ratio (Molar)	3.2
Radiocarbon Age BP	1063 ± 30

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

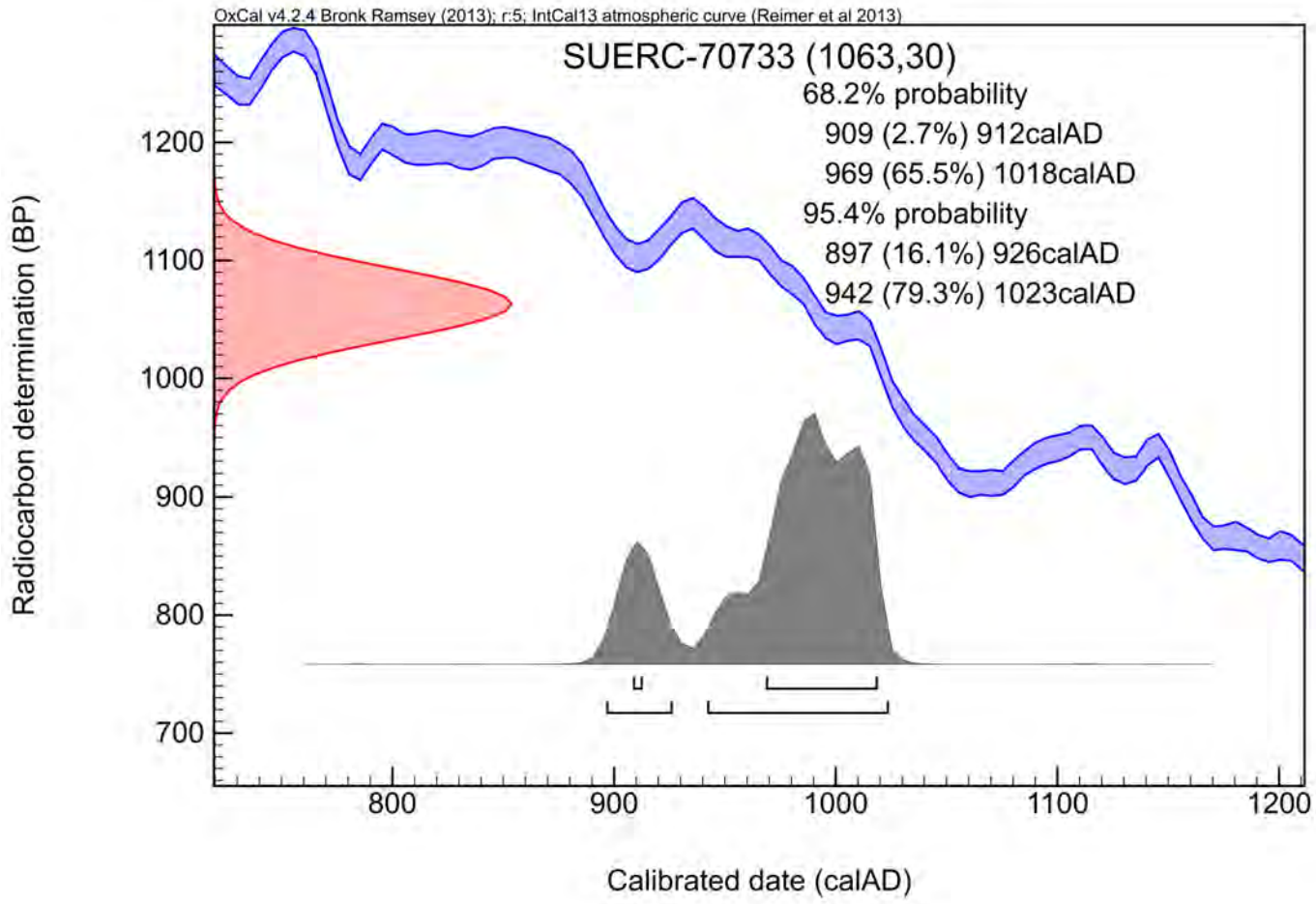
The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- E. Dunbar Date :- 15/12/2016

Checked and signed off by :- P. Naysmith Date :- 15/12/2016

Calibration Plot



Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

16 September 2020

Laboratory Code	SUERC-94185 (GU55336)
Submitter	Richenda Goffin Cotswold Archaeology Ltd Unit 5, Plot 11, Maitland Road Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ
Site Reference	Court Knoll NYW006
Context Reference	0131
Sample Reference	5006
Material	Charcoal : Oak
$\delta^{13}C$ relative to VPDB	-24.5 ‰
Radiocarbon Age BP	1172 ± 24

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

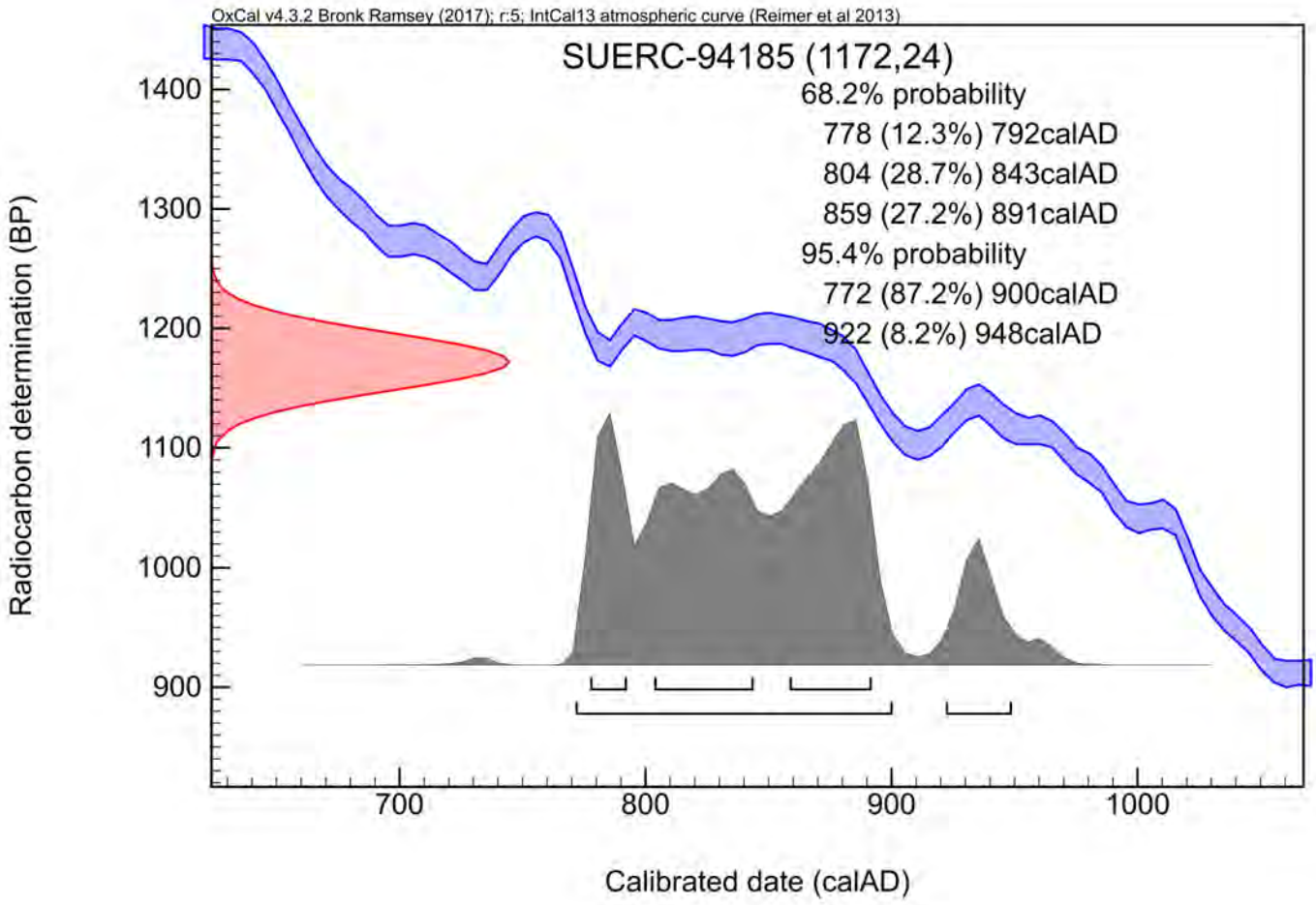
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by : P. Nayont



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

Scottish Universities Environmental Research Centre
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RADIOCARBON DATING CERTIFICATE

19 October 2020

Laboratory Code	SUERC-94817 (GU56329)
Submitter	Richenda Goffin Cotswold Archaeology Ltd Unit 5, Plot 11, Maitland Road Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ
Site Reference	Court Knoll NYW006
Context Reference	0131
Sample Reference	5006
Material	Charcoal : Oak
$\delta^{13}C$ relative to VPDB	-24.9 ‰
Radiocarbon Age BP	1196 ± 24

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

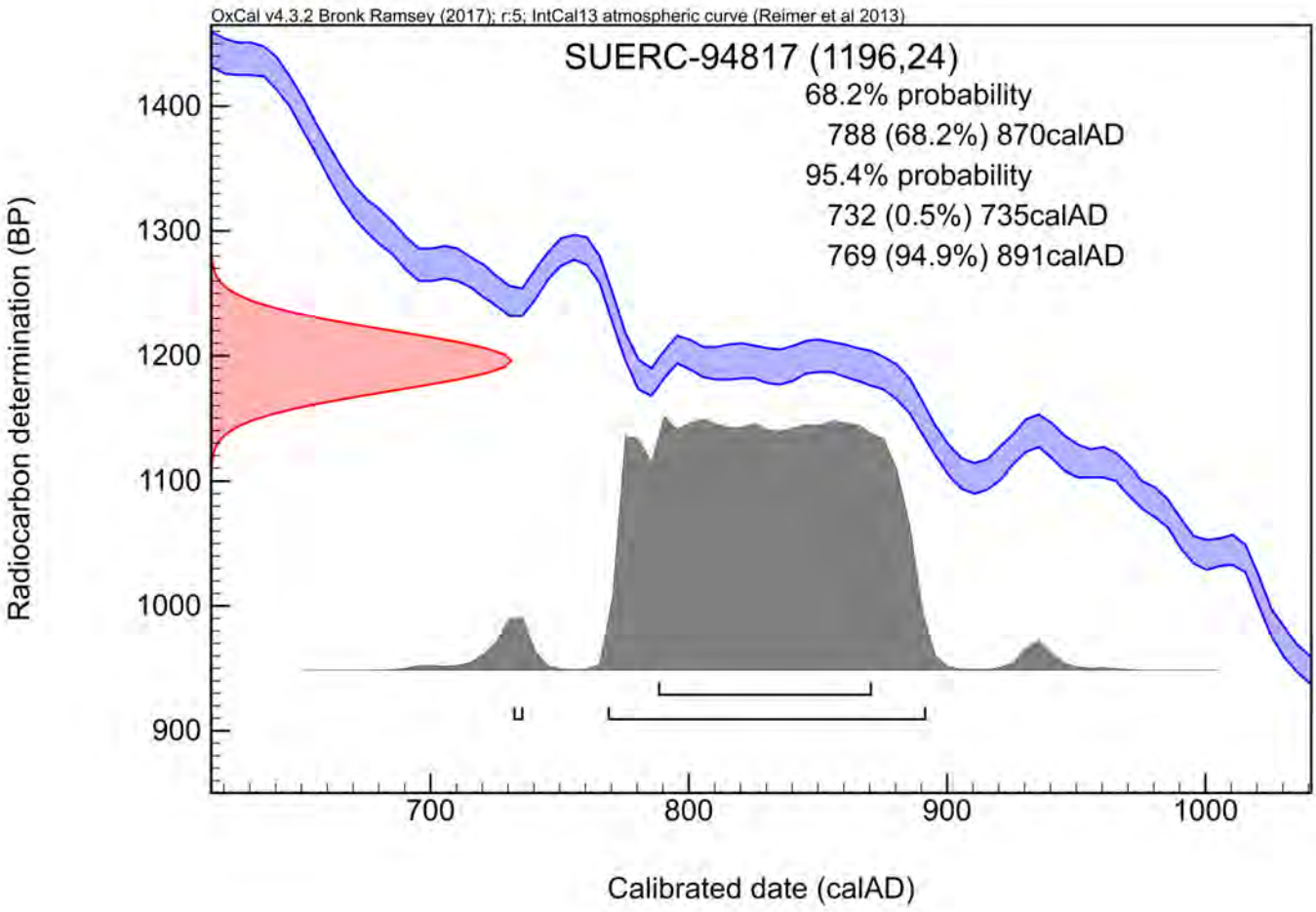
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by :

Checked and signed off by : E. Dunbar



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal13 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*

† Reimer et al. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE

09 November 2021

Laboratory Code	SUERC-100701 (GU58888)
Submitter	Anna West Cotswold Archaeology Ltd Unit 5, Plot 11, Maitland Road Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ
Site Reference	NYW 006
Context Reference	96
Material	charcoal : Ilex
$\delta^{13}C$ relative to VPDB	-27.0 ‰
Radiocarbon Age BP	896 ± 25

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

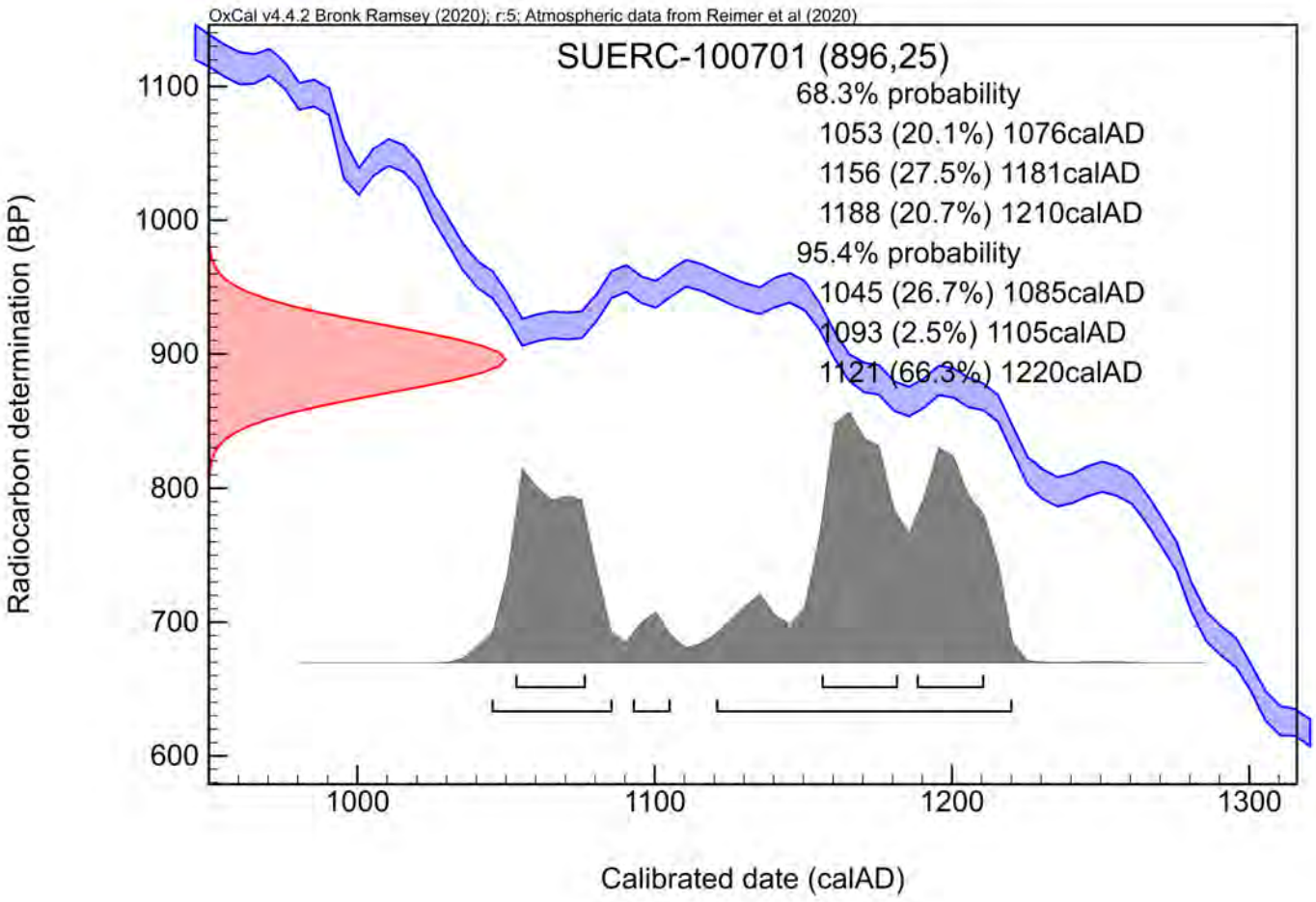
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE

09 November 2021

Laboratory Code	SUERC-100702 (GU58889)
Submitter	Anna West Cotswold Archaeology Ltd Unit 5, Plot 11, Maitland Road Lion Barn Industrial Estate Needham Market Suffolk IP6 8NZ
Site Reference	NYW 006
Context Reference	131
Sample Reference	5006
Material	charcoal : Quercus
$\delta^{13}C$ relative to VPDB	-23.9 ‰
Radiocarbon Age BP	1140 ± 25

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

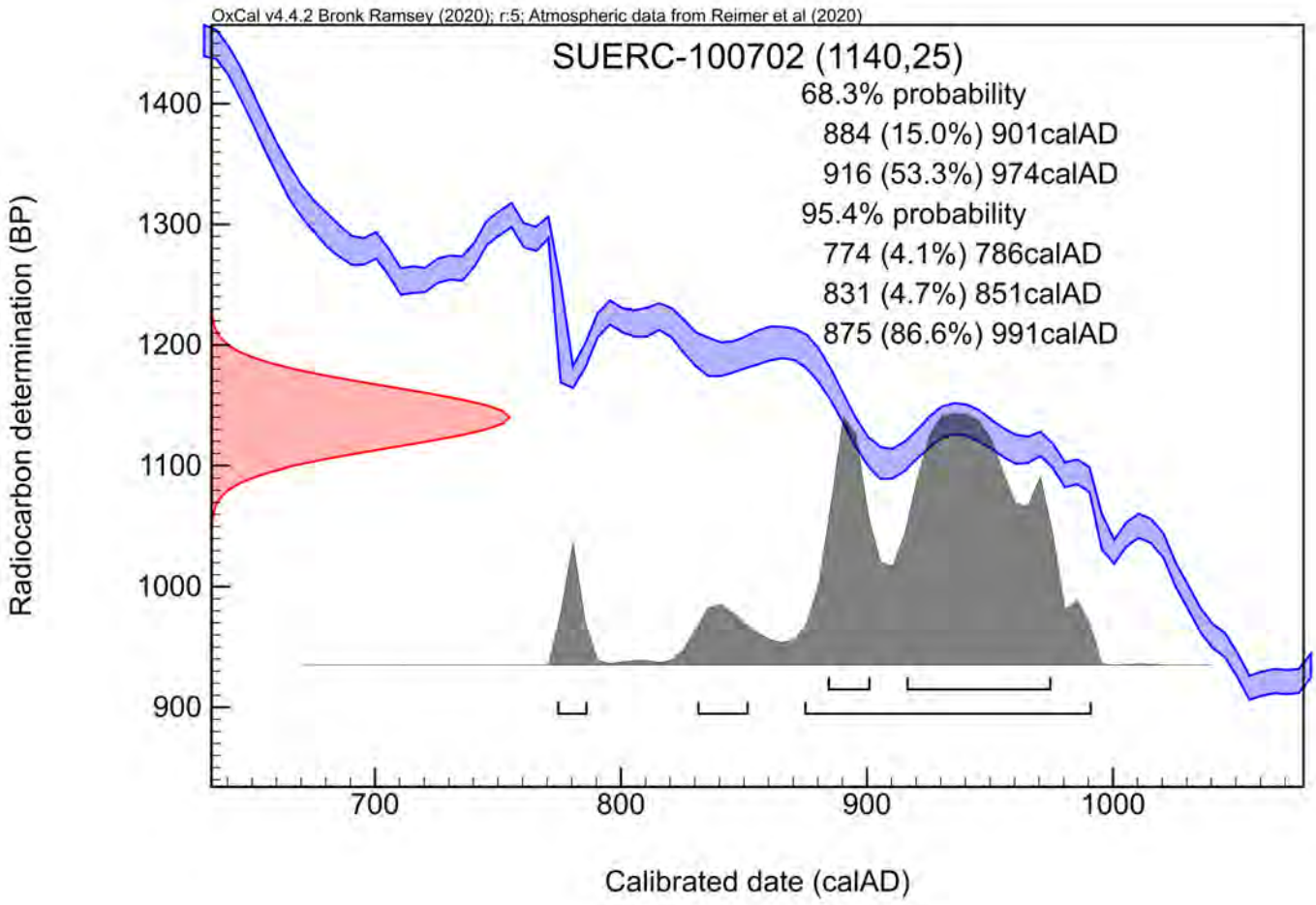
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

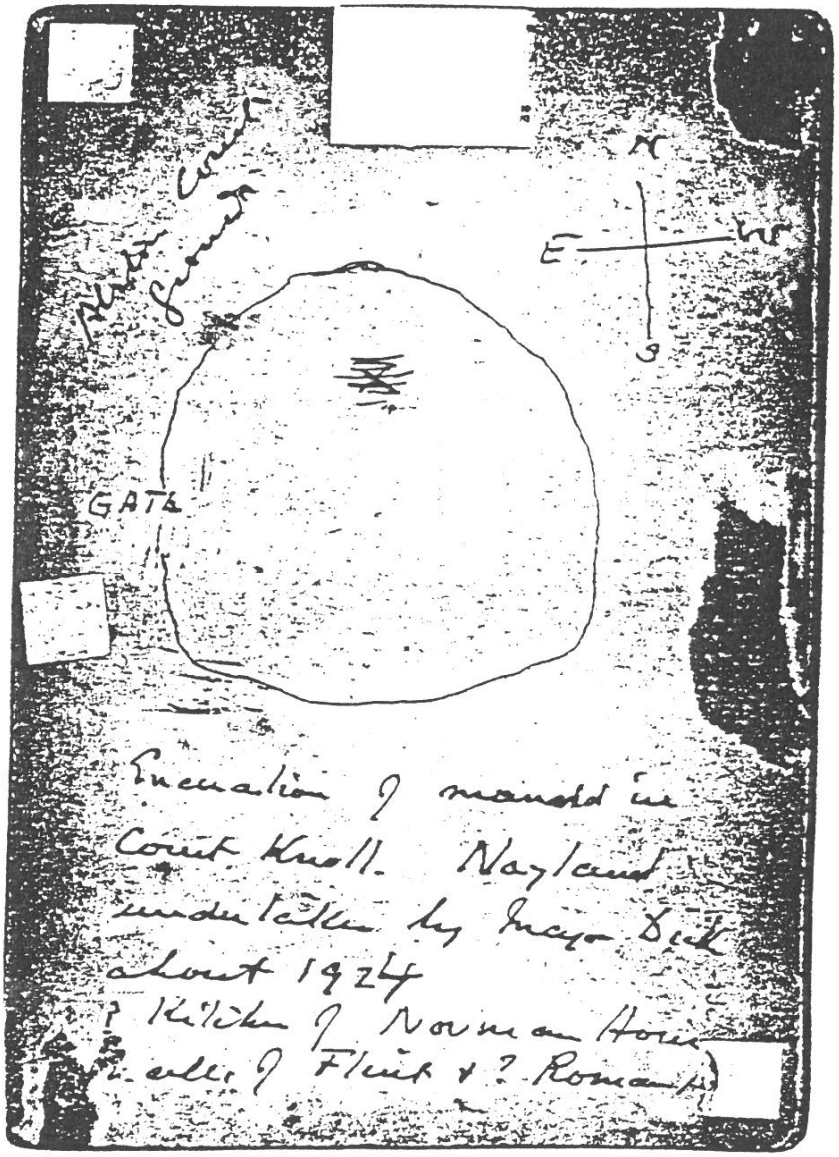
Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

APPENDIX F: PREVIOUS EXCAVATION

A handful of records are known from the 1924 excavation, including plans, photographs and correspondence. Archive material held by the Colchester and Essex Museum was re-visited in the 1960's and has been considered alongside the more recent archaeological investigations. These records are included below, along with some interpretation and brief biographical details of people directly involved or mentioned in letters or annotations.

It is possible that other records survive, either in private ownership or in museum archives, which have yet to come to light.



A rough location plan of the 1924 Court Knoll excavation site. The top left corner reads 'Alston Court grounds'. The legend at the bottom reads 'Excavation of mound in Court Knoll, Nayland undertaken by Major Dick about 1924. ? Kitchen of Norman House made of Flint and ? Roman [?tile]' East and West have been transposed on the compass points.

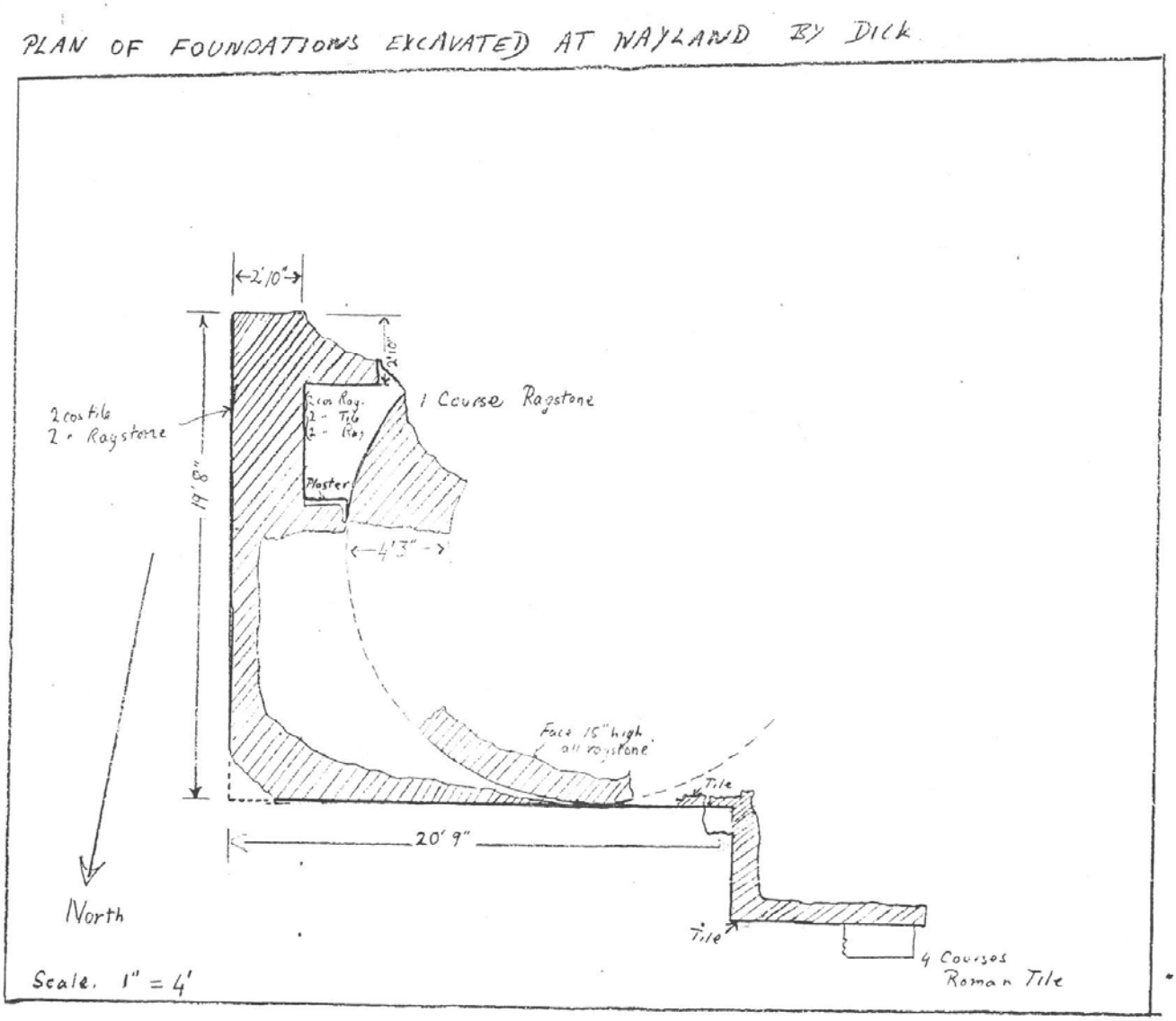
Two photographs of the 1924 excavation in progress, showing the SE corner of a square-ended building, numbered 0107 when re-opened in 2016. The chalk floor does not appear to have been exposed at the time of the photograph.

The primary figure associated with the 1924 excavation was Major Dick:

Major W. F. Dick

William Frederick Dick, Major with the 3rd Essex Volunteer Battalion. In 1924, when he carried out the excavation at Court Knoll, he lived at Josselyns, Little Horkesley, with his wife, Dorothy Marion (nee Ames).

Dick served as a Council member of the Essex Archaeological Society and in 1919 wrote 'History of the Ancient Church of St Peter & St Paul, Little Horkesley' (Essex Record Office). He was also a member of the Prehistoric Society of East Anglia.



Plan of building remains revealed during the 1924 excavations, thought to have been those drawn by D.W. Clark. It correlates with the photographs showing the southern half of building 0107 well exposed and suggests that the northern half of the building was only excavated to a depth which exposed and establish the external wall outlines, given that the internal faces and possible altar exposed in 2016 are not shown. It also suggests that investigations continued further west than the 2016 trench, revealing masonry with tile coursing in the bottom right corner of the picture which may relate to structural features suggested by the geophysical survey. However there is a known error in the interpretation of the northern wall which was clearly shown not to continue west abutting curved wall 0108 as the drawing suggests.

Clark appears to have drawn up a plans of the excavated buildings and their locations, and offered some thoughts on the exposed buildings:

COPY/

"St. Runwalds",
3, West Stockwell Street,
COLCHESTER

29th February, 1924

Major W.F. Dick,
Josselyns,
Little Horkesley.

Dear Major Dick,

Thank you for cheque received this morning and also for your very kind remarks.

I enclose a Plan of the building which you have excavated at Nayland. I am afraid it is not possible at present to really say what was the purpose of the building but there is some suggestion of it having been an angle tower to the enclosing walls. I am fairly convinced that the work is of two periods, the rectangular part being not later than the 12th century, it being very unusual to find Roman material in use after that date -- I suppose the sources of supply were exhausted. I do not doubt but that when you can make more extensive excavations it will be possible to more fully determine the chacter of the building.

I also send a little sketch showing how to find the site of the present digging which is 96 feet from headland on the site line indicated.

May I congratulate Mrs. Dick on the very successful production of "Brown Sugar".

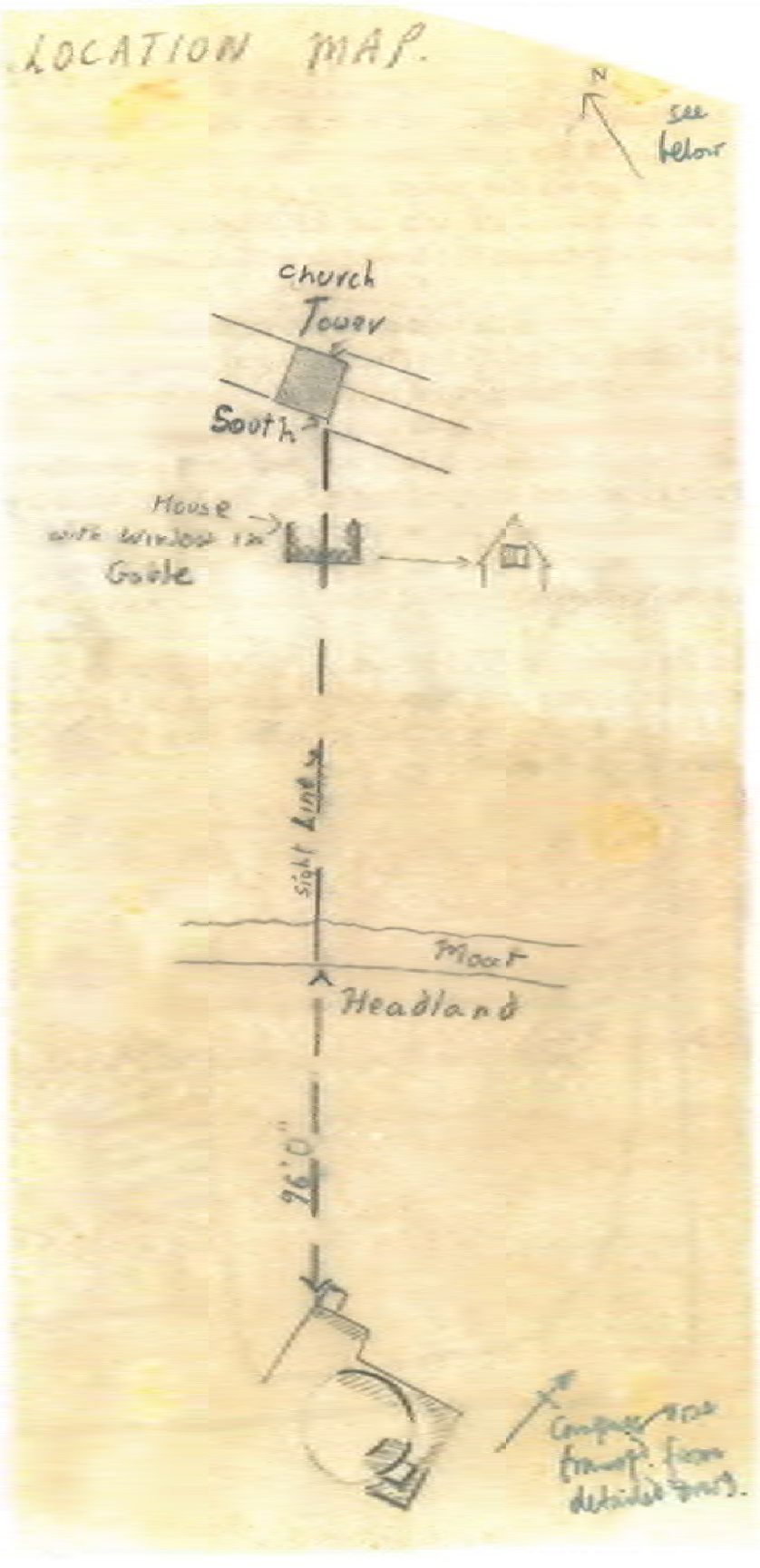
Yours faithfully,

(Signed) Duncan W. Clark.

D. W. Clark

Duncan Walter Clark, F.R.I.B.A. A Colchester based architect by trade, Clark was a member of the Essex Archaeological Society, and served as its Deputy Chair in the 1940's and 1950's. He also represented the Society on the Museum and Muniment Committee of the Colchester Corporation.

Clark supervised the lifting of a Roman mosaic floor from North Hill, Colchester in 1922, wrote 'A Brief Guide to Colchester Castle' and seems to have had interest in church architecture. He died in 1958.

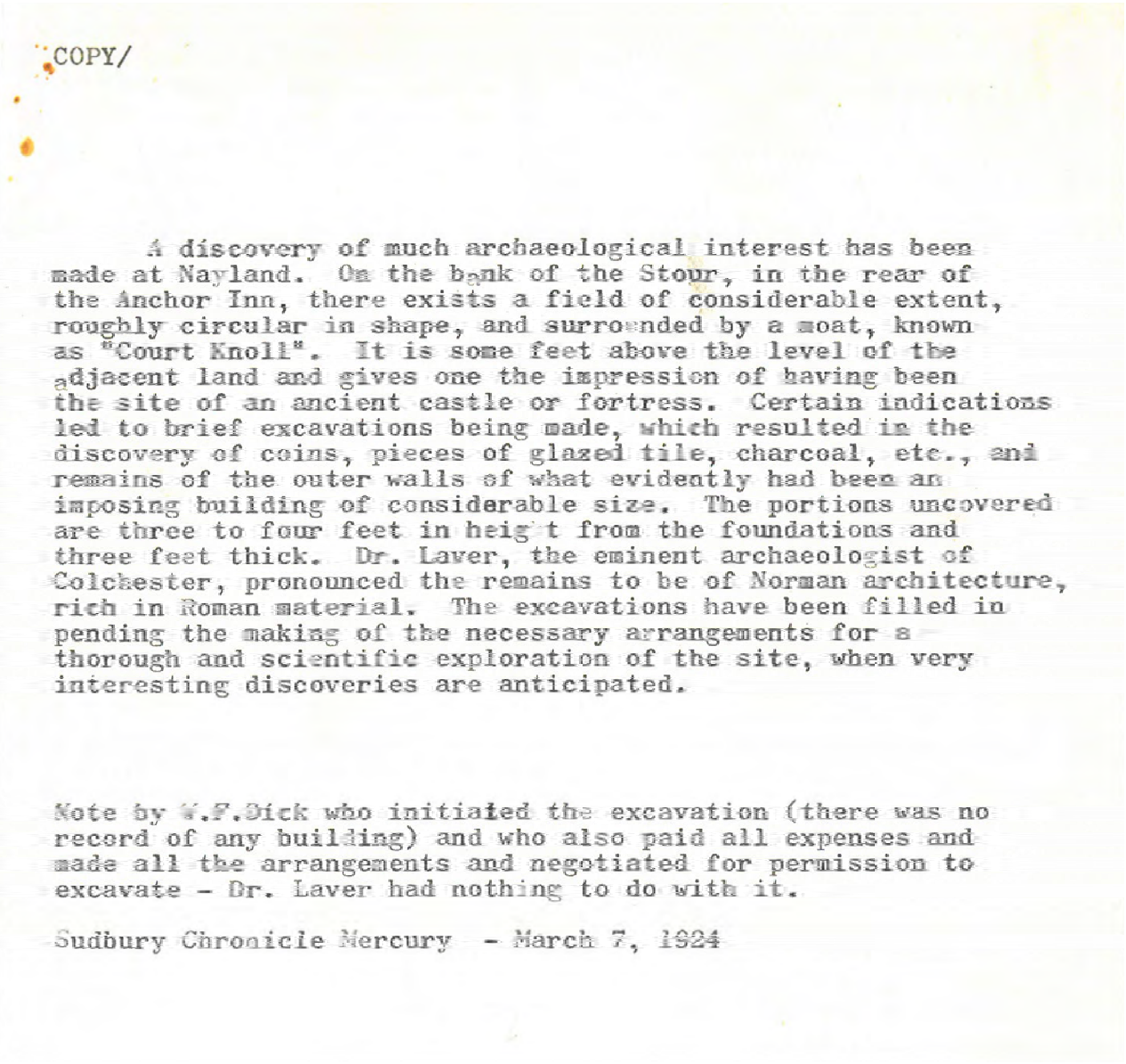


Measured location plan of the 1924 excavation, believed to have been prepared by local architect, D.W. Clark (with later annotations by L.S. Harley in green). This was tested in 2016 by Tim Dennis and project volunteers and the location proved to be quite accurate.

It is interesting to note how the excavated area is illustrated, seemingly using dark lines to show certain edges. The north side of the curved wall is suggestive of something a more compete circular structure than an apse. However, this is not supported by detailed scaled plan. That a complete circle is conjectured on this plan suggests that a tower interpretation was at least being considered.

A ‘shadow’ of a later reproduction of Clark’s building plan by L.S. Harley is visible on the paper.

News of the excavation at Nayland was reported in the Sudbury Chronicle Mercury. The whereabouts of the finds mentioned is not known.



COPY/

A discovery of much archaeological interest has been made at Nayland. On the bank of the Stour, in the rear of the Anchor Inn, there exists a field of considerable extent, roughly circular in shape, and surrounded by a moat, known as "Court Knoll". It is some feet above the level of the adjacent land and gives one the impression of having been the site of an ancient castle or fortress. Certain indications led to brief excavations being made, which resulted in the discovery of coins, pieces of glazed tile, charcoal, etc., and remains of the outer walls of what evidently had been an imposing building of considerable size. The portions uncovered are three to four feet in heig t from the foundations and three feet thick. Dr. Laver, the eminent archaeologist of Colchester, pronounced the remains to be of Norman architecture, rich in Roman material. The excavations have been filled in pending the making of the necessary arrangements for a thorough and scientific exploration of the site, when very interesting discoveries are anticipated.

Note by W.F.Dick who initiated the excavation (there was no record of any building) and who also paid all expenses and made all the arrangements and negotiated for permission to excavate - Dr. Laver had nothing to do with it.

Sudbury Chronicle Mercury - March 7, 1924

Dr. Laver cited in the newspaper article is likely to be Dr. Philip Guyon Laver, M.R.C.S.

Dr. P.G. Laver

"Mr P G Laver, F.S.A., joined the [?Colchester Museum and Muniment] Committee in 1897 as a representative of the Essex Archaeological Society. Together with his father, the late Alderman Henry Laver, F.S.A., and his [older] brother, the late Capt. H E Laver, he was actively associated with the Museum for nearly half a century, during which time he was instrumental in acquiring many of its most valuable accessions." *Eric Rudsdale, Essex Review (Vol LVI Nos 221-224, 1947)*

Major Dick clearly sought other opinions on the buildings and earthworks at Court Knoll. Ernest Cooper considers its location at the meeting of the Stour and a Roman road, and draws parallels with a small Norman chapel at Mells, Suffolk:

COPY/

South Green House,

Southwold

3rd September 1925

Dear Major Dick,

I am so sorry to have missed you the other day, I went off in the Lifeboat not expecting anyone and was rather late home for lunch, wet and dirty, it was not a pleasant trip.

I have been looking at your Court Knoll on the 1" Ordnance and see it stands where the main road from Colchester crosses the Stour and the boundary of the South Folk, this would be an important ford in Roman times and Dr. Raven in his History p.7 mentions Nayland as a likely landing place of the Danes, it is probable therefore that a Fort or earthwork was constructed as a protection from these Rovers and against invasions from the South, some were pre Roman and were afterwards occupied and strengthened by them, there is a small one on the Blyth and Mells Chapel, where was probably a British Earthwork first, then a Roman post and afterwards a Norman Chapel on the artificial site overlooking the Ford (now a Bridge). I would suggest you direct your enquiries along these lines, this might possibly be a switch from the great Roman Road crossing at Stratford St. Mary and might be traced in Antonine's Itinerary Nos. V and IX which passed thro Suffolk.

If you found Norman work it would probably mean they adopted the site much later, possibly for a Wayside Cell as at Mells, the situation indicates to me a much earlier origin and I will keep it in mind in case I fall upon any useful information.

I hope we may meet next year and that you will not miss me when next you are passing through,

Yours sincerely,

(Signed) Ernest E. Cooper

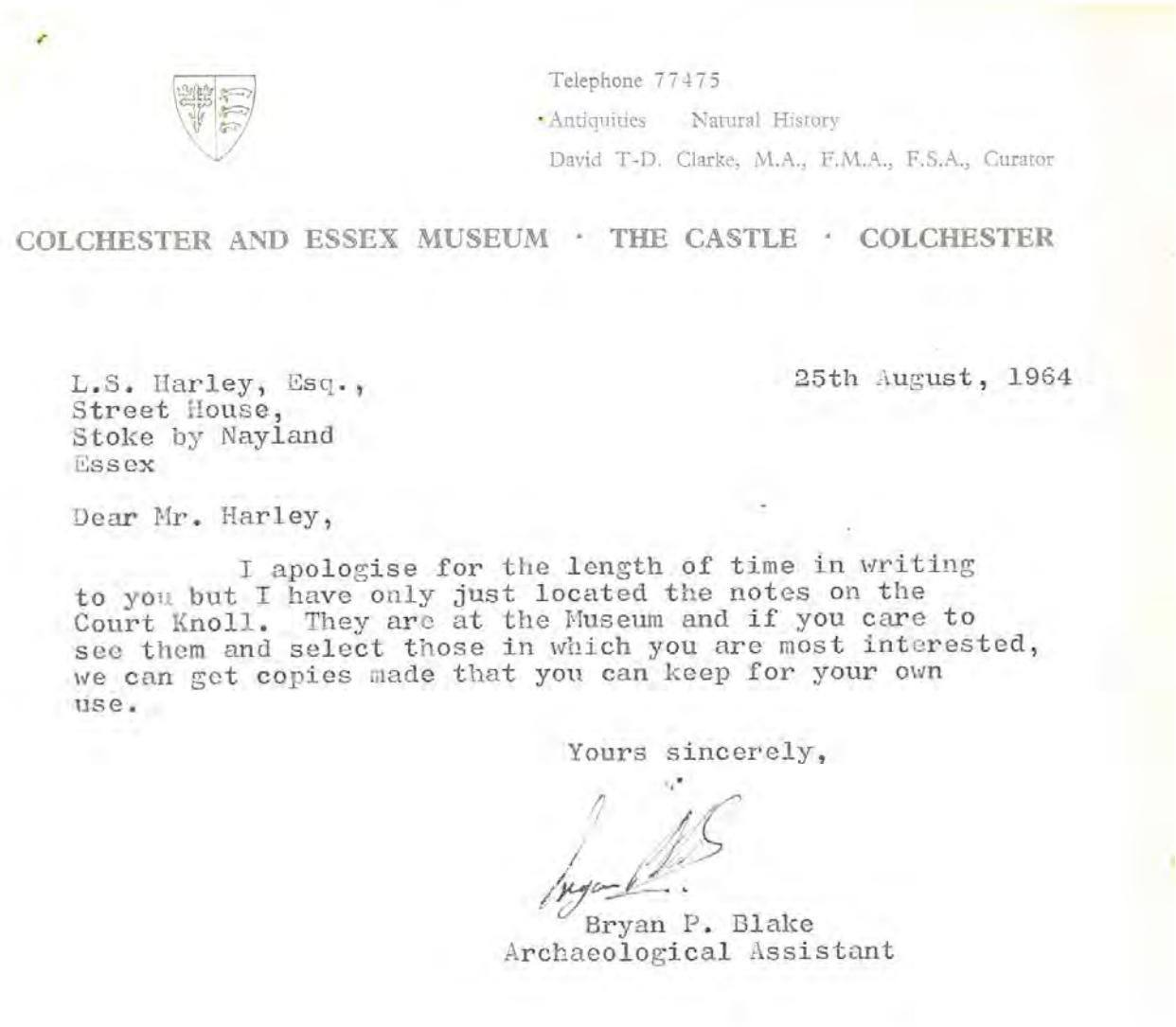
Ernest E. [sic] Cooper

Likely to be Ernest Read Cooper, solicitor, b.1865. He served as “Southwold Town Clerk, captain of the fire brigade, manager of the harbour, and member of the lifeboat crew” (*Civvies: Middle-class men on the English Home Front, 1914-18 by Laura Ugolin*i)

Cooper authored various books, mainly based on the Suffolk coast.

The ‘E.’ given as his middle name is probably a transcription error- the document in the archive material is a copy of a presumably hand-signed letter.

The site attracted further academic interest from L.S. Harley in the 1960’s. Documents show that Harley was living in Stoke by Nayland in 1964 when he contacted the Colchester and Essex Museum about the site:



Telephone 77475
Antiquities Natural History
David T-D. Clarke, M.A., F.M.A., F.S.A., Curator

COLCHESTER AND ESSEX MUSEUM · THE CASTLE · COLCHESTER

L.S. Harley, Esq.,
Street House,
Stoke by Nayland
Essex

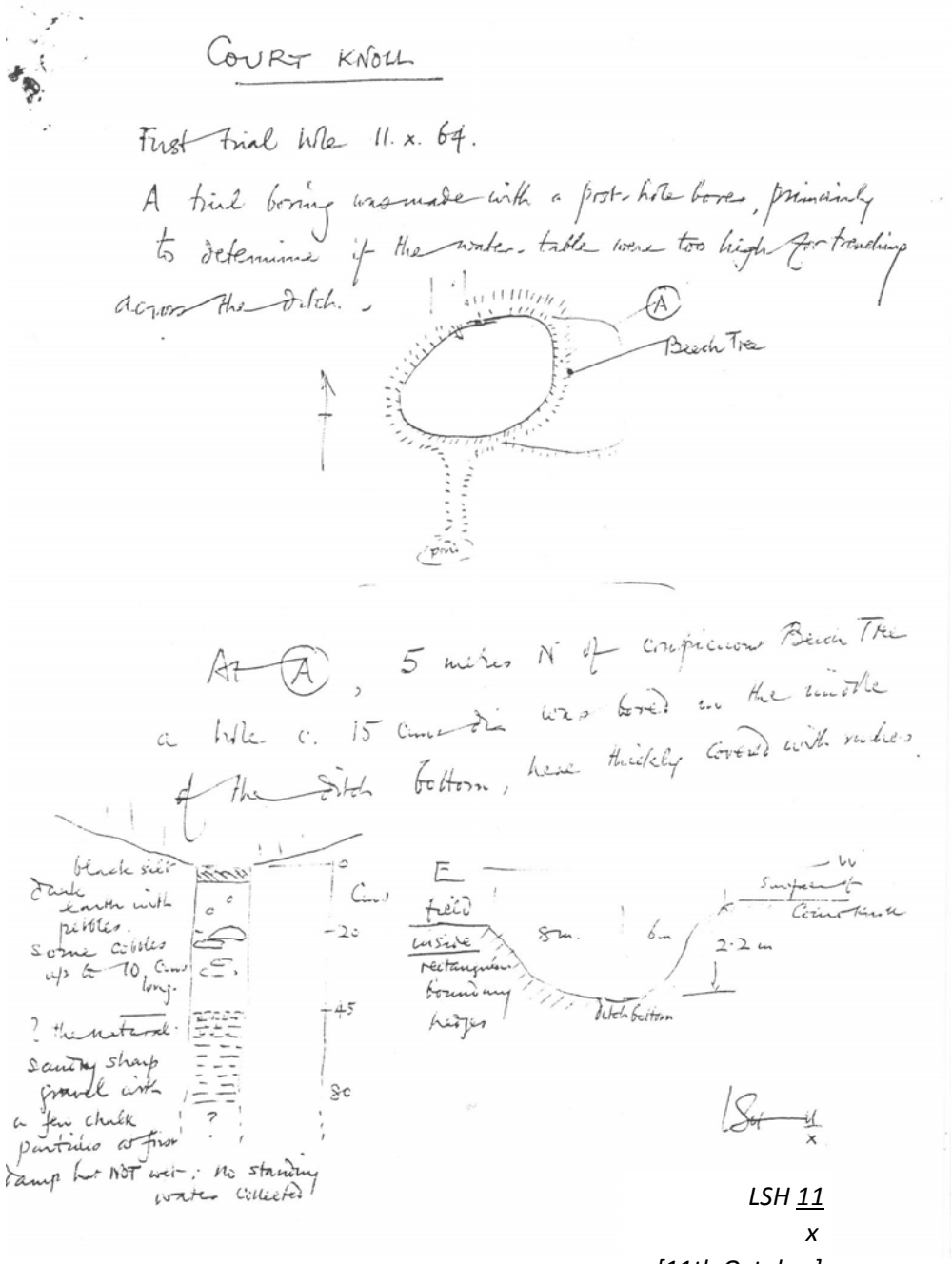
25th August, 1964

Dear Mr. Harley,

I apologise for the length of time in writing to you but I have only just located the notes on the Court Knoll. They are at the Museum and if you care to see them and select those in which you are most interested, we can get copies made that you can keep for your own use.

Yours sincerely,

Bryan P. Blake
Archaeological Assistant



LSH 11
x
[11th October]

This annotated plan by Harley records the excavation of a bore hole through the outer ditch in October 1964 in order to assess the feasibility of trenching across the ditch.

First trial hole 11.x.64. [11th October 1964]

A trial hole boring was made with a post-hole bore, primarily to determine if the water-table were too high for trenching across the ditch.

At A, 5 metres N of [?] Beech Tree
a hole c.15cm dia[meter] was bored in the middle of the ditch bottom, here thickly covered with [?]

black silt
dark
earth with
pebbles
some cobbles
up to 10cm long

? the natural
sandy sharp
gravel with
a few chalk
particles at first
damp but NOT wet; no standing
water collected

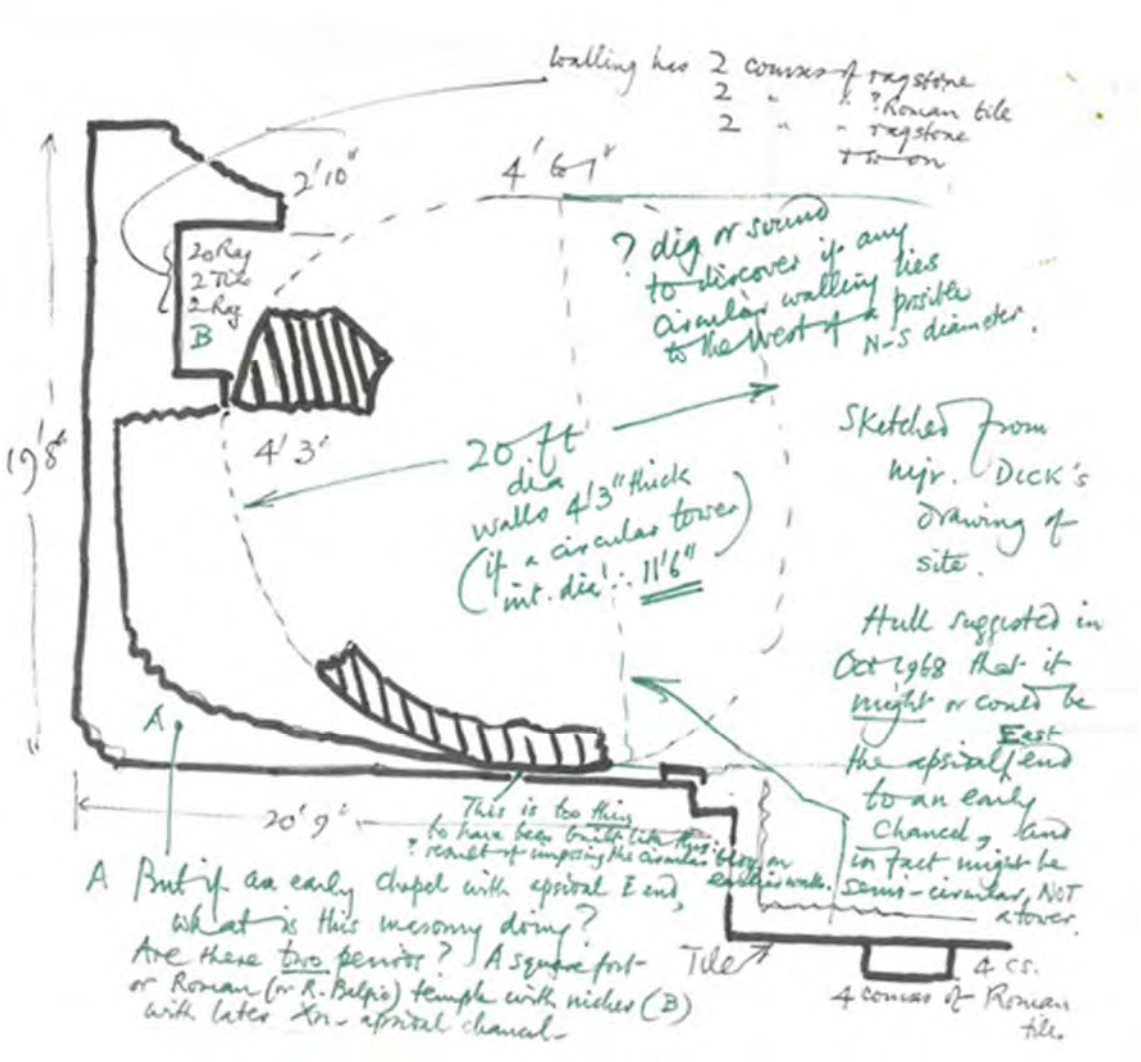
field

inside
rectangular
boundary
hedges

surface of
Court Knoll

ditch bottom

It is not known whether further fieldwork was carried out, but other annotations show that Harley was still considering and discussing the site with Mark Reginald (Rex) Hull, a former curator of the Colchester and Essex Museum, in October 1968.



? dig or sound to discover if any circular walling lies to the West of a possible N-S diameter

20ft dia[meter]

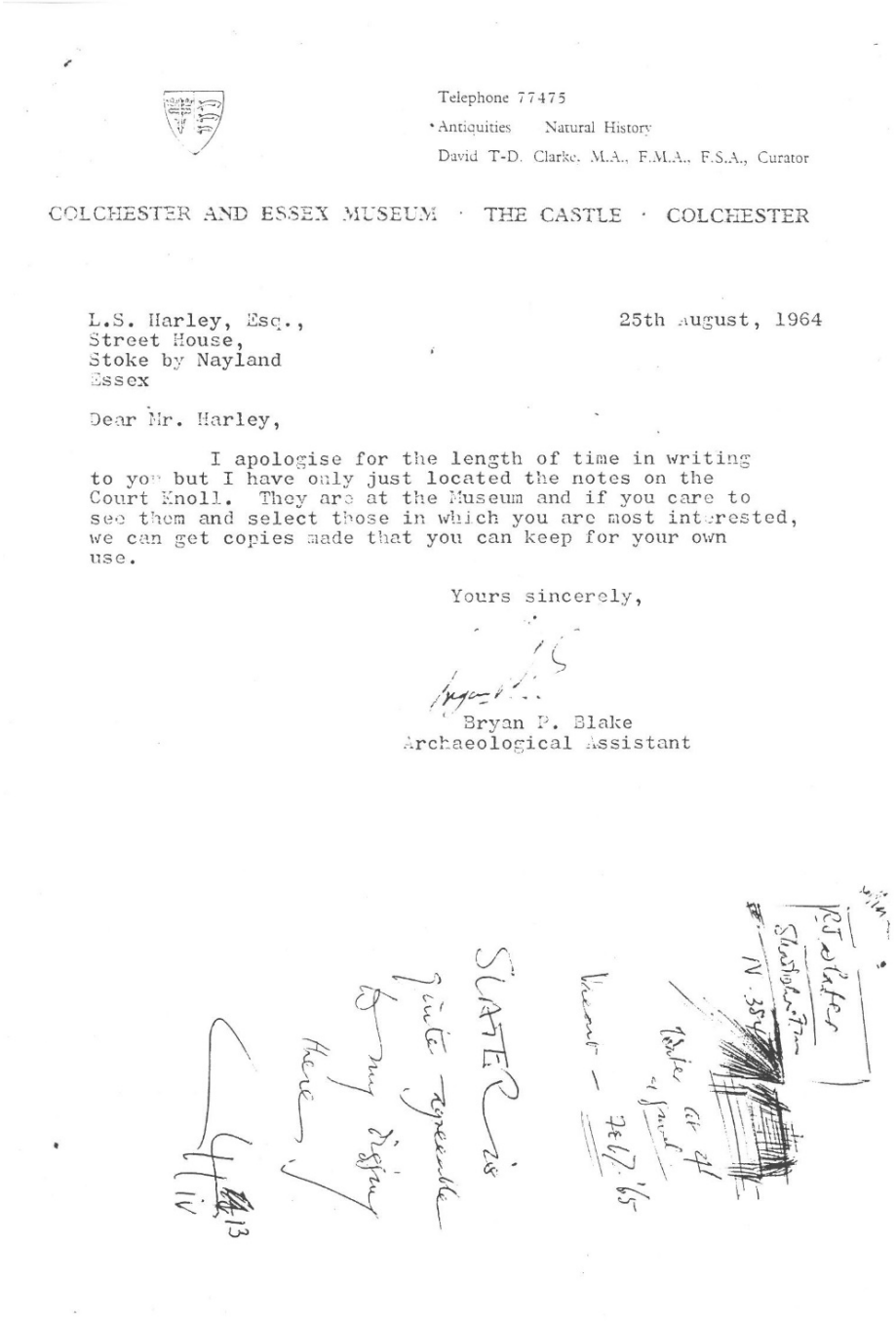
walls 4'3" thick (if a circular tower) int[ernal] dia[meter] ∴ [therefore] 11'6"

Sketched from Mjr. Dick's drawing of site

Hull suggested in Oct 1968 that it might or could be the apsidal East end to an early chancel, and in fact might be semi-circular NOT a tower.

This is too thin to have been built like this: ?result of imposing circular building on earlier work

A But if an early chapel with apsidal E end, what is this masonry doing? Are there two periods? A square fort or Roman (or R.[omano] Belgic) temple with niches (B) with later Xn [Christian] apsidal chancel



Telephone 77475
Antiquities Natural History
David T-D. Clarke, M.A., F.M.A., F.S.A., Curator

COLCHESTER AND ESSEX MUSEUM · THE CASTLE · COLCHESTER

L.S. Harley, Esq.,
Street House,
Stoke by Nayland
Essex

25th August, 1964

Dear Mr. Harley,

I apologise for the length of time in writing to you but I have only just located the notes on the Court Knoll. They are at the Museum and if you care to see them and select those in which you are most interested, we can get copies made that you can keep for your own use.

Yours sincerely,

Bryan P. Blake
Archaeological Assistant

A second copy of Harley's letter from Colchester and Essex Museum has some notes at the bottom which suggest that he was at least researching the possibility of excavation elsewhere in Nayland, although his target is not clear.

R.J. Slater Shaddelows Farm

IV/N.384 [?]

Water at 4' of gravel

Vacant- Feb[?]. '65

SLATER is quite agreeable to my digging there

LH 13 iv [13th April]

Historic England

EAST OF ENGLAND OFFICE

Ms Andora Carver
Nayland with Wissington Conservation Society
Mill House
Nayland
Suffolk
CO6 4HU

Direct Dial: 01223 582751

Our ref: S00142079

15 August 2016

Dear Ms Carver

Ancient Monuments and Archaeological Areas Act 1979 (as amended); Section 2 control of works
Application for Scheduled Monument Consent

COURT KNOLL, NAYLAND AND WISSINGTON
Scheduled Monument No: SM SF 115, HA 1003757
Our ref: S00142079
Application on behalf of The Nayland with Wissington Conservation Society

1. I am directed by the Secretary of State for Culture, Media & Sport to advise you of the decision regarding your application for Scheduled Monument Consent received 6 July 2016 in respect of proposed works at the above scheduled monument concerning a programme of archaeological evaluation comprising up-to seven hand dug trenches and test pits, undertaken as a community research project. All on-site and post-excavation works would be undertaken in line with the Written Scheme of Investigation (Suffolk Archaeology CIC, July 2016). The works were detailed in the following documentation submitted by you:

- Historic England Pre-application Consultation - Reference PA00430265
- Court Knoll, Nayland with Wissington, Suffolk: Proposal for Archaeological Investigation (John Newman Archaeological Services, April 2016)
- Court Knoll Community Excavation, Nayland with Wissington: Written Scheme of Investigation (Suffolk Archaeology CIC, July 2016)
- Site location Plan (within WSI)
- Proposed Trench Location Plans (within WSI)
- Licence Issued by Trustees of Tendring Hall Estate

2. In accordance with paragraph 3(2) of Schedule 1 to the 1979 Act, the Secretary of State is obliged to afford you, and any other person to whom it appears to the Secretary of State expedient to afford it, an opportunity of appearing before and being heard by a person appointed for that purpose. This opportunity was offered to you by

Historic England and you have declined it.

3. The Secretary of State is also required by the Act to consult with the Historic Buildings and Monuments Commission for England (Historic England) before deciding whether or not to grant Scheduled Monument Consent. Historic England considers the effect of the proposed works upon the monument to be beneficial for the preservation of the monument, presentation and public enjoyment of the monument, but necessitating ground disturbance. Necessary archaeological evaluation, supervision and recording arrangements are included within the application, supported by a full research design and a Written Scheme of Investigation which reasonably justifies the controlled destruction of buried archaeological evidence. This includes the detailed professional recording and analysis of the results and their preservation in archival and published form in order substantially to increase understanding of the monument, as well as the monument class and archaeology of the period. The archaeological evaluation would provide information on the extent, depth and nature of archaeological deposits, which will underpin decisions on the management of the monument and changes in its land use. The effects of the works on the setting of the monument have also been assessed and are not considered to be an overriding factor in this instance.

I can confirm that the Secretary of State is agreeable for the works to proceed providing the conditions set out below are adhered to, and that accordingly Scheduled Monument Consent is hereby granted under section 2 of the 1979 Act for the works described in paragraph 1 above, subject to the following conditions:

The following conditions are intended to ensure a degree of quality control over the works, irrespective of type:

i. The works to which this consent relates shall be carried out to the satisfaction of the Secretary of State, who will be advised by Historic England. At least 4 weeks' notice (or such shorter period as may be mutually agreed) in writing of the commencement of work shall be given to Nick Carter, Assistant Inspector of Ancient Monuments, in order that an Historic England representative can inspect and advise on the works and their effect in compliance with this consent.

ii. The specification of work for which consent is granted shall be executed in full. Any changes to the proposed, design and specification for which consent has been granted will need to be agreed by under the terms of condition i

iii. Photographs shall be prepared of the monument before the start and after

completion of the works and a digital set shall be sent to Historic England (*Sophie Cattier, Business Officer Bedfordshire - sophie.cattier@historicengland.org.uk <mailto:sophie.cattier@historicengland.org.uk>*) within 3 months of the completion of the works.

iv. This consent may only be implemented by The Nayland with Wissington Conservation Society, nominated volunteers and their appointed archaeological contractors (Suffolk Archaeology CIC).

v. The consented works shall be undertaken under the archaeological supervision of Suffolk Archaeology CIC and their nominated project team. No works shall commence until Suffolk Archaeology CIC has confirmed in writing to Historic England that they are willing and able to undertake the agreed supervision.

vi. No works to which this consent relates shall be begun until the Secretary of State, advised by Historic England, is satisfied that adequate funding has been secured to ensure the completion of the project.

vii. The on-site archaeological works shall be undertaken in-line with the Written Scheme of Investigation (Suffolk Archaeology CIC, July 2016), submitted to and approved in writing by Historic England on behalf of the Secretary of State. The Written Scheme of Investigation (WSI) has also set out the agreed provision for post-excavation assessment (including the removal of material from the scheduled monument) publication, dissemination, archiving and environmental sampling (where appropriate).

viii. All works will be undertaken by hand and there will be no mechanical excavation.

ix. Geophysical Survey and metal detecting can be undertaken in line with Section 42 Licence SL00136904 and in line with the WSI. The excavation / recovery of identified metal detecting signals are constrained to spoil heaps and open trenches. Any excavation within the trench footprint must be undertaken under controlled archaeological conditions and supervison, as set out in the WSI.

x. All those involved in the implementation of the works granted by this consent must be informed by The Nayland with Wissington Conservation Society

and Suffolk Archaeology CIC that the land is designated as a scheduled monument under the Ancient Monuments and Archaeological Areas Act 1979 (as amended); the extent of the scheduled monument as set out in both the scheduled monument description and map; and that the implications of this designation include the requirement to obtain Scheduled Monument Consent for any works to a scheduled monument from the Secretary of State prior to them being undertaken.

xi. Equipment and machinery shall not be used or operated in the scheduled area in conditions or in a manner likely to result in damage to the monument or ground disturbance, other than that which is expressly authorised in this consent.

xii. This consent for the on-site archaeological works shall cease to have effect on 3rd October 2016.

xiii. All ground excavations shall be backfilled within one month of the completion of onsite works, to the satisfaction of the Secretary of State, who will be advised by Historic England. The site should be remediated to return to its post-work condition.

xiv. Any masonry remains exposed in the course of the excavation shall be backfilled within one month of the completion of the excavation. Prior to the backfilling, the need for protection works (if necessary) shall be discussed and agreed with Historic England and implemented to the satisfaction of the Secretary of State who will be advised by Historic England.

xv. A summary excavation report and post-excavation assessment shall be sent to Historic England and Suffolk Historic Environment Record within 3 months (or such other period as may be mutually agreed) of completion of the on-site works. Unless otherwise agreed, within 3 years of completion of the works a full site archive (and assessment) shall be prepared and deposited in the Suffolk Historic Environment Record and a final report of the excavation (and analysis) shall be prepared and made available for publication in a vehicle acceptable to the Secretary of State advised by Historic England. The National Monuments Record shall also be invited to receive copies of both archive and report.

xvi. The contractor shall complete and submit an entry on OASIS (On-line Access to the Index of Archaeological Investigations - http://oasis.ac.uk/england/) prior to project completion, and shall deposit any

digital project report with the Archaeology Data Service, via the OASIS form, upon completion

4. By virtue of section 4 of the 1979 Act, if no works to which this consent relates are executed or started within the period of five years beginning with the date on which this consent was granted (being the date of this letter), this consent shall cease to have effect at the end of that period (unless a shorter time period is set by a specific condition above).

5. This letter does not convey any approval or consent required under any enactment, bye law, order or regulation other than section 2 of the Ancient Monuments and Archaeological Areas Act 1979.

6. Your attention is drawn to the provisions of section 55 of the 1979 Act under which any person who is aggrieved by the decision given in this letter may challenge its validity by an application made to the High Court within six weeks from the date when the decision is given. The grounds upon which an application may be made to the Court are (1) that the decision is not within the powers of the Act (that is, the Secretary of State has exceeded the relevant powers) or (2) that any of the relevant requirements have not been complied with and the applicant's interests have been substantially prejudiced by the failure to comply. The "relevant requirements" are defined in section 55 of the 1979 Act: they are the requirements of that Act and the Tribunals and Inquiries Act 1971 and the requirements of any regulations or rules made under those Acts.

Yours sincerely

Nick Carter
Assistant Inspector of Ancient Monuments
E-mail: nick.carter@HistoricEngland.org.uk
For and on behalf of the Secretary of State for Culture, Media and Sport

cc. Abby Antrobus, Senior Archaeological Officer, Suffolk County Council Archaeological Service

APPENDIX H: OASIS REPORT FORM

OASIS Summary for cotswold2-533986

OASIS ID (UID)	cotswold2-533986
Project Name	Research Excavation at Court Knoll
Sitename	Court Knoll
Sitecode	NYW 006
Project Identifier(s)	NYW 006 Court Knoll
Activity type	Research Excavation
Planning Id	
Reason For Investigation	Community partnership
Organisation Responsible for work	Cotswold Archaeology, Nayland with Wissington Conservation Society
Project Dates	02-Sep-2016 - 16-Oct-2016
Location	Court Knoll NGR : TL 97500 34000 LL : 51.969372517862254, 0.873722950950661 12 Fig : 597500,234000
Administrative Areas	Country : England County/Local Authority : Suffolk Local Authority District : Babergh Parish : Nayland-with-Wissington
Project Methodology	Seven trenches excavated by hand to test geophysical results
Project Results	Added considerable evidence to the form, dating and function of the Scheduled monument
Keywords	Church - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Moat - EARLY MEDIEVAL - FISH Thesaurus of Monument Types Oven - MEDIEVAL - FISH Thesaurus of Monument Types Ditch - MEDIEVAL - FISH Thesaurus of Monument Types Pit - MEDIEVAL - FISH Thesaurus of Monument Types Wall - POST MEDIEVAL - FISH Thesaurus of Monument Types Tower - MEDIEVAL - FISH Thesaurus of Monument Types
Funder	Other nonprofit organization Cotswold Archaeology,Other charitable organization Dedham Vale AONB,Other charitable organization CBA,Other charitable organization Society for Church Archaeology,Historic England ,Local society or group Nayland With Wissington Conservation Society
HER	Suffolk HER - unRev - STANDARD Scheduled Monument Casework - unRev - STANDARD
Person Responsible for work	Joanna Caruth
HER Identifiers	HER Monument No - NYW 006
Archives	Physical Archive, Documentary Archive, Digital Archive - to be deposited with Historic England Archive;

Report generated on: 07 Aug 2025, 13:21

APPENDIX I: WSI

SUFFOLK ARCHAEOLOGY

• A HISTORY OF EXPERTISE •

Court Knoll Community Excavation

Nayland with Wissington

Client: Nayland with Wissington Conservation Society

Date: July 2016

NYW 006
Project Design
Author: Jo Caruth with contributions from John Newman
Archaeological Services

Contents

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Project details

Grid Reference:	TL 9750 3400
Area this WSI refers to:	0.901ha
HER Event No/Site Code:	TBC/NYW 006
Scheduled Monument reference	Suffolk 115
Oasis Reference:	TBC
SA Job Code:	TBC**
Project Start date:	c. September 2016
Fieldwork Duration :	2-3 weeks

	Name	Contact
Client/Funding Body:	Nayland with Wissington Conservation Society	
Client contact:	Andora Carver	carversnayland@talktalk.net
SA Project Manager:	Jo Caruth	Joanna.caruth@suffolkarchaeology.co.uk 01449 900121; 07764 317411
SA Project Officer:	Linzi Everett	linzi.everett@suffolkarchaeology.co.uk 01449 900124; 07753 788606
SCCAS contact:	Faye Minter	Faye.minter@suffolk.gov.uk 01284 741288
Historic England contact:	Nick Carter	Nick.Carter@HistoricEngland.org.uk 01223 582751; 07585 996197
SA Outreach Officer	Alex Fisher	Alex.Fisher@suffolkarchaeology.co.uk 01449 900125;

Glossary of abbreviations

AONB	Area of Outstanding Natural Beauty
CIfA	Chartered Institute for Archaeologists
EAA	East Anglian Archaeology
HE	Historic England
HER	Historic Environment Record
HLS	Higher Level Stewardship
ICON	The Institute of Conservation
JNAS	John Newman Archaeological Services
NWCS	Nayland with Wissington Conservation Society
OD	Ordnance Datum
PPE	Personal Protective Equipment
PXA	Post-excavation assessment
SACIC	Suffolk Archaeology Community Interest Company
SCCAS	Suffolk County Council Archaeological Service
SMC	Scheduled Monument Consent
TTHE	Trustees of the Tendring Hall Estate

1. The project

1.1 Following the geophysical survey which has identified the presence of a series of archaeological features including an apparently apsidal building at Court Knoll, Nayland with Wissington, up to seven hand-dug trenches are proposed to investigate these results. In addition to 'ground-truthing' the geophysical results the project will offer an opportunity to assess the condition of the archaeological remains across the site, and evaluate the impact of former agricultural practices and any current threats to future preservation.

1.2 The digging will be carried out by members of the local community and Nayland with Wissington Conservation Society (NWCS) under the direction of Linzi Everett, a Project Officer with Suffolk Archaeology CIC.

1.3 Court Knoll appears to be a fortified settlement dating to 11th century AD and is protected as a Scheduled Monument. It is also within the Higher Level Stewardship scheme which increases protection by an agreement to reduce the impact of permitted activities. Scheduled Monument Consent and a derogation from Natural England are required for any works within the site.

1.4 Access to Court Knoll is controlled by the Trustees of the Tendring Hall Estate, and a licence to carry out the excavation has been obtained by Nayland and Wissington Conservation Society.

1.5 The site work will take place between September 2nd and September 30th 2016.

2. Archaeological and historical background

By John Newman Archaeological Services

2.1 As described in its SM listing Court Knoll is a ‘D’ shaped earthwork just above the flood plain of the River Stour with a higher area in its north-eastern quarter. The monument is of a type often referred to as a ‘ring work,’ having an enclosed area of just under 2 hectares, surrounded by a low mound, or vestige of a rampart, with an external ditch.

2.2 Various studies have been undertaken with regard to the historical background to Court Knoll (Breen, 2001; Martin, 2007) and, in summary, there is clear evidence for the site having manorial status in the medieval period with a range of buildings including a solar and a chapel. In addition, it is recorded in the Domesday Book of 1086 that Swein of Essex held this site and related lands and before him at 1066 it was held by his father, Robert son of Wimarc. This latter record is of particular interest as Robert was of Norman and Breton, not English, ancestry and in addition to being an advisor to Edward the Confessor and to William the Conqueror, and Sheriff of Essex, was one of the few major landholders who was not dispossessed after 1066. With such a high status family holding Court Knoll from before 1066 it is therefore possible to suggest that it originated as a late Saxon period church and hall complex within a defended enclosure as a thegn’s residence and the Continental influence from Robert son of Wimarc is potentially significant in the detail of the development of the site.

2.3 Court Knoll then went into decline in the later medieval period with an absentee landholder and by the mid-18th century the historian Morant could only record the ruinous foundations of the chapel as being visible.

2.4 Before the recent survey work at Court Knoll two previous periods of archaeological investigation are recorded. The first by Major W F Dick in 1924 entailed small scale excavations in the area of the low mound in the north-eastern quarter of the site and few records survive though contemporary photographs do show well preserved walls and it is at least known that these incorporated re-used Roman tile. However

recent survey work by Dr Dennis has been able to identify this excavation area more securely from the notes left in the small archive that survives.

2.5 The second period of archaeological investigation at Court Knoll was in 2001 and following a geophysical survey a community based field walking survey was carried out under professional supervision (Everett & Anderson, 2001). This surface collection was carried out intensively on a gridded basis and it resulted in the collection of a small number (11) of 11th-12th century pottery sherds, a larger quantity (507) of 12th-13th sherds and a large quantity of brick and tile fragments. Most notably the latter assemblage included 35kg of Roman tile with clear evidence for post-Roman re-use and a concentration in the area of the low mound in the north- eastern quarter of the site which is also the area of the 1924 excavation. It is also of interest that much of the 106kg of post-Roman roof tile was recovered to the south of the low mound towards the south-eastern quarter of the site.

2.6 Finally the detailed geophysical and topographic survey work and analysis by Dr Dennis has recorded highly significant results with the definition of a structure on the low mound in the north-eastern quarter of Court Knoll with a central chamber, an apsidal western end and square ancillary chambers on its southern, eastern and western sides. In addition, there is another less well defined structure to the north-east of the main structure, again with evidence of a western apsidal end and on the south-western side of the mound a possible rectangular hall type structure. In addition, and as noted above, Dr Dennis has been able to more securely identify the location of the 1924 excavation in the area of the main apsidal structure on the mound.

3. Project Objectives

By John Newman Archaeological Services, with contribution from the author. See Appendix 1 for the complete proposal.

The aims of the project are to:

3.1 To test the results of the geophysical survey, both the probable buildings and other more ephemeral features, thus allowing more confident interpretation of the existing and any future non-intrusive surveys.

3.2 To assess the impact on the archaeological remains of the historic cultivation of the site, in line with the objectives of Historic England's Conservation of Scheduled Monuments in Cultivation (COSMIC) programme, and to evaluate the beneficial impact of the current land-management of the site under the HLS scheme.

3.3 To engage the local community in the research of their nationally important monument, encouraging wider local participation, training volunteers in archaeological work to professional standards and to disseminate the results to a local and wider interested audience

3.4 To provide information that will lead to a better understanding of the date, function and character of the Court Knoll complex. In particular to:

- Examine the main structure with the western apsidal end on the low mound with regard to its state of preservation, function and date of construction, addressing specific research questions relating to it: Can this structure be identified as a chapel/church? If so can a Continental inspiration related to Robert son of Wimarc be recognised and an overall pre-conquest date for the overall complex confirmed? Can this structure be securely dated to the period when Court Knoll was held by Robert son of Wimarc and then by Swein?
- Record the 1924 excavation trench which is located at the site of the apsidal structure on the low mound and relate these findings to any extant archives from

1924. This has the advantage that only already disturbed ground would be investigated in the case of this proposed trench.

- Confirm the presence and state of preservation and date of a second structure to the north-east of the main structure on the low mound where survey evidence also suggests the presence of a western apse.
- Examine the possible hall type structure recorded by geophysical survey on the south-western side of the low mound to gain evidence relating to its structural form, state of preservation and date of construction and use, and its relationship with adjacent structures.
- To examine how the probable structures relate to adjacent geophysical anomalies?
- To examine the evidence for internal enclosures, and other evidence for the internal layout of the site. The structural evidence appears to be focussed in the east side of the site. Is this in fact the case? If so, is there evidence for the use of the rest of the site? Is there any evidence for burials or a cemetery?

3.5 To investigate the apparent evidence for a Roman presence with particular regard to the dating of the brick and tile with a view to enhancing either the understanding of the re-use of Roman material (an apparently common phenomenon in the local area) or the appearance of very early medieval ceramic building material at Nayland.

The objectives above reflect regional research goals in general terms. A better understanding of the medieval hall and church complex lying at the centre of many parishes originating in the late Saxon to 11th/12th century period, is a recognised regional research objective (Medlycott, 2011, 58 & 70). The work will also contribute to the study of the significance and development of settlement within the valley of the River Stour. The project also addresses Historic England objectives, assessing condition and risk, increasing the communal value of the site and enhancing the Scheduled Monument record for Court Knoll.

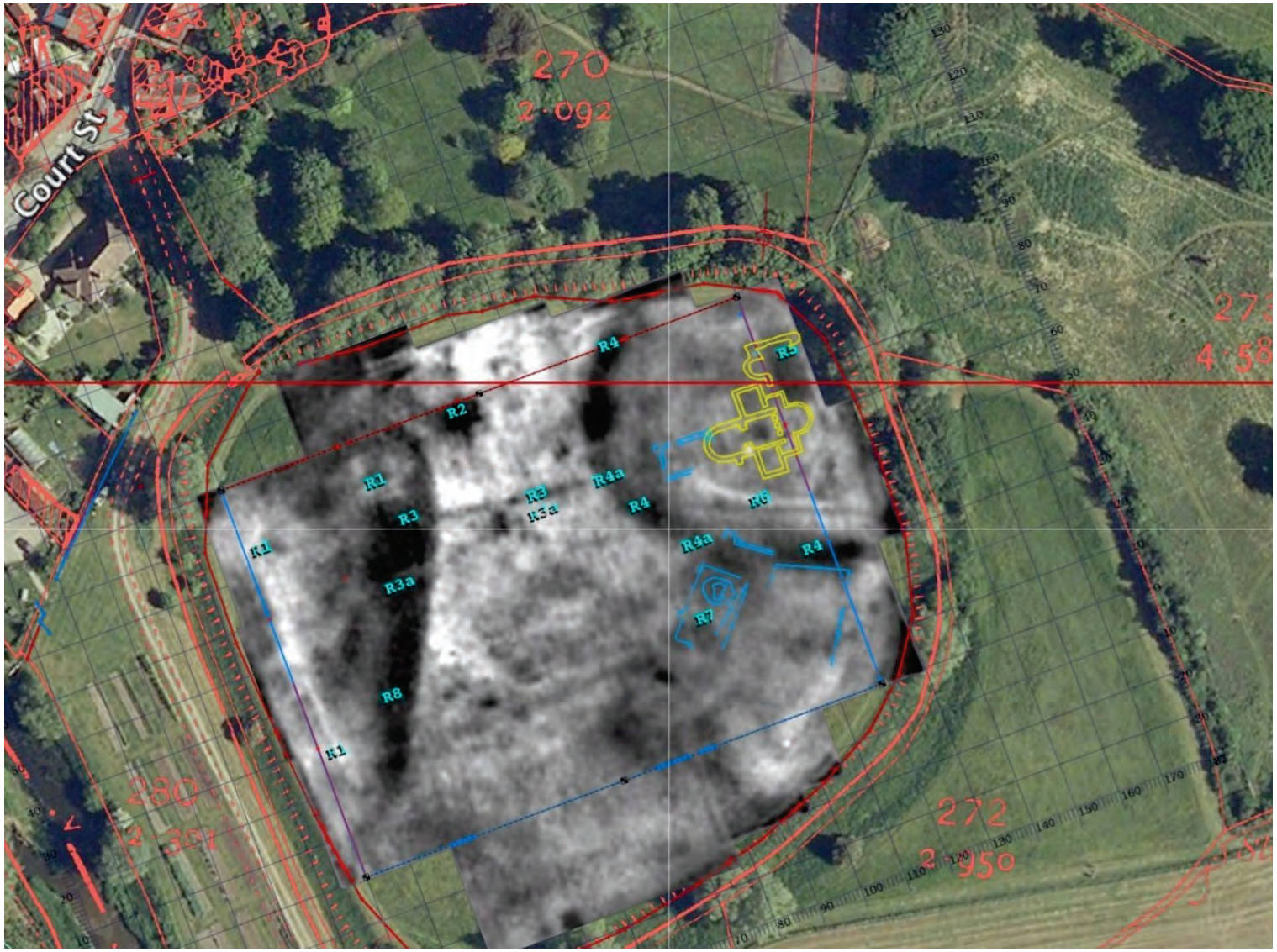

Figure 1. Plan showing Geophysical Survey and interpretation (Dennis 2015)

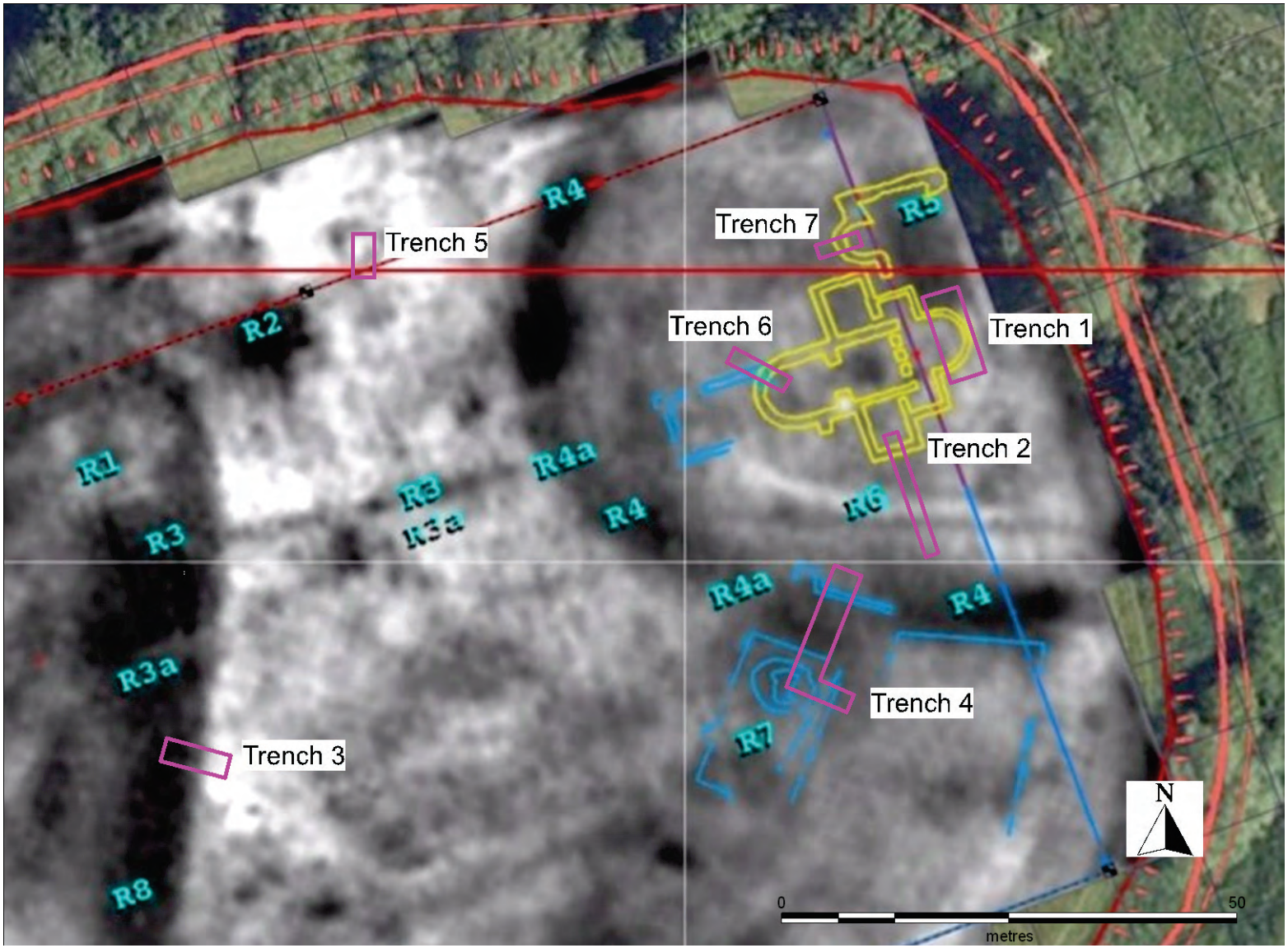

Figure 2. Proposed trench location and geophysics

4. Archaeological method statement

4.1 Management

4.1.1 The project will be managed by the local co-ordinating body, Nayland with Wissington Conservation Society assisted by SACIC Senior Project Officer Jo Caruth broadly in accordance with the principles of *Management of Research in the Historic Environment* (MoRPHE, English Heritage 2006).

4.1.2 Officers from both SCCAS and Historic England will be kept informed as work progresses and they will be welcome to visit and offer advice and oversight.

4.1.3 Full details of the professional Suffolk Archaeology project staff, are given in Appendix 2.

4.2 Project preparation

4.2.1 The existing site code NYW 006 and a new event number (still to be obtained from the Suffolk Historic Environment Record) will be included on all project documentation.

4.2.2 An OASIS online record will be initiated and key fields in details, location and creator forms completed prior to fieldwork.

4.2.3 A licence for the work has been obtained from the Trustees of Tendring Hall Estate, a derogation for the HLS has been obtained from Natural England and Scheduled Monument Consent granted by Historic England.

4.2.4 Grants for the work have been obtained from the Sustainable Development Fund of Dedham Vale AONB and Suffolk Coast & Heaths AONB, and from Nayland with Wissington Conservation Society and Nayland with Wissington Community Council.

4.2.5 A pre-site inspection and Risk Assessment for the project will be completed before any work starts on site. Insurance to cover the project has already been arranged by NWCS, and Suffolk Archaeology also has appropriate insurance policies in place.

4.2.6 All volunteers will take part in an introductory session to the project before working on site, which will include the project objectives, methods, reporting lines, protocols and health and safety issues.

4.3. Fieldwork

4.3.1 Up to seven trenches totalling a *maximum* of 154m square will be excavated to address the research questions. All trenches will allow examination of the survival and quality of preservation of the below ground remains, the impact of historic agricultural activity on the archaeological horizons and will allow an assessment of the interpretation of the geophysical results. Trenches will be located using the existing geophysical survey grid. Trenches will be opened in the numbered sequence.

Trench 1: N-S aligned 10m x 4m designed to investigate the eastern end of the main building, and to reopen the 1924 trench.

Trench 2: SSE-NNW aligned 14m x 1.5m designed to investigate the southern cell of the main apsidal ended building. The trench is located to examine the wall construction, the area outside the building and a linear feature (R6) on the geophysical survey.

Trench 3: SE-NW aligned, 7m x 2m, designed to examine an area of contrasting geophysical results tentatively interpreted as indicative of an internal enclosure.

Trench 4: An ‘L-shaped’ trench, 15m x 3m and 4m x 1.5m, designed to investigate a possible hall located to the south-west of the main complex, to investigate its possible hearth, to examine another apparent structure to the north of it and a possible internal moat. If *in situ* fired clay remains of the hearth are identified and if the remains are suitable, resources could be made available to allow archaeomagnetic dating of the structure, if this is likely to contribute to the research objectives. The wider length of the trench is designed to allow for stepped sections if depths greater than 1.2m are required across the putative internal moat.

Trench 5: N-S aligned, 5m x 2m to investigate an area of anomalies in the north-centre of the enclosure.

Trench 6: 7m x 1.5m NW-SE aligned designed to examine the junction between the apse of the possible Church and another less well defined and probably not contemporary building.

Trench 7: ENE-WSW aligned 5m x 1.5m designed to investigate the evidence for a further building to the north-east with a possible apsidal end, to establish its construction method and current condition. Comparison with the results of Trenches 1, 2 and 6 will help interpret evidence of construction sequence and contemporaneity between the buildings.

No more than three (two if there are insufficient volunteers to staff three) trenches will be worked upon at any one time, although completed trenches will be kept open until the end of the excavations to enhance interpretation and allow for photography and site visits. Trenches will not be de-turfed until they are to be excavated. It is anticipated that trenches will be opened in number sequence although the Project Officer reserves the right to adjust the sequence to suit the ground and weather conditions, number of volunteers, and in the light of results already obtained.

4.3.2 Fieldwork will be carried out by up to 20 volunteers at any one time, made up of members of the Nayland and Wissington Conservation Society, interested members of the local community and members of the Colchester Archaeological Group and the Stour Valley Community Archaeology volunteers. All Fieldwork will be carried out under the supervision of an experienced Suffolk Archaeology Project Officer with knowledge of the archaeology of Court Knoll.

4.3.3. Fieldwork will take place between 1st and 30th September 2016.

4.3.4 Fieldwork standards will be guided by ‘Standards for Field Archaeology in the East of England’, EAA Occasional Papers 14, and the IFA paper ‘Standard and Guidance for archaeological excavation’, revised 2014.

4.3.5 Suffolk Archaeology will provide the services of an Outreach Officer to help in the training and informing of the local community volunteers as appropriate.

4.3.6 A plan showing the areas for investigation is shown in Figure 1. The trench locations will be marked out using a RTK GPS system or a Total Station Theodolite.

4.4 Fieldwork method statement

4.4.1 Turf will be removed by hand and placed near the trenches for replacement at the end of the project.

4.4.2 Overburden will be removed by hand in shallow spits (no more than 10cm deep) until archaeological deposits are identified.

4.4.3 Topsoil will be kept separately from subsoil and archaeological deposits for sequential backfilling

4.4.4 All removed soil will be passed through a 10mm sieve for finds retrieval.

4.4.5 Archaeological deposits will be cleaned by hand and fully recorded both photographically and by hand-drawn plans and sections.

4.4.6 Archaeological deposits will only be removed if necessary to achieving the project objectives. No archaeological deposit will be 100% removed.

4.4.7 Solid or bonded structural remains will be left intact. Any fabricated surface (floors, yards etc.) will be fully exposed and cleaned; these may be subject to small-scale sample excavation to establish the stratigraphic sequence but will otherwise be left intact.

4.4.8 If extensive buried archaeological deposits are encountered, these will be recorded by 1m square rather than only by stratigraphic unit.

4.4.9 Two members of Stour Valley Community Archaeology (SVCA) will undertake metal detector investigation throughout the excavation. All metal detecting will be under archaeological control, and excavation/recovery of finds limited to the open trenches and spoil-heaps in compliance with the conditions of the SMC.

4.4.10 If cut features are identified these will be sampled up to 50% of the fill, unless more can be justified in order to address the project objectives.

4.4.11 Where the results could enhance the interpretation of the use of the building or internal areas of Court Knoll environmental samples will be taken and assessed for the presence of palaeoenvironmental remains following appropriate guidance (English Heritage 2011). The bulk samples will consist of either 100% or 40L of the deposited material (whichever is lower) in order to recover sufficient evidence for accurate assessment. Following these assessments any further required analysis will be decided through consultation with HE.

4.4.12 The importance of establishing accurate dating information in order to tie in with the documentary evidence will be prioritised. If essential to the adequate interpretation of the site, additional funds could be made available to cover radiocarbon or archaeomagnetic dating.

4.4.13 Site recording will be carried out by the Suffolk Archaeology Project Officer and such volunteers who are interested and capable under the Project Officer's direction. It is recognised that training members of the local group in archaeological recording will deliver long term beneficial outcomes.

4.4.14 All archaeological features and deposits will be recorded using standard pro forma SA registers and recording sheets and numbering systems. Record keeping will be consistent with the requirements of the Suffolk HER and will be compatible with its archive.

4.4.15 Trench plans will be recorded by hand at 1:20 and individual features within them at a scale of 1:10 or 1:20 as appropriate to the complexity of the archaeological results. All excavated sections will be recorded at a scale of 1:10 or 1:20, also as appropriate to complexity. All such drawings will be in pencil on A3 pro forma gridded permatrace sheets. All levels will refer to Ordnance Datum.

4.4.16 A photographic record, consisting of high resolution digital images (using 8-12 megapixel cameras recording images at 3072 x 2304 pixels) will be made throughout the project. A number board displaying site code and, if appropriate, context number and/or section number and a metric scale will be clearly visible in all photographs. Photographs will include general shots of the site and its progress as well as technical shots. A photographic register will be maintained.

4.4.17 All pre-modern finds will be kept and any discard policy must be agreed with Historic England after finds have been processed and assessed. Finds on site will be treated following appropriate guidelines (Watkinson & Neal 2001) and a conservator will be available for on-site consultation as required.

4.4.18 Finds will be washed and marked as necessary by a small team working under experienced supervision in a nearby barn. Quantification can also be carried out by the same team once artefact type identifications have been confirmed.

4.4.19 If human remains are encountered they will be left *in situ* and recovered with soil after preliminary recording of the visible evidence.

4.4.20 In the event of unexpected or significant deposits being encountered on site, The Trustees of the Tendring Estate, HE and SCCAS will be informed. Such circumstances may necessitate changes to the excavation methodology.

4.4.21 At the end of the fieldwork, all soil will be replaced into the holes in broadly reverse order of excavation and compacted by hand (using a lawn roller if necessary). Turf will be reinstated as well as possible, or the ground reseeded if the turf is dead. Any specific remediation required by Natural England as part of the HLS agreement will be complied with. All equipment, tools, fencing, structures and other items will be removed from the site.

4.5 Outreach

4.5.1 Suffolk Archaeology has an experienced Outreach Officer who will be available to the project, in particular to enable Community engagement beyond the volunteers taking part.

4.5.2 Up to 20 volunteers will take part in the project. Individuals will be expected to commit to a minimum number of days (probably 3, but still to be finalised), during which they will receive training and advice in excavation, recording, survey, finds processing and data management techniques.

4.5.3 Tours of the site will be available to interested members of the public. These will be ranged at suitable times and frequencies depending on the archaeological results and demand.

4.5.4 An Open Day will be held at the conclusion of the project.

4.5.5 Suffolk Archaeology will help with post-project displays and illustrated talks as requested and appropriate to our skills and availability.

4.5.6 It is expected that members of the team will take video of the work and undertake active social media contributions as a way of extending engagement beyond those on site.

4.5.7 A shorter A5 format publication suitable for local circulation will be produced to accompany any final technical report.

4.6 Post-excavation

4.6.1 Post-excavation will be directed by the Suffolk Archaeology Senior Project Officer Jo Caruth. It is expected that much of the preliminary post-excavation will be carried out by members of the volunteer team. Suffolk Archaeology will make their facilities freely available to those with the necessary interest and capability (training can be offered) to undertake post-excavation tasks.

4.6.2 The Suffolk Archaeology post-excavation team will be available to co-ordinate the work with regional specialists and it is expected that post-excavation will follow standard procedures for excavation in Suffolk.

4.6.3 The TTHE will retain ownership of all finds, and finds are only to be removed from site if agreed in advance. Where such agreement is reached finds will be held securely in SACIC premises. TTHE will not discard any finds without the agreement of Historic England.

4.6.4 Whilst on SACIC premises, metal finds will be stored in accordance with ICON guidelines, initially recorded and assessed for significance before dispatch to a conservation laboratory within 4 weeks of the end of the excavation. All pre-modern silver, copper alloy and ferrous metal artefacts and coins will be x-rayed if necessary for identification. Sensitive finds will be conserved if necessary and deposited in bags/boxes suitable for long term storage to ICON standards. All coins will be identified to a standard acceptable to normal numismatic research.

4.6.5 All on-site derived site data will be entered onto a digital (Microsoft Access) SA database compatible with the Suffolk HER.

4.6.6 Bulk finds will be fully quantified and the subsequent data will be added to the digital site database. Finds quantification will fully cover weights and numbers of finds by context and will include a clear statement for specialists on the degree of apparent residuality observed.

4.6.7 Assessment reports for all categories of collected bulk finds will be prepared in-house or commissioned as necessary and will meet appropriate regional or national

standards. Specialist reports will include sufficient detail and tabulation by context of data to allow assessment of potential for analysis and will include non-technical summaries.

4.6.8 Bulk soil samples will be processed by wet sieving and flotation in-house in order to recover any environmental material which will be assessed by external specialists. The assessment will include a clear statement of potential for further analysis.

4.6.9 All hand drawn site plans and sections will be scanned.

4.6.10 Selected plan drawings will then be digitised using AutoCAD software as necessary to produce a full site plan, compatible with MapInfo GIS software.

4.6.11 Selected hand-drawn sections will be digitised using AutoCAD software.

4.6.12 Digital photographs will be catalogued.

4.7 Reporting

4.7.1 A post-excavation assessment report (PXA) will be produced, consistent with the principles of *Management of Research in the Historic Environment* (MoRPHE, Historic England, 2015).

4.7.2 The PXA report will contain a description of the project background, location plans, excavation methodology, a description of results by area and period, finds assessments and a full inventory of finds and contexts. The report will also include scale plans, sections drawings, illustrations and photographic plates as required.

4.7.3 The PXA will present a clear and concise assessment of the archaeological value and significance of the results, and identify the site's research potential in the context of the Regional Research Framework for the East of England (Brown and Glazebrook, 2000, Medlycott 2011). This will include an assessment of potential research aims that could be addressed by the site evidence and a proposal for publication if appropriate and/or completion of an archive report.

4.7.4 The report will include a summary in the established format for inclusion in the annual *'Archaeology in Suffolk'* section of the Proceedings of the Suffolk Institute of Archaeology and History.

5. Project archive

5.1 Printed and bound copies of the report will be lodged with the Suffolk HER and Trustees of the Tendring Hall Estate (TTHE). A digital .pdf file will also be supplied to Suffolk HER and Historic England, together with a digital and georeferenced vector plan showing the application area compatible with MapInfo software.

5.2 The online OASIS form for the project will be completed and.pdf versions of the reports uploaded to the OASIS website for online publication by the Archaeological Data Service. A paper copy of the form will be included in the project archive.

5.3 A second unbound copy of each report will be included with the project archive (see below).

5.4 A digital .pdf copy of the approved reports will be supplied to the client or their agent and printed and bound copies will be supplied on request.

5.5 The project archive, consisting of the complete artefactual assemblage, and all paper and digital records, will be deposited either in the County stores with SCCAS or with the TTHE. The project archive will be consistent with MoRPHE (Historic England 2015) and ICON guidelines and if deposited with SCCAS will meet their requirements (SCCAS 2010).

5.6 All physical site records and paperwork will be labelled and filed appropriately. Digital files will be stored in the relevant SA archive parish folder on the SA network.

5.7 If the archive is to be deposited with SCCAS a form transferring ownership of the archive to that body will be completed and included in the project archive.

5.8 Exceptions from the deposition of the archive described above include:

5.9 *Objects that qualify as Treasure, as detailed by the Treasure Act 1996*. The TTHE will be informed as soon as possible if any such objects are discovered/identified and the find will be reported to SCCAS and the Suffolk Finds Liaison Officer who, if requested can inform the coroner on the TTHE's behalf within 14 days of discovery or identification. TTHE should note the legal requirement to report such objects if they wish to undertake this themselves. Any material which is eventually declared as Treasure by a Coroner's Inquest will, if not acquired by a museum, be returned to the TTHE.

Employees of SA, or volunteers etc. present on site, will not be eligible for any share of a treasure reward.

5.10 Deposition of finds made during the excavations with the site archive in the County archaeological store will be encouraged as best practice.

5.11 *Human skeletal remains*. The landowner by law will have no claim to ownership of human remains and any such will be stored by SCCAS, in accordance with a Ministry of Justice licence, until a decision is reached upon their long term future, i.e. reburial or permanent storage.

6. Health and Safety

6.1 Suffolk Archaeology will offer our professional advice during the risk assessment, and whilst on-site the Project Officer will oversee safe working on the site.

6.2 SA staff are aware that they have a responsibility to:

- Take care of their own health and safety and that of others who may be affected by what they do, or fail to do, at work.
- Follow safe systems of work and other precautions identified in the project risk assessments.
- Report any changes to personal circumstances that may affect their ability to work safely.
- Report potential hazards, incidents and near misses to the Project Officer and project co-ordinator.

6.3 A pre-site inspection will be made of the site with the NWCS representative and a Risk Assessment for the project will be prepared. Particular hazards on this site can be anticipated to be taking part in manual work, uneven ground surfaces, inclement weather conditions and site visitors.

6.4 All SA staff are experienced in working on a variety of archaeological sites and of working with volunteers and members of the public. The Project Officer and any other staff working on the site will read the site WSI and Risk Assessments and ensure that

all site participants are appraised of the risks, follow the working methodologies and comply with safe working practices. Anyone failing to comply with this will not be allowed to continue to work on site. PPE will be issued and used where appropriate. All site workers will be expected to wear stout footwear with ankle protection and gloves, and will be advised to bring wet weather clothing.

6.5 Visitors to the works will be supervised at all times. Access to the site by visitors will be by specific timed slots. Users of the public footpath will not be able to access the individual trenches.

6.6 Site staff, visitors and volunteers are all covered by SA insurance policies. SA also has professional negligence insurance. Copies of these policies are available on request.

6.7 Toilets and a welfare tent with, at a minimum, hand washing facilities, drinking water, and seating will be provided.

6.8 The SA Project Officer holds a First Aiders at Work qualification. A First Aid kit and a fully charged mobile phone will also be available at all times. There is a First Responders Group in Nayland.

6.9 Access to the site for vehicles will be clearly marked, and designated parking areas defined to allow for safe pedestrian movement.

6.10 Trenches will be fenced using Heras fencing and any particular hazards also fenced using orange barrier fencing.

6.11 The land owners have agreed that a permissive footpath on the site will be temporarily closed during the works.

6.12 The public footpath will be kept clear of the works at all times.

6.13 All rubbish will be bagged and removed either to areas designated by the client or returned to SA for disposal.

6.14 Water will not be pumped into any water course, storm drain etc. without prior consent from the Environment Agency. Procedures for dealing with contamination from fuel spills or sediments will be closely followed.

Bibliography

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Brown, N and Glazebrook, J. (Eds), 2000, *Research and Archaeology: a Framework for the Eastern Counties, 2. Research Agenda and Strategy*. East Anglian Archaeology Occasional Paper No. 8.

Dennis, T.J. 2015 *Geophysical Surveys at Court Knoll, Nayland* Unpublished’

English Heritage, 2006, *Management of Research in the Historic Environment* (MoRPHE).

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Gurney, D., 2003, *Standards for Field Archaeology in the East of England*. East Anglian Archaeology Occasional Paper No 14.

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McKinley, J., I and Roberts, C., 1993, *Excavation and post-excavation treatment of cremated and inhumed human remains*. IFA Technical Paper No 13.

Medlycott, M. (Ed), 2011, *Research and Archaeology Revisited: A revised framework for the East of England.* EAA Occasional Paper 24.

SCCAS, 2010, *Deposition* of *Archaeological Archives in Suffolk*. Unpublished document.

Watkinson, D. and Neal, V., 2001, *First Aid for Finds.* Third Edition, revised. Rescue/UKIC Archaeology Section, London.

Appendix 1. Project Proposal

by John Newman Archaeological Services

Appendix 2. Key Staff – Selected CV summaries

Linzi Everett Project Officer

Qualifications

2:1 BA in Archaeology, University of Wales, Lampeter, graduated in 1996

MA in Landscape Archaeology, University of Wales, Lampeter, 1998

Qualified First Aider

Holds CSCS Card, SFA Quarry passport, Lantra Off-Road driving, SSSTS

Employment history

Project Officer, SACIC, 2015 - present

Project Officer, SCCAS/FT, 2000 - 2015

Site Assistant, SCCAS/FT, March 1999 - 2000

Site Assistant, various short term contracts for BUFAU, Southampton Archaeology Unit, Heritage Network, October 1996 - March 1999

Specific responsibilities

Field project direction, including monitorings/watching briefs, evaluations and excavations.

Direction of work in coastal and intertidal zones.

Production of site assessments and reports.

Experience

Worked on a wide range of sites of all periods in both rural and semi-urban locations. Major projects include Aldham Mill, Hadleigh; St. Georges Street, Ipswich; Kentford Lodge, Kentford.

Various community based projects such as Hitcham Roman Villa excavation, Hoxne test pitting and Court Knoll fieldwalking, Nayland with Wissington.

Coastal and intertidal survey work, notably the rapid survey of the Suffolk coast and intertidal zone, funded by English Heritage.

Research Interests

Coastal and intertidal archaeology, medieval church archaeology.

Publication record

Numerous ‘grey literature’ reports, the majority of which are available via the grey literature library of the Archaeology Data Service.

Entries to the PSIAH summaries from 2000 onwards.

Jo Caruth Senior Project Officer

Qualifications, memberships and skills

BA Hons English and Philosophy, Manchester Polytechnic 1984
NVQ Level 4 Management 2008, Certificate of Management Studies Level 5 2009
Member of Chartered Institute of Archaeologists, CSCS Card Holder, Fellow of the Society of Antiquaries, London

Employment history

Senior Project Officer, Suffolk Archaeology, February 2015 to present.
Senior Project Officer, SCCAS/FT, 2000-January 2015.
Project Officer, SCCAS/FT, 1994-2000. Employed at SCCAS/FT since August 1985.
Self employed by BBC on contract for occasional work in 2002 and 2003.

Specific responsibilities

Responsible for complete management of major archaeological projects, from costing, method statements, risk assessments, staff induction, procurement, all site works, post excavation assessment and analysis, liaising with specialists, clients, curatorial staff.

Specific expertise in management of projects relating to the archaeology at RAF Lakenheath.

Assisting with organisational management

Experience

Thirty years' experience working on and running projects of all periods and types across Suffolk and into Norfolk, with particular experience of rural sites within Breckland and the Suffolk fen-edge. Notable projects, for which responsible for the fieldwork and post-excavation, and ongoing management of the analysis and publication stages, are: The Early Anglo-Saxon settlement site at Hartismere High School Eye, the Early Anglo-Saxon cemeteries at RAF Lakenheath, the Prehistoric funerary and Roman and Anglo-Saxon settlement sites at RAF Lakenheath.

Committed to community involvement in archaeological projects. Recent projects have included test pitting in the Stour Valley and a community excavation at RAF Lakenheath. Considerable experience of public speaking and regularly give talks to local societies and speaks at conferences. Former presenter of archaeological program 'Time Flyers' for BBC television.

Secretary of RESCUE, the British Archaeological Trust, and Board member of FAME.

Research Interests

Early Anglo Saxon Suffolk, the Lark Valley and fen-edge. The historic landscape of NW Suffolk.

Publication record

Currently preparing 4 EAA volumes on the archaeological sites at RAF Lakenheath and Mildenhall – 10 year project.

Short Brick and Tile section in Blagg, T., Plouviez, J., and Tester, A., 2004 Excavations at a large Roman-British settlement at Hacheston, Suffolk, 1973-4, EAA 106.

Caruth, J. and Anderson, S., 1999, 'A report on the excavations at Ingham Quarry, Suffolk', *Tarmac Papers* III: 25-43.

Current Archaeology 163 - RAF Lakenheath Saxon Cemetery. 1999.

1998, Behind the headlines: RAF Lakenheath Anglo-Saxon cemetery, Rescue News, 74.

Anderson, S., Breen, A., Caruth, J. and Gill, D., 1996 'The late medieval pottery industry on the North Suffolk border', *Medieval Ceramics* 20.

Various types of grey literature reports available in the grey literature library of the ADS

Alex Fisher Outreach Officer

Qualifications

- Archaeology and Landscape History BA (Hons) degree – Anglia Ruskin University 2014
- 5 GCE 'O' Levels (English Language A/ English Literature B/ History B/ Geography C/ Physics C) – Neale Wade Grammar School.

Employment history

- 2007-2016 Business owner in Construction sector
- 2004-2007 Assistant Manager of Total Care (Fenland) Ltd in Care sector
- 1989-2004 Business owner in Construction sector.

Specific responsibilities

- To supervise Outreach for Land NW Project at Bury St Edmunds providing volunteer opportunities and liaising with local schools, community groups
- To assist in Open Days across various projects

Experience

- Current Outreach Officer for Suffolk Archaeology CIC, supervising volunteers on site and in warehouse, putting together displays, managing volunteer projects, liaising with participants, schools and local groups.

Voluntary Experience

- Founder member and Vice Chair of Fenland Archaeological Society
- Must Farm excavation with CAU
- Flag Fen excavation with Dig Ventures
- Wisbech Castle excavation with OAE
- Thorney Abbey excavation with OAE

Research Interests

- Fenland Prehistory/Roman
- Aegean Bronze Age

Publication record

External specialists

SA also uses a range of external consultants with specific regional experience to support in-house services for post-excavation analysis. For this project we expect to use Sue Anderson in particular, for the medieval pottery and ceramic building material, but others will be commissioned as necessary. Sue Anderson is a renowned regional specialist, having worked on East Anglian ceramic material for thirty years.

Sue Anderson	Human skeletal remains	Freelance
Sue Anderson	Post-Roman and medieval	Freelance
Sarah Bates	Lithics	Freelance
Julie Curl	Animal bone	Freelance
Anna Doherty	Prehistoric pottery	Archaeology South-East
Val Fryer	Plant macrofossils	Freelance
SUERC	Radiocarbon dating	Scottish Universities Environmental Research Centre
Sue Holden	Illustration	Freelance
Donna Wreathall	Illustration	SCCAS

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