The Pottery from West Lear's Farm, Chard Junction Quarry, Dorset, 2004 (WLF 03/55)

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Four hundred and four sherds of pottery, representing no more than 345 vessels and weighing 2.249 Kg from the excavation at West Lear's Farm, Chard Junction Quarry, Thorncombe, Dorset (Site Code WLF 03/55). With one possible exception, the pottery is all of 11th to 12th-century date and indicates the existence of a small, possibly short-lived, settlement.

Description

Pottery

Unknown, possibly Prehistoric

A single sherd of a jar, with walls 11mm thick, was recovered from Pit 4 (context 54). The sherd, weighing 5gm, had a black charred deposit on the interior, suggesting that it was used for cooking stews or soups. A number of angular voids were noted in the fabric and a thin section (AVAC V2213) suggests that this fabric was indeed tempered with calcite. In addition, the fabric contains numerous rounded fragments of relict clay with the same colour and texture as the groundmass, which consists of inclusionless baked clay minerals. Calcite-tempered wares are known in northern England (made at various sites in the Vale of Pickering) but these lack the relict clay noted here, and in addition often contain glauconite pellets absent from this sample. Calcite-tempered wares were also found at Cheddar Palace in deposits dating to the mid Saxon period. However, it was uncertain at that site whether they were contemporary or residual prehistoric. the thick wall of the vessel would support either date whilst Pit 4 is isolated from other features and quite likely to be unconnected.

Medieval (Fig 00 Nos 1 to 17)

Fabrics

The pottery could be divided into two fabric groups (Table 1).

SEW is South East Wiltshire ware, a distinctive ware with a light-bodied, inclusionless groundmass and a rounded quartz sand temper, c.0.5 to 1.0mm across.

SWCHT is South-Western Chert-tempered ware. It contains abundant rounded, polished quartz grains and angular white chert, in which microfossils are sometimes visible at x20 magnification. The groundmass is slightly micaceous and contains some fine quartz sand. The vessels are usually thoroughly fired, removing any carbon from the body, but have a

grey core and oxidized brown surfaces. At x20 magnification some unidentified black inclusions are visible which might be tourmaline.

Six samples were taken for further analysis (thin section and chemical analysis, primarily to test whether or not the fabric came from a single source or is merely a regional grouping and secondarily to further study of this ubiquitous ware, which occurs throughout southern Somerset, Devon and eastern Cornwall as well as Dorset. These analyses established that there is little variation in composition between the samples either in their petrological composition or chemistry and that, furthermore, the characteristics of the clay groundmass suggest that a deposit of middle Lias clay was probably utilised whereas the gravel temper is derived from a mixture of lower and upper Cretaceous strata. These characteristics match the local geology of South Somerset, eastern Devon and western Dorset and in this instance, therefore, the chert-tempered pottery was probably locally produced (see appendix 1).

Table 1

Cname	Data	Total
SEW	Weight	12
	Nosh	1
	NoV	1
SWCHT	Weight	2231
	Nosh	401
	NoV	342

Forms

Most of the vessels present were jars with a squat globular profile, sagging base and everted rim. A few of these vessels were decorated with combing, either in the form of wavy lines on the shoulder of the pot or wavy lines on the exterior, top or interior of the rim (Fig 00 Nos. 5, 6 12 and 13). The vessels vary considerably in size although at this stage no diameters were measured because of the poor condition of the sherds.

A few sherds came from one or more large storage jars (SJ) or spouted pitchers (SPP), for example Fig 00 Nos. 15-17). Such vessels form a notable element in the chert-tempered ware repertoire throughout the southwest (for example, there are several published examples from Saxo-Norman and 12th-century contexts in Exeter, 1984, figs 15, 16, 18, 19 and 20). The vessels are decorated with complex combed patterns. However, the identification of these vessels simply by the diameter of the vessel or thickness of the wall is difficult since some of the jars, identified by the presence of soot on the exterior, are equally thick and large.

Table 2

Form	Data	Total
JAR	Weight	1848
	Nosh	380
	NoV	337
SJ	Weight	238
	Nosh	17
	NoV	1
SJ?	Weight	57
	Nosh	4
	NoV	4
SPP	Weight	93
	Nosh	1
	NoV	1
TP	Weight	12
	Nosh	1
	NoV	1

Finally, a single sherd from a Tripod Pitcher (TP). These vessels were handmade, glazed externally with a plain lead glaze and decorated with applied strips and roller-stamping. This particular sherd has an applied strip.

Use

Soot was noted on a large number of sherds. No internal deposits were noted on any of the SWCHT sherds, 121 of which had sooting on the exterior. This suggests either that the SWCHT vessels were used for boiling water or that meat and/or vegetables were boiled rather than stewed since it would be a tribute to their cooking skills if no stews ever boiled dry.

Condition

Most of the pottery has lost its surface through chemical weathering (Coded ABR). In some cases the abrasion was sufficient to leave the inclusions standing proud of the surface (coded VABR). The calcareous inclusions on the surfaces and edges of the SNX vessel had been leached.

Table 3

Cname	Form	Data	ABR	LEACHED	VABR	Grand Total
SEW	TP	Weight	12			12
		Nosh	1			1

		NoV		1			1
SNX	JAR	Weight			5		5
		Nosh			1		1
		NoV			1		1
SWCHT	JAR	Weight	618.5	1042		182.5	1843
		Nosh	114	232		33	379
		NoV	93	224		19	336
	SJ	Weight	238				238
		Nosh	17				17
		NoV	1				1
	SJ?	Weight		41		16	57
		Nosh		3		1	4
		NoV		3		1	4
	SPP	Weight				93	93
		Nosh				1	1
		NoV				1	1

Discussion

Site interpretation

Pottery was recovered from 31 features on the site but, of these, several produced only single sherds or the sherds were so small that the pottery is almost certainly re-deposited, perhaps at some distance from where it was originally discarded. Some idea of the main area of primary rubbish disposal can be gained by a study of the number of joining sherds found in a deposit. Such finds are limited to ten contexts, of which three are ditches or gullies (501, 502 and 510), five are pits (33, 35, 37, 105 and 119) and two are postholes (3 and 38). In addition single large sherds (i.e. over 10gm in weight) were present in several of these contexts and additionally in pits 118 and 120 and in gully 509. This small group of deposits therefore probably defines the original area of rubbish disposal.

Dating

Chert-tempered pottery of a very similar nature to that from West Lear's Farm (SWCHT) was in use to the west, in Devon and Somerset, from the early 11th century onwards, predating the Norman Conquest. It is known, for example, from the short-lived early 11th-century *burh* re-occupation of South Cadbury and continued to be the main fabric in use in a large part of Devon and southern Somerset into the 13th century.

South East Wiltshire (SEW) tripod pitchers, however, appear to have been introduced soon after the Norman conquest, perhaps contemporary with the re-occupation of Old Sarum and

the transfer of administration from Wilton. These vessels, too, had a long life being replaced in the early 13th century by sandy jugs and then by wheelthrown Laverstock ware vessels.

The outside limits for the occupation at West Lear's Farm are therefore early 11th to early 13th century. However, the presence of only a single glazed sherd is suggestive of an end date for the settlement before 1150, after which date one might have expected more tripod pitchers and, perhaps, a wider range of fabrics.

The range of forms present is consistent with an early to mid 11th through to mid 12th-century date.

Source

The similarity in fabric between the SWCHT vessels present on the site suggests that they are all from a single centre (in this regard, there is less variation that is found in Bath Fabric A, which was used contemporaneously in north Somerset and west Wiltshire and is probably the product of several different centres, including Potterne). The inclusions are all present in Lower Cretaceous strata, which outcrop extensively in south Somerset, west Dorset and south and east Devon but the SWCHT vessels are tempered with a detrital sand, rather than crushed rock, and gravels consisting of chert and polished quartz probably have a slightly wider distribution, although the absence of Jurassic or Devonian rock fragments in the pottery fabric limits the potential source area. The West Lear's Farm vessels are similar in composition to those used in Devon and east Cornwall, which have recently been the subject of a study by David Williams (Williams 2004). There is no doubt, however, that the SEW tripod pitcher originated in the Salisbury area, over 60 miles to the east.

Status

To a certain extent, the interpretation of the status of the settlement depends on the date of the settlement. The lack of glazed wares could be interpreted either as indicating an early date (pre-1150), predating the start-up of local glazed ware production centres, or it could indicate a low status in which the occupants were unable to acquire glazed wares through a lack of surplus goods to trade. It is likely, however, that the presence of the single sherd of SEW tripod pitcher clinches the case for an early date, since presumably to acquire a vessel carried overland for over 60 miles indicates surplus funds.

Conclusion

There is no doubt that the pottery from West Lear's Farm comes from settlement on the site, probably short-lived and limited to the early/mid 11th to mid 12th centuries. It might even be limited within this date range.

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Table 4. Catalogue of illustrated sherds

Pub Order	Temp	Context	Form	Description
1	DR07	92	JAR	EVERTED FLAT-TOPPED
2	DR12	161	JAR	EVERTED FLAT-TOPPED
3	DR17	61	JAR	EVERTED FLAT-TOPPED
4	DR01	92	JAR	EVERTED FLAT-TOPPED
5	DR11	158	JAR	EVERTED FLAT-TOPPED/BEVELLED RIM;POSS WAVY COMBING INT RIM
6	DR09	158	JAR	EVERTED RIM;FLAT-TOPPED RIM;WAVY COMBING INT AND EXT
7	DR05	87	JAR	LARGE VESSEL;EVERTED FLAT-TOPPED RIM
8	DR13	161	JAR	EVERTED INTERNAL AND EXTERNAL BEADING
9	DR15	175	JAR	EVERTED RIM;BEADED EXT
10	DR10	158	JAR	EVERTED RIM
11	DR14	169	JAR	EVERTED RIM;OXIDIZED ALONG CRACK
12	DR08	158, 173 and 174	JAR	EVERTED RIM;WAVY COMBED INT
13	DR03	53	JAR	EVERTED RIM;WAVY COMBING INT
14	DR16	175	JAR	SIMPLE EVERTED RIM;THIN-WALLED
15	DR06	87	SJ?	EVERTED FLAT-TOPPED RIM
16	DR04	83	SJ	COMPLEX CURVED COMBING
17	DR02	53	SPP	FREE-STANDING SPOUT

Appendix One: Characterization studies of the pottery from West Lear's Farm, Dorset

Alan Vince

Samples of six vessels from West Lear's Farm were selected for thin section and chemical analysis (Table 4). They were selected in one case to confirm and amplify visual identification (V2213) and in the remaining cases to examine a group of samples of chert-tempered ware from a single site to determine the amount of variation in petrology and chemical composition.

Table 5

TSNO	Context	REFNO	context group	cname	Form	Nosh	NoV	Comments
V2213	54	4		MISC	JAR	1	1	SF4
V2214	53	3		SWCHT	SPP	1	1	FREE-STANDING SPOUT
V2215	83	33		SWCHT	SJ	12	1	COMPLEX CURVED COMBING
V2216	87	37		SWCHT	JAR	15	1	LARGE VESSEL;EVERTED FLAT-TOPPED RIM
V2217	92	42	510	SWCHT	JAR	10	1	
V2218	61	15	501	SWCHT	JAR	2	1	EVERTED FLAT-TOPPED RIM

Petrological Analysis

Thin section analysis indicated that the six samples belong to two fabric groups, described below.

Calcite-tempered ware (V2213)

The following inclusions were noted:

- Sparse euhedral voids from the presence of sparry calcite (or dolomite) up to 2.0mm across.
- Moderate rounded and subangular dark brown to opaque grains up to 0.2mm across.
- Rare subangular specks of quartz c.0.1-0.2mm across.

The groundmass consists of anisotropic baked clay minerals with no inclusions less than 0.1mm across visible. The groundmass contains a large amount of rounded relict clay,

indistinguishable in colour or texture from the groundmass. Some of these relict clay fragments have straight sides, indicating probably that they consisted of dry crumbs of clay.

These characteristics suggest that the pot was made using a parent clay which was almost completely devoid of quartz grains visible microscopically. This clay, however, contains rounded or subangular iron-rich compounds. Possible sources for sparry calcite in the southwest are the Carboniferous limestone of the Mendip Hills and the Chalk. In both cases, the calcite would have formed in veins cutting the parent limestone and would probably have had to be collected and prepared by crushing by the potter.

The quantity of relict clay in the groundmass is a sign of poor clay mixing, but may have been deliberate, since the addition of dry clay crumbs to a potting clay would give the clay some support during forming of the pot and might have enabled the potter to control the workability of the clay. It is possible that this is a variation of the grog-tempering technique used extensively in the Bronze Age in southern and midland England.

Chert-tempered ware (V2214-V2218)

The following inclusions were noted in thin section:

- Abundant chert up to 2.0mm across. The chert varies considerably in appearance but most of the fragments consist of chalcedonic botryoidal clusters with a cryptocrystalline silica or amorphous brown clay mineral matrix. There are also some rod-like structures in the chert which might be either sponge spicules or fragments of shell. Some microfossils replaced by fine-grained silica and having a circular cross-section and a hollow core filled with amorphous brown material were also noted. These too are probably spines or spicules. Some chert fragments have a different composition and contain abundant opaque grains, including both ovoid pellets and aggregates of spherical grains, in a matrix of chalcedony. A third variant contains sparse to moderate angular quartz inclusions, up to 0.2mm across, in a matrix of cryptocrystalline silica and amorphous brown matter.

- Abundant well-rounded quartz grains from c.0.3mm to 1.5mm across. These grains are usually monocrystalline and often contain brown veins, presumably iron-rich. Rare examples also have a thin opaque coating in patches. Several of these rounded grains are cracked in half or quarters

- A variable quantity of subangular quartz, forming a well-sorted component with an average diameter of c.0.15mm. This is only common in sample V2216 but was noted in all sections.

- Sparse light brown flint or chert fragments up to1.0mm long. These grains are composed of cryptocrystalline silica and contain sparse rounded microfossils with a

slight coarser texture and lighter colour. Some of the grains have a darker brown stained core

- Sparse rounded red clay pellets up to1.0mm across. These pellets contain moderate dark brown to opaque inclusions less than 0.1mm across and are redder than the groundmass.

- Sparse subangular blue tourmaline up to 0.5mm across.

The groundmass consists of anisotropic baked clay minerals with sparse laths of muscovite up to 0.1mm long and abundant dark brown to opaque grains less than 0.1mm across. Quartz silt, however, is extremely rare. The groundmass is strongly laminated, with some laminae being up to 0.3mm wide and partially filled with clay minerals and phosphate.

Interpretation

Chert occurs in two main deposits in southwest England, firstly as concretions within the Foxmould sands, which form the Blackdown Hills, as in the overlying Chert Beds (1948). It is possible that the variations in composition noted in the chert fragments in thin section could be related to these different sources. The rounded quartz too has a lower Cretaceous origin and the opaque coating of some grains suggests that some at least derived from a ferruginous sandstone facies. However, it is clear, from the present of stained, rounded flint, that the source of the coarse sand/gravel found in these samples is a more recent deposit, of Tertiary or later date.

The groundmass, however, is not typical of clays from the lower Cretaceous, which are usually silty, micaceous and/or glauconitic, but is very similar to Lower and Middle Lias clays, and in particular the Wear Cliff beds of the Lower Lias and the Micaceous Beds of the Middle Lias. Unlike the Lower Cretaceous chert beds, the Lias clays do not outcrop in Devon but do outcrop next to the greensand along the southeast side of the Blackdown Hills and extensively in south Somerset and western Dorset, as far west as Membury and Lyme Regis.

Chemical Analysis

Chemical analyses of the six samples were obtained using Inductively-Coupled Plasma Spectroscopy (ICP-AES) at Royal Holloway College, London. A range of major elements were measured as percent oxides and minor elements were measured as parts per million. The dataset was then analysed to obtain an estimate of the silica content (by subtracting the sum of measured major elements from 100%). This gives a value of 66% for the possible prehistoric vessel and 74.4 +/- 1.2% for the chert-tempered ware.

The dataset was then normalised by division of all values by that of Aluminium in order to lessen the dilution effect of the silicious tempering and the data were then examined using factor analysis (). This analysis showed that the composition of two sets of samples was similar. V2213 and V2214 have negative F1 scores whilst V2215 and V2216 have strong positive F1 scores combined with strong positive F2 scores. It is interesting that the calcite tempered sample, V2213, is not distinguished from the remainder in this analysis and this confirms the thin section evidence that both wares have a similar groundmass. Fig 1 shows the contribution of the various measured elements to the two factor scores and indicates that strong positive Factor 2 scores are due to high values for a range of rare earth minerals whereas strong positive Factor 1 scores are due to high values for the copper, nickel, vanadium and iron.

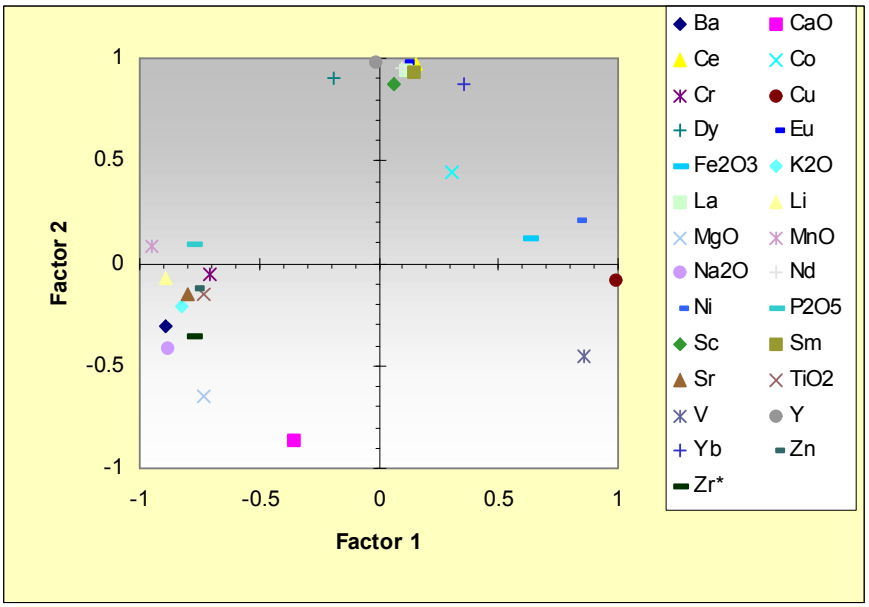

Figure 1

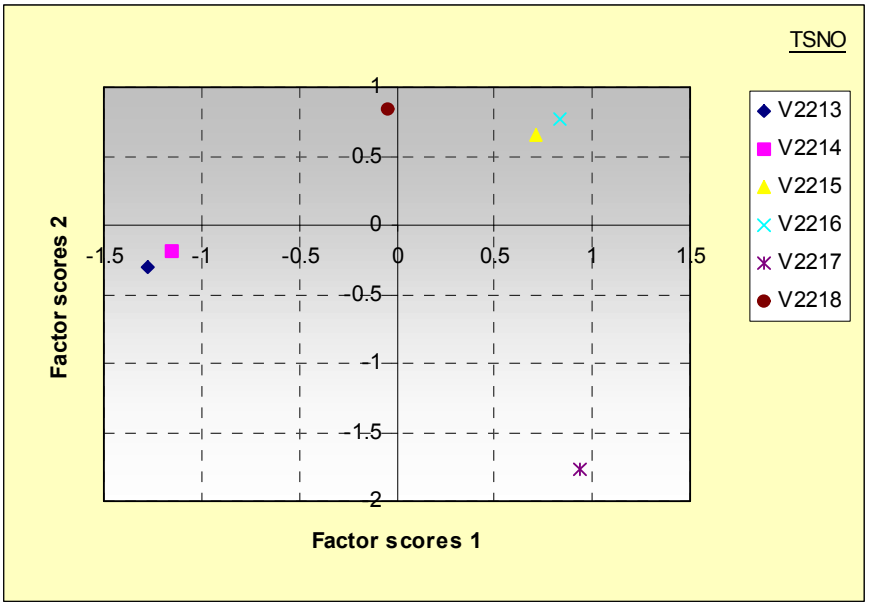

Figure 2

The data were then compared with a range of samples of locally-produced ceramics from the counties of Devon, Dorset and Somerset. These samples were very varied but include a two fired clay samples obtained from head containing a large amount of chert from Clayhidon Churchyard.

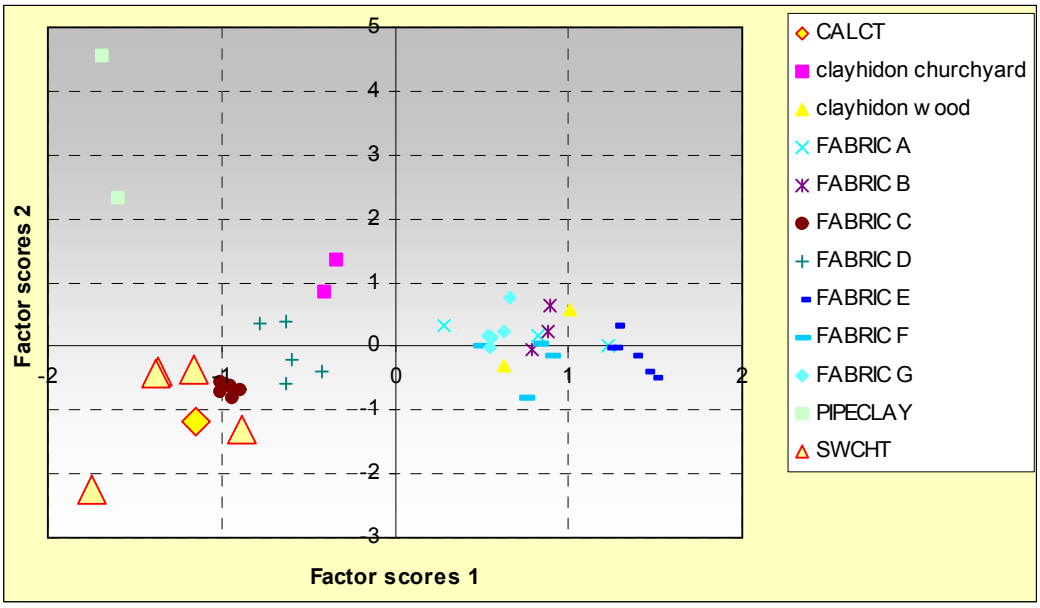

Figure 3

Six main factors were found in this dataset. A plot of F1 against F2 (Fig 3) shows that the Calcite-tempered and chert-tempered wares have a similar composition but are distinguishable from all the remaining samples, being closest to Fabric C floor tiles from Cleeve Abbey.

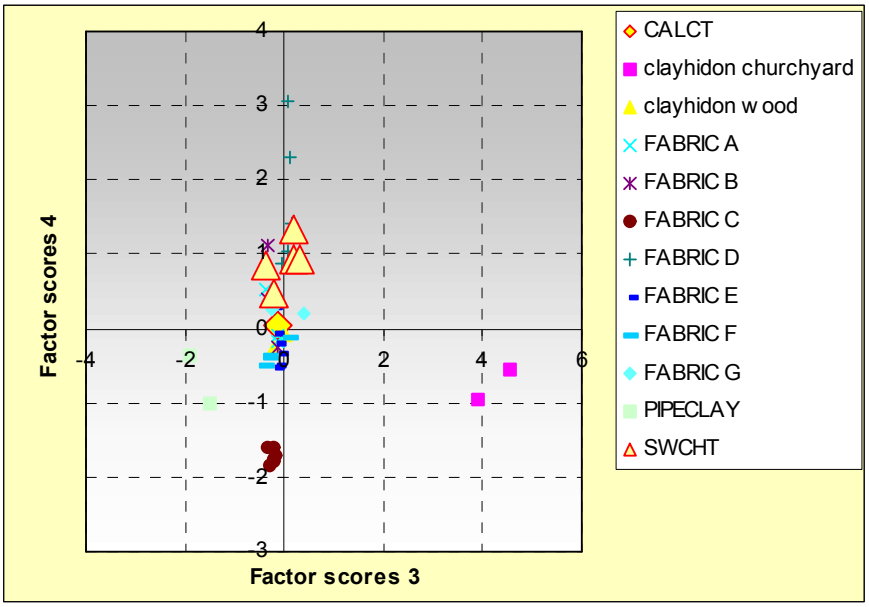

Figure 4

A plot of F3 against F4 shows again that the calcite-tempered and chert-tempered wares have a similar composition but that this composition is shared with all the samples in the dataset except for Fabric D floor tiles, the Clayhidon Churchyard samples, Fabric C floor tiles and two samples of pipeclay from Peter's Marland (Fig 4).

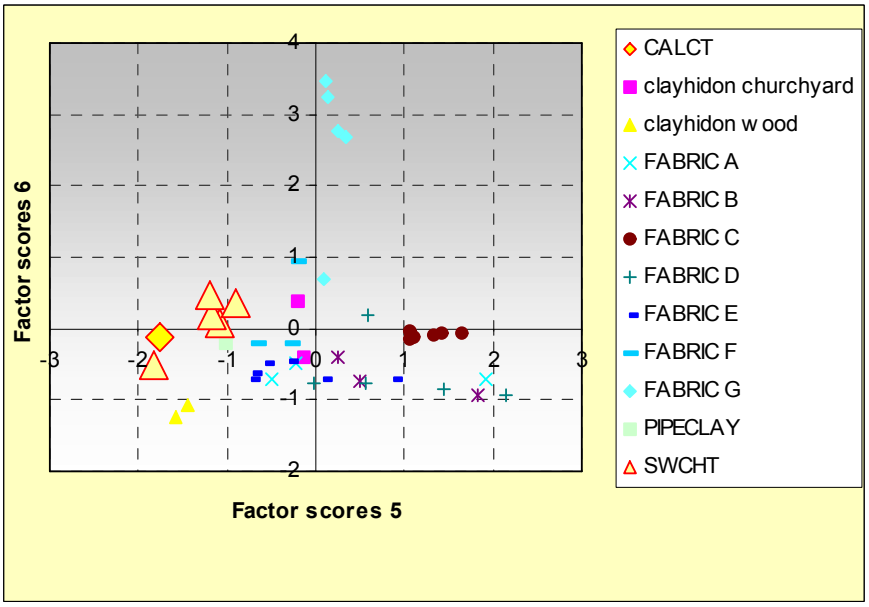

Figure 5

Finally, a plot of F5 against F6 (Fig 5) again shows the similarity of the calcite-tempered and chert-tempered samples, which are distinguishable from all the remaining samples except for the Peter's Marland pipeclay.

Since no clear similarity could be found between the West Lear's farm samples and any available to the author from the south-west, a second analysis was undertaken in order to test the suggestion that the groundmass indicated the use of a Jurassic clay. In this study, all samples from counties in which Jurassic clays outcropped were examined. The dataset was examined using factor analysis in which those samples with the least similarity to the West Lear's farm samples were progressively excluded from analysis and the factor analysis

repeated. This indicated that the closest similarity to the West Lear's farm samples was found in East Yorkshire, at Sancton, and in Lincolnshire, at Market Rasen, Bourne and Baston, the latter three are production sites utilising the Upper Jurassic Oxford Clay whereas the Sancton samples are thought to have been produced from an outcrop of Oxford Clay located on the west scarp of the Yorkshire Wolds. The lack of comparable samples made from lower Jurassic clays is probably simply due to the lack of samples in the database made from those clays.

Table 6

TSNO	Al2O3	Fe2O3	MgO	CaO	Na2O	K2O	TiO2	P2O5	MnO
V2213	18.93	7.41	1.7	0.55	0.17	3.51	0.92	0.46	0.079
V2214	15.42	6.35	1.17	0.33	0.13	1.74	0.64	1.04	0.09
V2215	14.49	6.49	0.53	0.22	0.09	1.25	0.58	0.16	0.019
V2216	16.07	6.81	0.57	0.22	0.08	1.07	0.65	0.16	0.019
V2217	16.03	6.71	1.08	0.48	0.11	1.34	0.65	0.08	0.014
V2218	15.24	6.02	0.61	0.28	0.1	1.34	0.63	0.44	0.053

Table 7

TSNO	Ba	Cr	Cu	Li	Ni	Sc	Sr	V	Y	Zr*	La	Ce	Nd	Sm	Eu	Dy	Yb	Pb	Zn	Co
V2213	421	145	37	61	77	18	50	160	26	128	24	68	27.07	6.62	1.90	4.80	2.90	35.48	133	16
V2214	313	106	31	61	60	15	42	145	19	86	24	54	25.66	6.23	1.47	3.30	2.40	39.40	136	16
V2215	223	95	43	37	77	14	31	152	23	67	38	68	39.39	6.10	1.73	3.90	2.50	39.41	78	13
V2216	172	111	47	37	77	16	28	173	26	75	32	77	33.75	7.54	2.14	3.90	2.90	47.52	103	20
V2217	249	106	51	41	81	15	36	201	13	79	8	38	9.87	4.96	1.08	2.50	2.30	35.56	93	15
V2218	245	102	40	47	80	15	41	149	25	66	37	67	38.92	6.80	1.96	4.40	2.50	37.61	88	16