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TITLE

Spanish Armada Tin-enamelled
earthenware

minerals and the
which were present

SPANISH ARMADA TIN-ENAMELLED EARTHENWARE

A thin section examination was also carried out on three sherds of tin-enamelled earthenware: sample (1) 'Columbia Plain', similar to nos. 41-44, sample (2) similar to nos. 45-48, and sample (3) not so far identified with any of the wreck's main forms. Samples 1 and 2 both contained frequent subangular quartz grains, average size 0.30-.60mm., large grains of white mica and discrete grains of plagioclase feldspar, with some orthoclase. Both sherds are alike enough to suggest an origin in the same area, which may have been the Seville region (see ?).

A sample of analyzed clay from Seville lacked the igneous inclusions present in the above two sherds, containing just small quartz grains and small flecks of mica. However, this is not to say that other clay sources in the area may not have been utilized for these vessels. Large outcrops of granite and diabase rocks occur in the Sierra Merena to the north of Seville, while some detritus may have been brought southwards by the River Guadalquivir which passes through Seville.

The composition of these two tin-enamelled sherds is not unlike that of the glazed and unglazed red earthenware fabrics, though they appear to lack the inclusions of brown hornblende and fragments of granite present in the latter samples; the quartz grains too are slightly larger in size. Both groups of sherds seem to have been made in or near granitic areas (or with granitic material brought into the area by the action of large rivers). However, without suitable comparanda it is not possible to be precise about the origins of these vessels. What is required is a small programme of petrological analysis

on authenticated samples made at the major pottery centres supplying the Armada fleet. The results could be then be used to characterize each centre and it's range of products.

The third tin-enamelled sample is quite unlike the other two in thin section, containing fragments of limestone, iron ore, quartz grains and small flecks of mica. Limestone occurs in many areas of Spain, and so it not possible to suggest likely areas of origin on this one sample alone.

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