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TITLE Petrological Examination of Pottery from Quoyscottie, Orkney

PETROLOGICAL EXAMINATION OF POTTERY FROM QUOYSCOTTIE, ORKNEY

Nine small sherds of pottery from the Bronze Age cemetery at Quoyscottie were submitted for thin section analysis. The colour of the sherds, all of which were in a very friable state, ranged from light brown to black. Three of the samples (SF 114) recovered from the primary burial were thought possibly to represent three separate vessels. The results are as follows:

1. SF 106 and SF 109.

Inclusions of sedimentary rocks comprising large medium-grained sandstone grains (up to 4.60mm. across) and frequent dissociated sand grains set in an optically anisotropic matrix of fired clay. The sandstone is composed predominantly of subangular quartz grains together with a little plagioclase felspar and mica, principally muscovite.

2. SF 107, SF 114(three sherds) and SF 116.

Fragments of igneous rocks made up of grains of deep brown hornblende, green augite, olivine and lath-shaped felspar, set in an optically anisotropic matrix of fired clay. The mineralogy suggests that the inclusions are characteristic of the lamprophyres, more especially the camptonites, which occur in the majority of the basic dykes found over much of the Orkneys (Flett,1935).

All the sherds contained very little else, except for one

of the sherds making up SF 114, which had a number of small sandstone grains and abundant quartz grains, average size under 0.10mm. The three sherds of SF 114 would thus seem to represent at least two separate vessels.

3. SF 115.

Fragments of igneous rock made up of crisp grains of olivine and small crystals of augite, together with some mica and Quartz grains, set in an anisotropic matrix of fired clay. The igneous inclusions are again characteristic of the lamprophyres, this time the monchiquites, which account for about a third of the basic dykes in the Orkneys (ibid.).

4. SF 105.

Fragments of both igneous and sedimentary rocks. The former are made up of porphyritic olivine and green augite with some porphyritic felspar. The groundmass consists of lath-shaped felspar and augite. A lamprophyre rock is again indicated, in this instance an olivine-basalt, which occurs infrequently in the Orkneys (ibid.). The sedimentary fragments are made up of fine-grained sandstone.

Conclusions

Quoyscottie is situated on Upper Stromness Flags (Middle Old Red Sandstone), closeby to Boulder Clay Glacial Deposits. In view of the geology of the area there is no reason to suspect that the two sandstone tempered sherds (SF 106 and SF 109) were

not made in the vicinity of Quoyscottie itself.

The igneous inclusions contained in the remainder of the sherds present a more complex problem of origins for the pottery. Camptonite dykes lie within two miles of the site; the nearest monchiquite dyke occurs about four miles away at Quoyloo Stove; while only two olivine-basalt dykes are known in the Orkneys, one at Bockan by Loch Harry and the other at Firth, near Finistown, both some distance from Quoyscottie (ibid., 180). However, the crispness of the lamprophyres in some of the samples, and the fact that sedimentary inclusions were also present in nos. SF 105 and SF 114 (one), may suggest that the presence of these igneous fragments is due to glacial action and that they are likely to represent Boulder Clay Deposits, possibly those which lie close to Quoyscottie. Too few samples were analyzed for any firm conclusions to be drawn. In the light of these results it would obviously be very useful to examine comparative material from other Bronze Age sites in the Orkneys.

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Flett, J.S. (1935) 'Petrography - trap dykes', in Wilson, G.V. et al , The Geology of the Orkneys Mem. Geol. Survey Gt. Britain (Edinburgh,1935).