

# ANCIENT MONUMENTS LABORATORY

## REPORT

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**TITLE**

Iron Age pottery from Bu Broch,  
Stromness, Orkney

IRON AGE POTTERY FROM BU BROCH, STROMNESS, ORKNEY

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Twelve sherds from Bu Broch were submitted for fabric analysis. Each sherd was initially examined with the aid of the binocular microscope, followed by thin sectioning and study under the petrological microscope. This allowed eight divisions to be made on the basis of the principal rock and mineral inclusions present.

(1) Camptonite

SF 521 (No. 156, Fabric A). Hard, fairly thick, medium-coarse fabric, dark grey (Munsell 5Y 4/1) throughout, with medium-sized rock fragments.

SF 419E (No. 183, Fabric E). Soft, fairly thick, medium-coarse fabric, light buff throughout, with medium-sized rock fragments.

In thin section the majority of the inclusions are seen to consist of camptonite (numerous phenocrysts of reddish-brown hornblende, and some pale green prismatic grains of augite, set in a groundmass of hornblende, augite and lath-shaped feldspar). Also present in both sections are fragments of sandstone, a scatter of discrete augite grains and a few quartz grains.

(2) Pyroxene-Rich

SF 447B (No. 182, Fabric C). Hard, thick, medium-coarse fabric, light brownish-grey (10YR 6/2) surfaces reddish-brown core. The fabric is distinctive in the hand-specimen as it appears to contain black sand.

Thin sectioning shows numerous large discrete grains of pyroxene, as well as some fragments of camptonite.

(3) Monchiquite

SF 370 (No. 139, Fabric A). Hard, thick, coarse fabric, pink (5YR 7/4) outside surface, grey inner surface and core, containing numerous large rock fragments.

SF 383 (No. 130, Fabric A). Hard, coarse fabric, dark greyish-brown (2.5Y 4/2) outside surface, light grey inner surface and core, containing medium-sized rock fragments.

Thin sectioning reveals that both samples contain frequent fragments of monchiquite (phenocrysts of olivine set in a groundmass of small augite grains), and a scatter of quartz grains. SF 370 also contains some sandstone.

(4) Camptonite/Monchiquite

SF 137 (No. 175, Fabric A). Hard, thick, coarse fabric, dark grey (5Y 4/1) outside surface, light grey inner surface and core, with medium-sized rock fragments.

SF 389G (No. 134, Fabric A). Hard, coarse fabric, greyish-brown (2.5Y 5/2) throughout, with numerous medium-sized rock

fragments.

Thin sectioning shows that both samples contain fragments of camptonite and monchiquite, together with a small amount of sandstone and quartz grains.

(5) Olivine-Basalt

SF 307 (No. 169, Fabric B). Hard, fairly coarse fabric, light yellowish-brown (2.5Y 6/4) surfaces, dark grey core, containing a scatter of small rock fragments.

In thin section the principal inclusions are seen to be fragments of olivine-basalt (phenocrysts of olivine, augite and plagioclase, set in a groundmass of felspar). Also present is sandstone and a little quartz.

(6) Basalt

SF 257 (No. 144, Fabric B). Hard, thick, fairly coarse fabric, light to dark grey throughout, with numerous medium-sized rock fragments.

SF 19 (No. 146, Fabric B). Hard, medium-thick, fairly coarse fabric, light to dark grey throughout, with numerous medium-sized rock fragments.

Thin sectioning reveals that both sherds contain numerous fragments of a basalt-type rock. These samples may be connected with SF 307, although olivine does not appear to be present. SF 146 also contains fragments of camptonite.

(7) Steatite

SF 244 (No. 174, Fabric D). Fairly soft, smooth fabric, reddish-yellow (7.5YR 7/6) throughout, containing numerous fragments of steatite.

Thin sectioning confirms the visual identification, steatite being present in large amounts.

(8) Unidentified

SF 394 (No. 147, Fabric C). Hard, medium-coarse fabric. Only a small sample was available for analysis.

In thin section the poor condition of the inclusions, apart from number of quartz grains, makes identification difficult.

Discussion

The majority of the sherds analyzed contain numerous rock inclusions characteristic of the basic dykes which are found over much of the Orkneys: camptonite, monchiquite and olivine-basalt. Examination of these sherds under the binocular microscope shows that the inclusions are sharply angular, and so unlikely to be derived from the drift, deposits of which cover much of the area of the find-site, since if the material was obtained from the drift some rounding of the rocks would be expected, and this is absent. Moreover, on the whole, the thin sections lack the variety of inclusions which might be expected had all the raw materials come from the Boulder Clay. Only three samples have two types of dyke rock present, with little else except a

few fragments of sandstone and quartz grains. On this basis it would seem likely that dyke rock was deliberately sought out for use as a tempering medium.

Bu Broch is situated closeby to two basic dykes, one camptonite and the other monchiquite, and so the sherds containing these inclusions may well represent local manufacture. However, in the case of the pyroxene-rich sherd SP 447B, it may be worth while noting that a schistose rock consisting of abundant pale green augite occurs on the north coast of the Isle of Graemsay, opposite Stromness (Wilson, et al, 1935,47).

The distribution of olivine-basalt dykes in Orkney is fairly limited. Only two groups are known, at Firth, near Finstown, and at Loch of Harray, both on the Mainland (Mykura, 1976,99). No natural steatite is to be found in the Orkneys, and so the steatite tempered sherd SP 244 undoubtedly represents an import to the broch. Iron Age steatite tempered pottery occurs frequently in the Shetland Islands (Hamilton, 1956), and it seems probable that this is the source for the Bu vessel. Steatite pottery has been found at a number of sites in Orkney, indicating some form of export trade from the Shetlands (ibid.,31).

Hamilton, J.R.C. (1956) Excavations at Jarlshof, Shetland  
(Edinburgh,1956).

Mykura, W. (1976) Orkney and Shetland (Edinburgh,1976).

Wilson, G.V., Edwards, W., Knox, J., Jones, R.C.B. and Stephens, J.V. (1935) The Geology of the Orkneys (Edinburgh, 1935).