

TRANSFORMATION AND ANALYSIS OF NITROGENATED COMPOUNDS IN BONE-FUELLED HEARTHES

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POSTER ABSTRACT

The use of animal bone and fat as fuel for warmth and light has been crucial to human survival in different places and times. This was particularly true in far northern latitudes and, potentially, during portions of the Pleistocene. Identifying and analysing molecular products from burning animal bones could provide a novel source of information for reconstructing past environments and tracking human adaptations in fuel-poor settings.

We use py-GC/MS, GC/MS, and GC-IRMS to compare the transformation and distribution of nitrogen containing aliphatic and aromatic compounds, and other organic molecules, in experimental hearth residues. Experimental materials include: 1) unfired sediments 2) sediments from wood-fuelled hearths, 3) sediments from wood and bone-fuelled hearths, and 4) unburned fuels (bone and wood). Results and implications for the analysis of archaeological residues are discussed.