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Soil geochemical analyses as an indication of metal working at a Roman excavation (Silchester, UK).

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Silchester is the site of a major late Iron Age and Roman town (*Calleva Atrebatum*), situated in northern Hampshire (England (UK)) and occupied between the late first century BC and the fifth or sixth century AD. Extensive evidence of the nature of the buildings and the plan of the town was obtained from excavations undertaken between 1890 and 1909. The current project, directed by Professor Michael Fulford and Amanda Clarke, Department of Archaeology, University of Reading, has been taking place since 1997 on the site of one of the blocks (*insulae*) into which the Roman town was divided. Evidence in the form of hearths associated with microscopic metallic residues indicated that metalworking represented one of the activities.

The purpose of this study was to use soil geochemical analyses to reinforce the archaeological evidence particularly with reference to potential metal working at the site. Soil analysis has been used previously to distinguish different functions or land use activity over a site and to aid identification and interpretation of settlement features (Entwistle *et al.*, 2000).

Samples were taken on a 1-metre grid, from an area of some 500 square metres from contexts of late first/early second century AD date throughout the entirety of a large 'town house' (House 1) from which there was *prima facie* evidence of metalworking. The samples have been analysed using x-ray fluorescence for Cu, Zn and Pb and using ICP-MS for Au, Sn and Ag. Results from the first seasons work (2002) show evidence for "hot spots" of metal concentrations across the site, which corresponds to the location of archaeological evidence for burning (reddened earth). The soil geochemistry provides evidence for the working of gold and silver and copper alloys, including brass, in association with 'House 1' of insula IX, Silchester. It is possible that lead

and copper were also worked independently.

Reference

Entwistle J.A, Abrahams P.W, Dodgshon R.A, (2000) The geoarchaeological significance and spatial variability of a range of physical and chemical soil properties from a former habitation site, Isle of Skye. Journal of Archaeological Science 27(4): 287-303