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AN INHERITED PLACE

across long axis producing alternate wide and narrow cordons; two narrow cordons at each end. Length: 45mm. Diameter: 6×5mm. Thickness of metal: 1mm. Unphased. Context: Unstratified.

SF525 Hemisphere. Oval hemisphere chipped on one side with central perforation (decorative rivet cap). Diameter: 10.5×9.5mm. Height: 3.5mm. Thickness of metal: 1mm. Unphased. Context: Unstratified.

SF526 Vessel rim fragment, probably Roman. Rectangular-sectioned strip thickest by gently curved rim and thinnest by broken edge where it begins to bend over. One complete and one broken perforation, placed just before metal bends over, at an interval of 37mm. Perforations are punched from upper face. Broken at both ends; two main joining pieces and seven small fragments. Length: 77mm. Width: 9mm. Thickness of metal at rim: 1.5mm. External diameter: 140mm. Unphased. Context: Unstratified.

SF527 Binding. Rectangular-sectioned strip with long edges bent back and around; both ends broken. Length: 23mm. Width: 15mm. Thickness of metal: 0.5mm. Unphased. Context: Unstratified.

SF528 Tube. Rectangular-sectioned strip bent around to form a long penannular tube; both ends broken. Length: 127mm. Thickness of metal: 0.75mm. Diameter (where most completely closed): 4mm. Unphased. Context: Unstratified.

SF530 Tiny tack, slightly bent. Length: 11mm. Head diameter: 2.5mm. Shank diameter: 1.5mm. Unphased. Context: Unstratified.

SF532 Strip (two joining pieces). Slightly curved, D-sectioned with flat back; one end has straight edge, other broken. Length: 41mm. Section: 9×1.5mm. Unphased. Context: Unstratified.

10.6.3 XRF analysis

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INTRODUCTION

Twenty-one copper alloy objects were analysed in order to gain more information about the alloy types present. Eleven had been analysed quantitatively by X-ray fluorescence in the 1990s by David Dungworth (1997a: 903–4), as part of a broader study of Iron Age copper alloys in central Britain. Additional analysis for the recent post-excavation programme was conducted by Susy Kirk, using surface X-ray fluorescence analysis. The results cast light on alloy use at the Iron Age–Roman transition, and also assist the dating of some pieces.

METHODOLOGY

The recent analyses were carried out on uncleaned surfaces, typically with non-ideal geometry of the beam due to the size/shape of the artefacts. Many of the objects had an odd appearance, as if the corrosion layers had been etched off during conservation, whereas others had the typical green corrosion layers found in copper alloys. The relationship, therefore, between these surface analyses and the original metal compositions is unclear. The quantities of alloying elements can vary considerably in the corrosion layers compared to the original metal, zinc being depressed in the corrosion layers and tin and lead increased compared to their original levels, but the comparison with material analysed by both Dungworth and Kirk has been very helpful in calibrating the results. The alloy types were defined using Dungworth's (1997b) criteria.

CONCLUSIONS

The results are summarised in table 10.31, with the artefacts listed by phase. Two objects (SF540, a cupronickel; SF547, a very high-zinc brass) are clearly post-Medieval in date, given their alloys (neither is included in the above catalogue). On Dungworth's (1997b) criteria, pin/tack SF529 and offcut SF535 have typical Iron Age compositions – tin-bronze with arsenic impurity; ring-headed pin SF514 and strip SF533 would fall into the same category from surface analysis.

The data conform to Dungworth's (1996) arguments about zinc only appearing in north Britain with Roman contact; it is only from Phase 6 that it appears at Broxmouth. Phase 6 shows a notable variety of alloy types. Some of the variety relates to technology: the presence of significant lead consistently correlates with cast objects, and lead offers technical advantages in the casting.

10.7 Iron

FRASER HUNTER

10.7.1 Introduction

Although more than 80 iron objects were recovered from Broxmouth, the vast majority were from ploughsoil contexts. A few of these are included in the catalogue below where their form suggests they could be of antiquity, but most were undiagnostic or clearly modern. This report details 29 objects where either