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Ancient Monuments Laboratory
Report 73/89

THE IDENTIFICATION OF 43 PIECES OF COLOURLESS MATERIAL FROM BEESTON CASTLE, CHESHIRE, EXCAVATED 1981-1985.

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Summary

43 pieces of colourless material were submitted for identification. They were identified as quartz, (mostly rock crystal), glass and probably barium sulphate. There were also two groups of sand grains. Some of the pieces of rock crystal are probably struck flakes.

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THE IDENTIFICATION OF 43 PIECES OF COLOURLESS MATERIAL FROM BEESTON CASTLE, CHESHIRE, excavated 1981 - 1985.

Introduction

The crag on which Beeston Castle stands has been inhabited since pre-historic times. The site was excavated 1972-1985 firstly by L Keen and then by P Hough and the remains of both Bronze Age and Iron Age communities were found but the site was probably abandoned by the beginning of the Roman period. The magnificient medieval castle was founded by Ranulph III, sixth Earl of Chester in 1225.

In 1985 four pieces of colourless material from P Hough's excavations were sent to the Ancient Monuments Laboratory for identification. One was identified as glass, but three were identified as struck flakes of rock crystal. Later, another 39 pieces and groups were submitted, 21 of which had been recovered from soil samples. Nine were identified as glass, of which one was a fancy-cut glass paste, two as probably fragments of barium sulphate, two as grains of sand and the rest as quartz, almost all of the clear, colourless, crystalline variety known as rock crystal. Two specimens were too small for definite identification. The interesting feature of the material is that, of the pieces of rock crystal, some appear to be struck flakes. There are not, however, any finished tools.

Identification

All the samples were examined under low-powered microscope and had their specific gravity (SG) measured. This was done hydrostatically with the larger samples but for the smaller specimens a heavy liquid was used in which a quartz standard suspended. In some cases, those marked *, the identification was confirmed by energy dispersive X-ray fluorescence (EDXRF).

I am indebted to Dr Roger Harding, Curator of Gemstones, Geological Museum, for the use of his heavy liquid, and to Michael Heyworth, Ancient Monuments Laboratory, for the analyses by EDXRF. Andrew David, Ancient Monuments Laboratory, checked and corrected my tentative identifications of struck flakes.

AML No	Site Ref	Material	Comment
<u>Medieval Trackway</u>			
852667	BCO235/175xx	rock crystal	probable snapped flake/blade, inclusions
865075	BCOW0523/2343	glass, high lead	fancy-cut stone from a piece of modern jewellery

865077	BCOW0612/3241		rock crystal	probable struck flake, two-phase inclusions

The Outer Gateway

865081	BCO884 S.342		rock crystal	?struck flake, inclusions

The Outer Ward

873488	BCOW0012/469	*	probably rock crystal	fragment
873489	BCOW0012/470		rock crystal	?struck flake, crystal faces present
873490	BCOW0017/520		glass	fragment, bubbles present
873491	BCOW0018/557		rock crystal	probable struck flake, crystal face present
873492	BCOW0019/691		rock crystal	?struck flake, inclusions
873493	BCOW0073/932		rock crystal	?struck flake, inclusions
873494	BCOW0161/1143		rock crystal	?struck flake, inclusions
873495	BCOW0161/1277		rock crystal	probable struck flake, two-phase inclusions
873496	BCOW0166/1176		rock crystal	probable struck flake, crystal faces present, inclusions
873497	BCOW0166/1230	*	glass	fragment
873498	BCOW0175/1728		rock crystal	probable struck flake, two-phase inclusions
873499	BCOW0175/1794		rock crystal	probable snapped flake/blade, inclusions
873500	BCOW0204/1683		glass	bubble present
873501	BCOW0218/1740		rock crystal	probable struck flake, crystal faces present, inclusions
873502	BCOW0218/1798		rock crystal	?struck flake, two-phase inclusions,
873503	BCOW0218/1850		rock crystal	?struck flake, inclusions
873504	BCOW0225/2070	*	glass	fragment,
873505	BCOW0523/----		rock crystal	?struck flake, ?latent crystal faces

The following 21 specimens were recovered from soil samples: the second part of the site reference number, the number prefixed with an 'S', is the sample number.

873506	BCOW0529/S.601	*	glass, pebble	two specimens
873507	BCOW0557/S.529		rock crystal	?struck flake
873508	BCOW0557/S.557		rock crystal	?struck flake, inclusions
873509	BCOW0727/S.655	*	rock crystal	very small fragment, surface worn
873510	BCOW0741/S.641		rock crystal	very small fragment, inclusions
873511	BCOW0747/S.662	*	?rock crystal	too small to be sure, fragment,
873512	BCOW0751/S.676		quartz	?struck flake
873513	BCOW0755/S.661		sand grains	
873514	BCOW0777/S.682		rock crystal	fragment showing crystal faces
873515	BCOW0781/S.649		rock crystal	small cluster of crystals
873516	BCOW0792/S.684		quartz	fragment
873517	BCOW0793/S.686	*	?barium sulphate	fragment - EDXRF detected barium and sulphur
873518	BCOW0807/S.688		rock crystal	?struck flake, two-phase inclusions
873519	BCOW0808/S.694		rock crystal	?struck flake, two-phase inclusions
873520	BCOW0845/S.706		sand grain	
873521	BCOW0846/S.733	*	rock crystal	very small fragment
873522	BCOW0855/S.728		rock crystal	two very small fragments
873523	BCOW0856/S.715	*	glass	two fragments
873524	BCOW0887/S.738	*	rock crystal	probable struck flake, crystal face present
873525	BCOW0902/S.741		rock crystal	fragment, inclusions
873526	BCOW0903/S.745	*	?barium sulphate	fragment - EDXRF detected barium and sulphur

Conclusion

The 2 fragments which were tentatively identified as barium sulphate are not of any special significance, nor are the pieces of glass of any importance.

Most of the specimens submitted were rock crystal, and it is suggested that many of these are struck flakes. Some of the pieces show the natural crystal faces.

Rock crystal, the clear, colourless crystalline variety of quartz (SiO_2) is not a rare mineral but is not native to the site. It could have come with glacial deposits from the north or the west, but in that case one would expect the rock crystal to be in the form of abraded pebbles or broken fragments. The material is of good quality, absolutely transparant and relatively free from inclusions. The almost complete lack of abrasion on the original external faces and edges, where they still exist, tends to suggest that this material was brought to the site by man, rather than by nature.