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Assessment of possible archaeometallurgical residues from LBMM13 Site 14E006

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Abstract

The submitted material comprised a single concretionary lump of possible pyrotechnological residue weighing 1.6g, labelled as being from c48 (s#1). The piece is a small piece of bloated and vitrified ceramic material. The piece is not necessarily of metallurgical origin.

The provenance of the material is uncertain: Sample #1 from c48 is listed as a wood sample; it unlikely that this piece is from that sample.

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Methods

All materials were examined visually with a low-powered binocular microscope where required. As an evaluation, the materials were not subjected to any high-magnification optical inspection, not to any form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

This project was commissioned by Carmelita Troy of Rubicon Heritage.

Results

The single piece of submitted material is a fragment of a lobe of vitrified and bloated ceramic. Such materials derive from the bloating effect of gas (typically carbon dioxide and/or water vapour) released during the thermal decomposition of minerals, that becomes trapped by the low viscosity partial melt phase that binds or coats the mineral grains. Such bloated textures may be produced in both natural and artificial ceramics. Bloated textures are commonly encountered in, for instance, metallurgical hearth lining materials, but may equally occur in over-fired ceramics (e.g. pottery/brickworks waste), or in the partial melting of clay clasts within coal (as clinker) as well as in many other similar settings.

The colour of the glassy slag coating on the present material (dull, ranging from dark maroon-purple to brown.) is typical of the colour of bloated ceramic and is not indicative of originating process.

Interpretation

The piece is a fragment of bloated slag. It would have formed in a high temperature process, but is not indicative of a particular origin. Such materials may commonly be found in coal waste (clinker).

Conclusion

The piece would probably not yield further archaeologically useful information on detailed analysis, so no further analysis is recommended.

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