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Data in Brief

Data Article

An atlas of paste fabrics and supplemental paste compositional data from late middle preclassic-period ceramics at the Maya site of Holtun, Guatemala

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ARTICLE INFO

ABSTRACT

This data article contains an atlas of paste fabrics and supplemental paste compositional data generated from Late Middle Preclassic-period ceramics at the Maya site of Holtun, Guatemala. The data include maps showing locations of archeological contexts, excavation profiles, photographs and photomicrographs of sherds and paste fabrics, and compositional data produced by Neutron Activation Analysis (NAA) at the Research Reactor, University of Missouri (MURR). The NAA data include a biplot and table of canonical discriminant analyses, Mahalonobis distance calculations, and Euclidian distance searches between the samples.

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Specifications Table

Subject area	*Archaeology*
More specific subject area	*Archaeometry*

Type of data	*Maps, tables, charts, photographs, photomicrographs*
How data was acquired	*Digital microscope (Dinolite AMZ750), Neutron Activation Analysis, statistical analysis*
Data format	*Raw and analyzed*
Experimental factors	*Sherds were cleaned, dried, and crushed into powder for NAA*
Experimental features	*Mineralogical and elemental analysis of paste composition*
Data source location	*Archaeological site of Holtun, Department of Peten, Guatemala and MURR*
Data accessibility	*Data is with this article*
Related research article	*2017, Callaghan, Michael G., Daniel Pierce, Brigitte Kovacevich, and Michael D. Glascock. "Chemical Paste Characterization of Late Middle Preclassic-Period Ceramics from Holtun, Guatemala and its Implications for Production and Exchange". Journal of Archaeological Science Reports* 12:334-345.

Value of the data

- Data presented here represent a standard for chemical paste compositional analysis of archeological ceramic material using Neutron Activation Analysis (NAA).
- These data are a benchmark for paste compositional analysis of Late Middle Preclassic-period ceramics in the Maya lowlands.
- These data include the first published atlas of paste fabrics for Middle Preclassic Maya ceramics.
- These data can be compared to compositional data from other Maya sites to identify clay procurement zones, centers of ceramic production, and exchange networks during the Late Middle Preclassic through Postclassic periods.
- These data can be compared to similar data from other world regions in an effort to reconstruct patterns of production and exchange in early states.

1. Data

These data include a map showing the location of Holtun in Guatemala and its relation to neighboring sites (Fig. 1), maps of the site showing the location of groups cited in this study (Fig. 2), maps of the locations of excavation units within the patios where samples were found (Figs. 3 and 5), profiles of excavations showing stratigraphy of excavation units where samples were found (Figs. 4 and 6), photographs of sherds and an atlas of paste fabrics with corresponding table of type: varieties (Appendix A), and compositional data produced by Neutron Activation Analysis (NAA) at the Research Reactor, University of Missouri (MURR). The NAA data include a table of Mahalonobis distance calculations of elemental concentrations between samples (Table 1), a chart and table of canonical discriminant analyses of paste groups and elemental concentrations (Fig. 7 and Table 2), and a chart of a log-based Euclidian distance search between the samples (Fig. 8). The data also include results of Chi-Square tests of association between paste chemical composition groups and ceramic attributes including type: variety, group, ware, temper, decoration, and form (Appendix B).

2. Experimental design, materials and methods

2.1. Study area

The materials for this study consisted of 97 samples of archeological ceramics from eight contexts dating to the Late Middle Preclassic-period at the Maya site of Holtun, Guatemala [6]. The archeological site of Holtun is an intermediate sized civic-ceremonial center with documented occupation