Supplemental Text 1. Materials and Methods.

Materials:

* 240 ml Nitric Acid
* Potassium Chlorate solution (80 ml distilled water + 5.6 g of KCLO3)
* Ethanol
* 16 ½ dram vials
* Glass slides
* Glass cover slips
* Permount
* 16 disposable scalpels
* 16 15 mL centrifuge tubes
* Glass pipettes
* Pipette bulbs
* Cole Parmer Stable Temp PolystatTM Water Bath
* JuoanTM C3i Centrifuge
* Distilled water
* China pen
* Permanent Marker
* Labels (stickers)
* Fisher Thermix Hot Plate Model 200T
* PremierTM Slide Warmer XH-2001
* Beakers of varying sizes
* Magnetic stirrer
* NVOVA II stir plate, ThermolyneTM (subsidiary of Sybron)
* pH Test strip
* Weight paper
* American ScientificTM Balance
* Cole Parmer Symmetry™ PA220 Balance
* Microscopes
  + Leica™ DM 2500
  + LeicaTM DMLB
* Microscope mounted camera
  + ScienceSupply™ S01-0801B

Methods:

* Photographs of the interior and exterior of each sherd prior to sampling
* For residue sampling:
  + One piece of weigh paper was placed onto the balance
  + Balance was tared
  + Adhered carbonized residue was scraped off of sherds using a disposable scalpel
  + Sample was transferred from weigh paper to a 15 mL centrifuge tube, where it was kept until chemical processing.
  + Disposable scalpel blade was placed back in its protective sleeve after use, and taped closed for long-term storage
  + This was repeated for the remaining 15 sherds, using a new disposable scalpel blade for each sample.

Sample Processing:

* Prepare Schulze solution
  + 3 parts saturated potassium chlorate to 1 part nitric acid.
  + 240 mL were prepared;15 mL per sample allows for addition of acid to samples during water bath projection.
* Add Nitric acid (10 ml to each test tube with sample scrapping already in there)
* Place samples in hot water bath, checking every 10-40 minutes for 9 hours to make sure the solution was not boiling over
  + Added more Schulze solution as needed and mix
* Centrifuge at 3000 RPM for 15 minutes and decant
* Rinse with water multiple times - add water to the centrifuge tubes to 12-13 mL, centrifuge at 3000 RPM for 15 minutes and decant)
* Test pH
* Rinse with ethanol - add ethanol to the centrifuge tubes to the 12-13 mL mark, centrifuge at 3000 RPM and decant
* Transfer to dram vials using disposable pipettes
* Mount slides
  + Heated Permount in a small beaker on a hot plate
  + Using a disposable pipette, drop sample on slide, next drop medium over the sample
  + Mix and cover

Contamination:

Contamination of results from materials or environment can also be ruled out as affecting the analytic outcome. The samples were prepared in a sterile environment specifically suited to the study of microbotanical remains, and all nitrile gloves used were powder free and did not contain starch. Additionally, the consistent absence of maize microbotanicals in 10 of 16 samples between the two analysts would not be expected if contamination were affecting the findings.

Identification:

Several publications and images were used as a reference for identification (Madella and Zurro 2007; Piperno 2006; Raviele 2010; Yost and Blinnikov 2011), as well as a reference collection of phytoliths and starches made available by Maria Raviele.

Criteria for identification are as follows:

Maize Starch:

A size of around 20 microns, small branched cleft in the center, polyagonal and visible under polarized conditions.

Maize Phytoliths:

There are many forms for maize phytoliths, with the most highly diagnostic being the rondel. This phytolith can have a wavy or ruffled top when viewed from the side, and is also around 20 microns in size. Diagnostic phytoliths for maize also include elongated decorated phytoliths of various length.