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## FINAL REPORT: Petrified Forest Wilderness Area Ceramic Analysis

Submitted to:

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### ABSTRACT

As NPS archaeologists undertake survey of Petrified Forest National Park's wilderness areas, they must rely on pottery fragments to determine the age, occupation span, and cultural affiliations of each ceramic period (post-AD 200) site, and to help reconstruct settlement and exchange patterns. Pottery of the Petrified Forest area poses unusual challenges to analysts because the range of temporal, technological, and stylistic variation in this area is unusually great. In the course of this project, Kelley Hays-Gilpin completed the following activities: 1) Compiled a ceramic type collection from pottery previously collected in the park; 2) Provided training in ceramic analysis to survey crew members and supervisors, and some of the park staff; and, 3) Identified unusual specimens collected by the survey crew.

### INTRODUCTION

Petrified Forest National Park (PEFO) has one of the most diverse arrays of prehistoric pottery in the Southwest for a number of interesting reasons:

- 1) Pottery-using farmers inhabited the Park for an unusually long span of time. The park exhibits ceramics with a range from earliest introduction of pottery to the northern Southwest, around AD 200, to the protohistoric period in the AD 1400s. In addition, historic Navajo, Zuni, and Hopi pottery would not be unexpected finds in the park.
- 2) The Puerco River valley provided natural routes for trade, travel, and migration for thousands of years. Pottery found in the park was made from materials that originate in the San Francisco Peaks volcanic field, the Kayenta areas, southeastern Utah, Hopi Mesas, Hopi Buttes, Chuska Mountains, San Juan Basin, Cibola area, Mogollon Highlands, and Mogollon Rim.
- 3) Local potters had a wide variety of suitable geological materials at hand, and were familiar with a wide variety of pottery-making techniques and styles. Local pottery production was therefore diverse as well.

Pottery "types" are intended to describe a particular style and technology made in a relatively small area for a particular time span. They are therefore designed to answer the questions, how old is it? and where (roughly) was it made? The traditional Colton-Hargrave ceramic typology provides criteria for recognizing and classifying almost all the prehistoric pottery encountered in the Petrified Forest area. As over 100 types have

been identified in the park, a detailed orientation was necessary to ensure that archaeologists taking part in the survey had resources they could use to apply the typology consistently. Because not all the pottery found in the area conforms to the existing typology, consistent and detailed study of anomalies in the lab provides a more nuanced understanding of site assemblages and helps to expand and refine the existing typology.

## TYPE COLLECTION

Collections staff at WACC provided access and assistance with collections from the park. I traveled to Tucson several times between October, 2003, and May 2006. I selected several examples of each pottery type from existing collections from the park. When possible, these represented the known range of variation for each type. I split the resulting collection into two useful sets, one for WACC and one for the park. Because I was not able to find more than one example of some types, the WACC collection has a few more types represented in it, but each collection has about 265 sherds, for a total of about 530 sherds identified, annotated, photographed, and cataloged. WACC staff labeled each sherd with a catalog number. I recorded comments on each sherd, explaining why I classified it as I did, what its distinctive features are, and what, if anything, makes it unusual. In many cases, I provided alternative classifications and explained why researchers might disagree about type assignment. Each type name corresponds to a type description in the Museum of Northern Arizona Ceramic Series of publications. Next, Scott Williams of the PEFO museum photographed all the sherds that were transferred to the park museum. I returned to WACC and took photos of the type sherds that remained at WACC, then conveyed these to Mr. Williams. WACC staff are in the process of entering my comments into their database system. Mr. Williams has already entered my comments on the park collection into his database system.

## TRAINING

I traveled to the park several times in November, 2003 through May, 2006, to describe and discuss the area's pottery and its classification with survey archaeologists and park staff. I gave a series of slide lectures to introduce them to pottery identification. I presented slides of whole vessels, question-and-answer, quizzes, directed discussion, and hands-on sessions with microscopes and hand lenses. I prepared a detailed Powerpoint presentation on each major ware category: whitewares, redwares, utility wares, brownwares, and protohistoric wares. I made copies of these presentations for the survey crew and for the park museum, so they are available for ongoing training and reference. I also prepared and distributed hard copies of a detailed ceramic identification manual, and made sure the park museum director had a copy for his files.

## IDENTIFYING COLLECTED ARTIFACTS

Survey crews conducted in-field analysis of surface artifacts, but collected especially unusual and unidentifiable specimens. I identified these as necessary when in the park, and consulted with Chris Corey, field supervisor, from the NAU campus using

e-mail, phone, and digital photos. I visited a number of park sites with Mr. Corey and his crew, and worked with them on in-field identification and interpretation.

In addition, I worked with Scott Williams to identify whole and partial pottery vessels in the park museum's collections.

## CONCLUSION

The final ceramic chapter for the wilderness area survey will be prepared in the last year of the three-year survey project. My collaboration on this report will be funded separately from this project, if funding is available. The final report will include, at a minimum, descriptions including quantities of pottery from each site recorded in the survey. Ceramics from each site will be analyzed and chronological periods for each site will be assigned based upon the ceramic assemblage. A chronological discussion of changes in ceramic assemblages over time, discussion of local pottery production and tradewares, and comparison to other recorded assemblages in areas surrounding Petrified Forest, such as the Chambers-Sanders Trust Lands, Homol'ovi Ruins State Park, and Hopi Mesas will also be included in the final report. Details concerning the format of the final report will be determined in consultation with NPS staff.

## RESEARCHER QUALIFICATIONS

Kelley Hays-Gilpin has 18 years of experience in analyzing pottery from Northern Arizona. She has worked on collections from the following areas Kayenta, Navajo Mountain, Hopi Mesas, Hopi Buttes, Flagstaff (both Sinagua and Cohonina), Verde Valley, Perry Mesa, Winslow, Holbrook, St Johns, Chambers-Sanders, Showlow, Gallup, and Chuska Slope. She has also

- compiled type collections for Wupatki National Monument and the Navajo Chambers-Sanders Trust lands. She
- co-organized a conference and co-authored a field manual on ceramics of the Puerco Valley of the West.
- studied the history of the traditional Southwestern ceramic typology
- studied type collections at the Museum of Northern Arizona, Arizona State Museum, and Laboratory of Anthropology
- studied whole vessel collections at the Harvard Peabody Museum, Field Museum of Natural History, Smithsonian Institution, Maxwell Museum, University of Colorado Museum, Southwest Museum, and Smoki Museum (Prescott).

Northern Arizona University's ceramic analysis laboratory is equipped with Leica Wild microscopes, state-of-the-art digital cameras (hand-held and microscope-mounted), a type collection, electric kiln for oxidation studies, and complete reference materials for most northern Arizona pottery wares.

