Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Early Period Sites in the Wheatfields/Sonsela Butte Region along Navajo Route N12, Navajo Nation

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Publication Date
2007-08-20

Supplemental Material
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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM EARLY PERIOD SITES IN THE WHEATFIELDS/SONSELA BUTTE REGION ALONG NAVAJO ROUTE N12, NAVAJO NATION

20 August 2007

Davina Two Bears
Navajo Nation Archaeology Department
Northern Arizona University
PO Box 6013
Flagstaff, AZ 86011

Dear Davina,

The analysis of the samples here is interesting. It is evenly split between Government Mountain in the San Francisco Volcanic Field to the west and Valles Rhyolite (Cerro del Medio) in the Jemez Mountains to the east (Table 1). The sources are about equidistant from these sites. These two sources are the most frequently exchanged obsidian in the Southwest found throughout the Southwest, northern Mexico, and the Great Plains (Shackley 2005).

The samples were analyzed with a Spectrace (Thermo) QuanX EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at http://www.swxrflab.net/analysis.htm. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govnidaraju 1994; Table 1 here). Source assignments were made by reference to source standards at Berkeley (see Shackley 1995, 2005).

Sincerely,

M. Steven Shackley
Professor and Director

VOICE: (510) 642-2533
INTERNET: shackley@berkeley.edu
http://www.swxrflab.net/
REFERENCES CITED

Govindaraju, K.

Shackley, M. Steven

Table 1. Elemental concentrations for the archaeological samples. All measurements in parts per million (ppm).

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