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An Energy-Dispersive X-Ray Fluorescence Analysis of One Obsidian Artifacts from 35CO29, Coal County, Oklahoma

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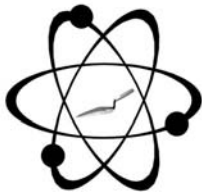
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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF ONE OBSIDIAN ARTIFACTS FROM 35CO29, COAL COUNTY, OKLAHOMA

2 November 2011

Shelley Hartsfield
URS Corporation
1950 N Stemmons Freeway
Dallas, TX 75207

Dear Shelley,

The obsidian debitage submitted from 35CO29 was produced from Malad, Idaho obsidian (Table 1). Malad obsidian is rather typical of preceramic period sites in Oklahoma and the southern Plains in general. All analyses for this study were conducted on a ThermoScientific Quant'X XRF spectrometer at the Archaeological XRF Laboratory, Albuquerque, New Mexico. Given the very small sample size, a 3.5 mm tube collimator was fitted for analysis. Further specific instrumental methods can be found at <http://www.swxrflab.net/analysis.htm>, and Shackley (2005). Source assignment was made by comparison to source standard data in the Archaeological XRF Laboratory. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (USGS; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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INTERNET: shackley@berkeley.edu
<http://www.swxrflab.net/>

REFERENCE CITED

Shackley, M.S.

2005 *Obsidian: Geology and Archaeology in the North American Southwest*. University of Arizona Press, Tucson.

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

| Sample | Ti | Mn | Fe | Rb | Sr | Y | Zr | Nb | Ba | Pb | Th | Source |
|------------|------|-----|-----------|-----|-----|----|-----|----|------|----|----|-----------|
| 34CO29-1-1 | 1452 | 353 | 1231 3 | 151 | 83 | 33 | 87 | 15 | 1440 | 33 | 28 | Malad, ID |
| RGM1-S4 | 1657 | 294 | 1328 2 | 147 | 109 | 25 | 221 | 13 | 905 | 20 | 17 | standard |