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## Archaeological X-ray Fluorescence Reports

### Title

An Energy-Dispersive X-Ray Fluorescence (EDXRF) Analysis of an Obsidian Artifact from 34CM322, Comanche County, Oklahoma

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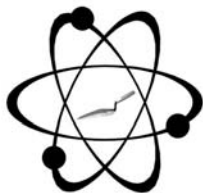
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## **LETTER REPORT**

# **AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE (EDXRF) ANALYSIS OF AN OBSIDIAN ARTIFACT FROM 34CM322, COMANCHE COUNTY, OKLAHOMA**

19 November 2012

Shannon Ryan  
R. Christopher Goodwin & Assoc., Inc.  
850 E 13<sup>th</sup> St., Suite C  
Lawrence, KS 66044

Dear Shannon,

The one artifact was produced from Valles Rhyolite (Cerro del Medio) obsidian in Valles Caldera, Jemez Mountain, New Mexico, not unusual for late period sites in Oklahoma (Table 1; see Shackley 2005:64-74). All analyses for this study were conducted on the ThermoScientific *Quant'X* XRF spectrometer at the Geoarchaeological XRF Laboratory, Albuquerque, New Mexico. 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 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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<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 sample. All measurements in parts per million (ppm).

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
C-4-01	903	360	9595	145	12	40	157	52	21	19	Valles Rhy. (Cerro del Medio)
RGM1-S4	158	277	1341	148	111	24	221	8	22	12	standard