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Publication Date

2021-03-19

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF AN OBSIDIAN BIFACE FROM SOUTHEASTERN UTAH

19 March 2021

Tom Windes
Department of Anthropology
University of New Mexico
Albuquerque, New Mexico

Dear Tom,

As we discussed, the obsidian biface was produced from the El Rechuelos Rhyolite obsidian source in the northern Jemez Mountains, northern New Mexico (see <http://swxrflab.net/jemez.htm#El%20Rechuelos>; Shackley 2005; Table 1 and Figure 1 herein). All analyses for this study were conducted on a 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 rhyolite standard indicates high instrument precision for the elements of interest (USGS; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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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 and a USGS RGM-1 rhyolite standard. All measurements in parts per million (ppm).

Sample	Ti	Mn	Fe	Rb	Sr	Y	Zr	Nb	Ba	Source
BLADE1	905	412	7672	153	17	24	74	41	20	El Rechuelos Rhy
RGM1-S4	1618	302	13291	148	103	25	224	11	802	standard

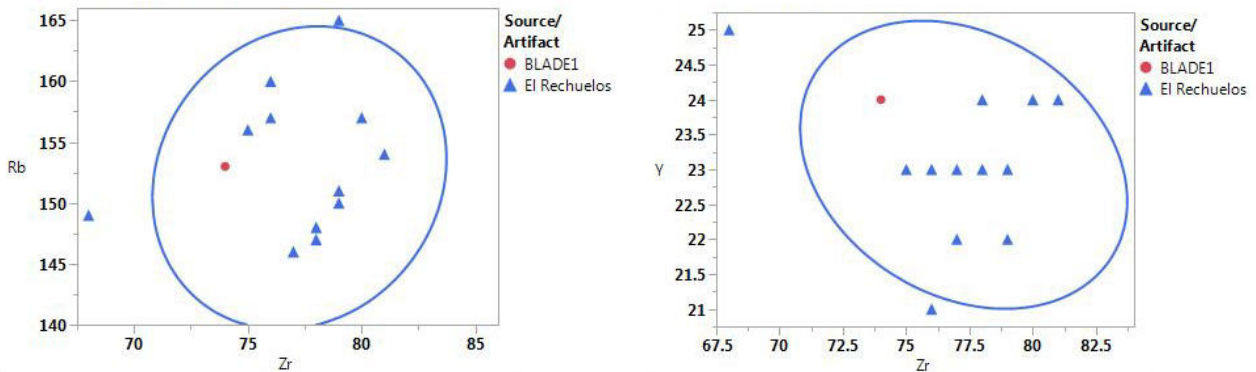


Figure 1. Zr/Rb and Zr/Y bivariate plots of the archaeological sample and El Rechuelos Rhyolite obsidian source standards. Confidence ellipses at 90%.