



GEOARCHAEOLOGICAL XRF LAB

GEOARCHAEOLOGICAL X-RAY FLUORESCENCE SPECTROMETRY LABORATORY
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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM OKLAHOMA

14 November 2014

Robert Brooks
Oklahoma Archaeological Survey
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Norman, OK 73019-5111

Dear Robert:

Most of the artifacts were produced from the Malad, Idaho source, not unusual in southern Plains sites. One other artifact was produced from the Cerro Toledo Rhyolite source in the Jemez Mountains, northern New Mexico, and one sample was not obsidian (Table 1). 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 (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. All measurements in parts per million (ppm).

Site/Sample	Mn	Fe	Rb	Sr	Y	Zr	Nb	Pb	Th	Source
BL/01	279	11523	130	79	33	88	14	27	22	Malad, ID
BL/02	250	11500	127	79	33	91	18	28	22	Malad, ID
BL/03	225	11311	123	76	33	87	17	26	27	Malad, ID
34HR1/17	250	11560	126	78	31	91	13	25	26	Malad, ID
34HR1/13	231	11020	120	77	35	86	11	28	29	Malad, ID
34GT9/140	290	12179	145	89	37	92	14	34	32	Malad, ID
34CI303/1	501	12057	211	8	65	176	99	34	30	Cerro Toledo Rhy, NM
34GR4/335	117	8440	<1	8	1	12	3	1	3	not obsidian
RGM1-S4	287	13737	149	108	20	217	10	20	19	standard