Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Fort Huachuca, Southern Arizona

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Publication Date
2015-09-30

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM FORT HUACHUCA, SOUTHERN ARIZONA

30 September 2015

Marin Tagg
Cultural Resources Manager
IMHU-PWB
3040 Butler Road, Bldg 22526
Fort Huachuca AZ 85613-7010

Dear Marty:

The source provenance of these samples generally matches that of the earlier study from Garden Canyon Village at Fort Huachuca (Shackley 2015a). The artifact produced from Los Vidrios, Sonora was not seen in the earlier study, but occurs in late period contexts in southeastern Arizona (Shackley 2015b). Specific instrumental methods can be found at http://www.swxrflab.net/anlysis.htm, and Shackley (2005). Source assignment was made by comparison to source standards in the laboratory database (see http://swxrflab.net/swobsrscs.htm). Analysis of the USGS RGM-1 standard indicates high instrumental precision for the elements of interest (Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: 510-393-3931
INTERNET: shackley@berkeley.edu
http://www.swxrflab.net/
REFERENCES CITED

Shackley, M.S.

2015a Source Provenance of Obsidian Artifacts from Garden Canyon Village, Fort Huachuca, Southern Arizona. Report prepared for Anna Schneider, Department of Anthropology, University of Colorado, Boulder.


Table 1. Elemental concentrations for the archaeological samples, and USGS RGM-1 obsidian standard. All measurements in parts per million (ppm).

<table>
<thead>
<tr>
<th>Sample</th>
<th>Ti</th>
<th>Mn</th>
<th>Fe</th>
<th>Rb</th>
<th>Sr</th>
<th>Y</th>
<th>Zr</th>
<th>Nb</th>
<th>Source</th>
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<tr>
<td>40</td>
<td>1009</td>
<td>470</td>
<td>8325</td>
<td>118</td>
<td>22</td>
<td>28</td>
<td>100</td>
<td>32</td>
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<td>120</td>
<td>1524</td>
<td>269</td>
<td>11651</td>
<td>134</td>
<td>136</td>
<td>22</td>
<td>157</td>
<td>12</td>
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<td>128</td>
<td>1346</td>
<td>431</td>
<td>9769</td>
<td>133</td>
<td>134</td>
<td>22</td>
<td>127</td>
<td>17</td>
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<td>974</td>
<td>395</td>
<td>10602</td>
<td>244</td>
<td>21</td>
<td>44</td>
<td>118</td>
<td>29</td>
<td>Antelope Cr/Mule Cr, NM</td>
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<td>376-1</td>
<td>799</td>
<td>157</td>
<td>6161</td>
<td>1</td>
<td>17</td>
<td>5</td>
<td>17</td>
<td>1</td>
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<td>1526</td>
<td>872</td>
<td>22183</td>
<td>356</td>
<td>12</td>
<td>127</td>
<td>1201</td>
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<td>12518</td>
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<td>13</td>
<td>84</td>
<td>240</td>
<td>59</td>
<td>Los Vidrios, SON</td>
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<td>1526</td>
<td>297</td>
<td>13268</td>
<td>149</td>
<td>109</td>
<td>27</td>
<td>219</td>
<td>8</td>
<td>standard</td>
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