Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from AZ U:9:281 (ASM), Tempe, Arizona

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM AZ U:9:281 (ASM), TEMPE, ARIZONA

20 August 2007

Chris Watkins
Rio Salado Archaeology
5028 South Ash Avenue, Suite 102
Tempe, AZ 85282

Dear Chris,

The analysis of the two samples here indicates that the artifacts were produced from obsidian procured from the Sauceda Mountains source south of Gila Bend (Shackley 2005). This is rather typical of Classic period contexts in the Phoenix Basin, where many of the obsidian assemblages are dominated by Sauceda Mountains obsidian (Bayman and Shackley 1999; Shackley 2005).

The samples were analyzed with a Spectrace (Thermo) QuanX EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at http://www.swxrflab.net/analysis.htm. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govnidaraju 1994; Table 1 here). Source assignments were made by reference to source standards at Berkeley (see Shackley 1995, 2005).

Sincerely,

M. Steven Shackley
Professor and Director

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Baym, J. M. and M. S. Shackley  

Govindaraju, K.  

Shackley, M. Steven  

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

<table>
<thead>
<tr>
<th>Site/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>U-9-281-141-1</td>
<td>1401</td>
<td>427</td>
<td>9479</td>
<td>160</td>
<td>77</td>
<td>27</td>
<td>207</td>
<td>20</td>
<td>Sauceda Mts</td>
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<tr>
<td>U-9-281-141-2</td>
<td>1472</td>
<td>465</td>
<td>10039</td>
<td>172</td>
<td>80</td>
<td>29</td>
<td>206</td>
<td>23</td>
<td>Sauceda Mts</td>
</tr>
<tr>
<td>RGM1-S3</td>
<td>1605</td>
<td>338</td>
<td>13489</td>
<td>148</td>
<td>119</td>
<td>21</td>
<td>221</td>
<td>14</td>
<td>standard</td>
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</tbody>
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