Title
An Energy-Dispersive X-Ray Fluorescence Analysis of an Obsidian Artifact From CA-SDI-525, San Diego County, California

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF AN OBSIDIAN ARTIFACT FROM CA-SDI-525, SAN DIEGO COUNTY, CALIFORNIA

24 September 2004

Dr. Tim Gross
Affinis
847 Jamacha Road
El Cajon, CA 92019-3206

Dear Tim,

As you suspected, the “artifact” was produced from obsidian procured from Obsidian Butte in Imperial County California, typical of much of San Diego County (Hughes and True 1985). It does look like a recent piece of glass. The hydration analysis that will be performed by Tom Origer will certainly help determine this. Source determination was made using source standards at Berkeley (http://obsidian.pahma.berkeley.edu/obsbutte.htm), and reference to Hughes (1986).

The samples were analyzed with a Spectrace (ThermoNoran) QuanX EDXRF spectrometer in the Archaeological XRF Laboratory, University of California, Berkeley. Instrumental methods can be found at http://obsidian.pahma.berkeley.edu/analysis.htm. Analysis of the USGS RGM-1 standard indicates high machine precision for the elements of interest (Govnidaraju 1994; Table 1 here).

Sincerely,

M. Steven Shackley, Ph.D.
Director

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REFERENCES CITED

Hughes, R.E.

Hughes, Richard E., and Delbert L. True

Govindaraju, K.

Table 1. Elemental concentrations for the archaeological sample. 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>SDI-525-424</td>
<td>1294</td>
<td>380</td>
<td>15246</td>
<td>121</td>
<td>38</td>
<td>107</td>
<td>322</td>
<td>35</td>
<td>Obsidian Butte</td>
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<tr>
<td>RGM1-S1</td>
<td>1564</td>
<td>330</td>
<td>13283</td>
<td>146</td>
<td>108</td>
<td>18</td>
<td>223</td>
<td>13</td>
<td>standard</td>
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