LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF AN OBSIDIAN ARTIFACT FROM CA-SDI-10,965, NORTHWEST SAN DIEGO COUNTY, CALIFORNIA

10 December 2002

Dr. Mark Becker
ASM Affiliates
543 Encinitas Blvd., Ste 114
Encinitas, CA 92024

Dear Mark,

The artifact analyzed was produced from obsidian procured from one of the domes at the Coso Volcanic Field, probably West Sugarloaf in Inyo County, California (Table 1). The source provenance is consistent with Archaic period procurement in San Diego County as discussed by Hughes and True (1985).

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). Source determination was made using source standards at Berkeley, and reference to Hughes (1988).

Sincerely,

M. Steven Shackley, Ph.D.
Director

VOICE: (510) 643-1193 ext. 3
INTERNET: shackley@uclink.berkeley.edu
http://obsidian.pahma.berkeley.edu/
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>Th</th>
<th>Rb</th>
<th>Sr</th>
<th>Y</th>
<th>Zr</th>
<th>Nb</th>
<th>Source</th>
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<tbody>
<tr>
<td>SDI10965-41.6</td>
<td>1461</td>
<td>246</td>
<td>12609</td>
<td>27</td>
<td>251</td>
<td>18</td>
<td>54</td>
<td>131</td>
<td>47</td>
<td>Coso</td>
</tr>
<tr>
<td>RGM-H1</td>
<td>1641</td>
<td>280</td>
<td>13998</td>
<td>6</td>
<td>151</td>
<td>116</td>
<td>19</td>
<td>219</td>
<td>13</td>
<td>standard</td>
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