Title
An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Site CS-TL-01 on the Coles Sam Road Project, Naval Weapons Station China Lake, Inyo County, California

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LETTER REPORT

AN ENERGY-DISPERSIVE X-RAY FLUORESCENCE ANALYSIS OF OBSIDIAN ARTIFACTS FROM SITE CS-TL-01 ON THE COLES SAM ROAD PROJECT, NAVAL WEAPONS STATION CHINA LAKE, INYO COUNTY, CALIFORNIA

25 February 2015

Simone Schinsing
Epsilon Systems Solutions
901 Heritage Drive, Ste 204
Ridgecrest, CA 93555

Dear Simone:

As before, I have taken the liberty of sending a letter report in the interest of time. The mix of sources is similar to the previous projects, with somewhat more obsidian procured from Sugarloaf dome in the Coso Volcanic Field (Table 1, Figure 1; Shackley 2014a, 2014 b, 2014c). I refer you to the previous report for more detailed discussion of sources and source assignment (Shackley 2014a; see Table 1, and Figure 1 here). Specific instrumental methods can be found at http://www.swxrflab.net/anlysis.htm, and Shackley (2005). Source assignment was made by comparison to Ericson and Glascock (2004) and Hughes (1988). Again, since I have no Coso Volcanic Field source standard library at this lab, the correlation is a bit variable, but likely the source assignments are accurate. 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

VOICE: 510-393-3931
INTERNET: shackley@berkeley.edu
REFERENCES CITED

Ericson, J.E., and M.D. Glascock
2004 Subsource Characterization: Obsidian Utilization of Subsources of the Coso Volcanic Field,

Hughes, R.E.
1988 The Coso Volcanic Field Reexamined: Implications for Obsidian Sourcing and Hydration Dating

Shackley, M.S.
2005 Obsidian: Geology and Archaeology in the North American Southwest. University of Arizona
Press, Tucson.

2014a Source Provenance of Obsidian Artifacts from Five Sites on the Naval Weapons Station China
Lake, Inyo, Kern, and San Bernardino Counties, California. Report prepared for Epsilon
Systems Solutions, Inc., Ridgecrest, California.

2014b An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Nine Sites on
the Naval Weapons Station China Lake, Inyo, Kern, And San Bernardino Counties, California.

2014c An Energy-Dispersive X-Ray Fluorescence Analysis of Obsidian Artifacts from Two Sites on
The Coles Sam Road Project, Naval Weapons Station China Lake, Inyo County, California.

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

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<th>Fe</th>
<th>Zn</th>
<th>Rb</th>
<th>Sr</th>
<th>Y</th>
<th>Zr</th>
<th>Nb</th>
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Figure 1. Rb versus Zr bivariate plot of archaeological samples (after Hughes 1988).