



NORTHWEST RESEARCH OBSIDIAN STUDIES LABORATORY

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Since 1992, Northwest Research Obsidian Studies Laboratory (NWROSL) has provided analytical services for the trace element provenance studies of obsidian and fine-grained volcanic (FGV) artifacts and the geoarchaeological and geochemical investigation of obsidian sources. We own a Thermo Electron QuanX EC energy-dispersive X-ray fluorescence (EDXRF) spectrometer and maintain a close working relationship with Willamette Analytics (www.willanalytix.com), an obsidian hydration analysis laboratory operated by former Northwest Research hydration analyst Jennifer Thatcher. The XRF laboratory holds an extensive collection of geologic obsidian source reference samples from the Far Western United States, Hawaii, Canada, Mexico, and the Western Mediterranean, and we maintain a very active source sampling and analysis research program.

Northwest Research has successfully completed well over 2,500 archaeological projects in the United States, Canada, Mexico, Pacific Islands, and Western Mediterranean. Laboratory and source information support is provided by our staff and through our websites: www.obsidianlab.com and www.nwarchaeo.com.

PRICE LIST AND DIRECTORY OF LABORATORY SERVICES

XRF TRACE ELEMENT CHARACTERIZATION SERVICES

XRF Analysis and Source Identification: 1-5 samples	\$ 50 per sample
XRF Analysis and Source Identification: 6-50 samples	\$ 38 per sample
XRF Analysis and Source Identification: 51-100 samples	\$ 35 per sample
XRF Analysis and Source Identification: 101+ samples	\$ 32 per sample

OTHER SERVICES

Basic Report (publication-quality data tables only)	Subtract 10 percent (- 10%)
Rapid Turnaround (2 weeks or less - please contact us first to confirm)	Add 35 percent (+ 35%)
Overnight Delivery	\$ 40.00 and up
Other Services (source studies, etc.)	Call or see lab website for details

▪ All projects include a data CD and an electronic Adobe Acrobat copy of the final report or data tables ▪

LAST UPDATED: 1 MAY 2016

WWW.OBSIDIANLAB.COM ■ WWW.NWARCHAEO.COM



HOW TO SELECT AND SUBMIT SAMPLES FOR XRF ANALYSIS

1

SELECTION OF SAMPLES

- **XRF Analysis:** Physical size matters! Larger samples produce better trace element results and higher-quality results mean a greater number of successful source assignments. **Samples should be a minimum of 10 mm in diameter and should be at least 1.5 mm in thickness.** Larger sizes (>15 mm diameter) are preferred for analysis and should be selected whenever possible.
- **How Many Is Enough?** This is the question we are most often asked! The short answer is that it never hurts a project to analyze more artifacts. Please see the lab website for more details.
- **Research Objectives:** We recommend that you use explicit research objectives to guide your sample selection whenever possible. For instance, different classes of artifacts often reflect different procurement behaviors and patterns - formed tools such as projectile points will tend to come from a wider variety of sources than unformed, utilitarian artifacts or debitage. If you're looking at local raw material use, consider debitage. To look at quarry behavior, choose cores. If you're looking for evidence of longer-distance procurement or interaction, you'll probably want to look at formed tools. Similarly, the analysis of temporally diagnostic projectile points may add a valuable chronological dimension to the investigation.

2

TAKE CARE OF THE PAPERWORK

- Please fill out the sample submission sheet.
- Include the site location (UTM or section-township-range preferred).
- Include the sample provenience (sample numbers, unit, level) and artifact type (debitage, biface, etc.) if you would like them shown in your final spreadsheet. If you can include these data on a disk or as an e-mail attachment, we'll appreciate it.
- A packing list of all submitted artifacts (with sample number or other identifier) is recommended.
- Special requests for analytical procedures, reporting, shipping, or billing? Let us know and we'll try to accommodate.
- If you would like us to forward your artifacts to an obsidian hydration lab, please let us know.

3

PREPARE THE SPECIMENS

- **General:** Samples should be individually bagged and submitted with catalog numbers or other identification on the bag.
- **XRF Analysis:** For best results, the surface of the items should be relatively flat, clean, and free of labels or any residues — a simple wash with tap water will usually suffice. More resistant residues may interfere with the analysis in certain case. If artifacts have already been labeled, please don't try to remove them - we'll attempt to analyze label-free areas. Labels are often very high in some of the elements that we may be measuring and even when paint is removed, some residue is left behind.

4

PACK AND SHIP TO THE LAB

- UPS, Fedex, and the U.S. Postal Service all offer various types of trackable shipping methods (that can be monitored via the WWW). In our experience, all have proven reliable.

FOR MORE DETAILS, SEE WWW.OBSIDIANLAB.COM

