



## GUIDELINES FOR RECORDING STRATIGRAPHIC PROFILES

*Revised 2/2001*

Stratigraphic profiles provide some of the most important data that can be gathered from an archaeological excavation. Through careful observation and recording, much can be learned about the construction, use, and abandonment of a site or structure. In addition, stratigraphic profiles often provide key information about postabandonment events that altered or shaped the archaeological context long after the site was inhabited. Because mapping and interpreting stratigraphic profiles involves making a number of subjective judgments, an effort has been made to standardize the procedures and terms used.

In archaeology, **stratigraphy** refers to the layering of sediments that results from various depositional processes, both cultural and natural. The cultural processes begin with the construction and occupation of the site and continue until the site is abandoned. After abandonment, natural processes take over: wind, water, freezing and thawing of sediments, gravity, plant growth, and animal activity continue to shape the site, sometimes in ways that modify existing cultural deposits. In addition, human activity subsequent to the main occupation of the site must be taken into consideration; for example, an abandoned site might be briefly reused by an individual or even reinhabited by another group. Archaeologists leave their marks on sites as well, and the effects their activities have on the stratigraphic record should be considered when describing and interpreting deposits.

The cumulative processes that begin with the occupation of a site and continue to the present are known as “site-formation processes.” Understanding site-formation processes is critical to interpreting the archaeological record. Artifacts that were deposited by natural processes must be interpreted differently from artifacts found in a cultural context. One goal of studying site-formation processes is to document how the archaeological record might have changed since materials were first deposited in a cultural context. Such documentation provides us with a basis for interpreting how and where artifacts might have been used prehistorically.

Many procedures described here are based on techniques used by soil scientists at the US Soil Conservation Service and the US Department of Agriculture. However, because soil scientists and archaeologists use stratigraphic analyses for different purposes, they frequently focus on different types of depositional processes, and they sometimes use different terms to describe stratigraphic profiles. Soil scientists focus on the biochemically active layer and the biological and chemical processes that are responsible for sediment structure and composition. Archaeologists are more interested in the various cultural and natural depositional processes discussed above. Soil scientists use the term “soil” to refer to sediments on or near the surface of the ground that have undergone biological and chemical changes. They use the term “horizon” to refer to a layer of soil that has become uniform through the actions of animals and microorganisms, the growth and decay of plant materials, the gradual downward movement of clay particles, and the accumulation of chemical compounds and cementing agents such as calcium carbonate. Archaeologists often use the more general terms **sediment** and **stratum**. Sediments are particles that have been transported and deposited in their present locations by geological (wind, water, etc.) or cultural processes. The term “stratum” (plural “strata”) is used by archaeologists to describe a layer formed by the natural or cultural deposition of sediments.

The goal of stratigraphic profile mapping and recording is to document and interpret the various events represented by the different strata. One profile face should be recorded in each excavation unit; the face documented should be the one that contains the most information. In some situations it may be advantageous to record two faces of a unit. Each stratigraphic profile is mapped and photographed, and a **Stratigraphic Description Form** is completed for each stratum.

- The profile map should be at a scale that permits you to show all of the relevant details in the profile; a scale of 1:10 is preferable for structures and most features.
- Use the map stamp to ensure that all pertinent provenience information is recorded.
- The face to be documented should first be “cleaned” by scraping it with a trowel. It should also be shaved back to be as smooth and vertical as possible, and, as nearly as possible, it should be directly under the string line indicating the edge of the excavation unit. When cutting a face back in this manner, try to collect artifacts according to the same strata in which the unit was excavated.
- Photograph the face as nearly level and square-on as possible. If it is impossible to photograph the entire face with one exposure, take more than one shot and overlap them. Photographs of profiles show much more detail if taken on a cloudy day or in artificially contrived indirect lighting (e.g., shading with plastic sheeting). To enhance color contrast, you can dampen the profile with a hand sprayer filled with water. If you elect to do this, remember that this is *additional* photo documentation; you must *always* take at least one color and one black-and-white photograph of a stratigraphic profile that has *not* been dampened, scored with a trowel, or modified in any other way. If you take additional photographs, record on the photo log how the face was modified.
- Draw the profile by measuring from a string line that has been leveled with a line level. *In order to be accurate, this line should be stretched as **tautly** as humanly possible and should touch **nothing** except the anchoring object at each end.* Nylon masons’ twine is much better than cotton string for line-level use.
- Measuring up and down, perpendicular to the level line, map in the stratigraphic breaks, the medium and large inclusions, and the boundaries of the profile. Do not draw individual bits of gravel and very small rocks, but do include lenses or pockets of gravel. Draw inclusions that protrude from the profile face as though the inclusion were sliced off flush with the profile face.
- Measure in the boundaries of the profile accurately; do not draw ruler-straight vertical edges on the profile. Label the modern ground surface, label what is outside the profile on both sides (usually “unexcavated”), and label what is under the bottom of the profile (e.g., “undisturbed native sediment,” “bedrock”).
- Label the strata with letter designations (A, B, C, etc.), beginning from the topmost stratum. Provide a key for any other symbols you use in the map.
- Do not forget to record the elevation of the level string line you measured from.
- Complete a **Stratigraphic Description Form** for each stratum.