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Identifying Temper/Paint

Tarrant County Archeological Society

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IDENTIFYING TEMPER

SHERD TEMPER: Sherd temper in dark paste pottery is usually easy to see because at least some of the crushed sherds should contrast in color with the paste. Crushed light-paste whiteware sherd appears as dull white, light gray, or yellowish angular fragments of mixed sizes. Most of what is described as "WAF" (white angular fragments) is crushed sherd. Crushed iron-rich sherds often appear as dark gray angular fragments. Sometimes sand grains appear within the fragments. When light colored sherd temper was added to light colored clay, as in Cibola White Ware and Cibola Gray Ware, and when dark colored sherd temper is added to dark paste, as in Puerco Valley Gray Ware, it can be difficult to see. Look for angular protrusions in a fresh break—the paste will have a coarse texture, but sand grains will be sparse compared to a fully sand-tempered ware like Tusayan Gray Ware.

TRACHYTE TEMPER: Trachyte temper is the hallmark of Chuska White Ware and Chuska Gray Ware; these wares are extremely rare on the Chambers-Sanders Trust Lands. Also known as sanidine basalt in the literature, this igneous rock consists of highly reflective greenish-gold or black crystals visible with a hand lens or microscope. Trachyte temper should not be confused with other kinds of basalts that appear in multilithic sand in some Puerco Valley pottery. Other basalts, for example those from the Mogollon Highlands, tend to be dull, grainy, and gray or flat black.

SAND TEMPER: Sand occurs in some form in most pottery, and is easy to recognize. Clear to translucent white, subangular quartz sand is characteristic of Tusayan White Ware, Tusayan Gray Ware, and early Cibola White Ware. Often, grains have white or yellowish matrix adhering to them, indicating they are derived from sandstones. Puerco Valley tradition pottery contains very fine quartz grains, ranging from subangular to rounded. Often, rounded grains of other minerals are present—frequent colors are opaque white, black, greenish-gray, and reddish. These are identified as "multilithic sand" in the type descriptions below. Augite sand is present in small amounts in Little Colorado White Ware, and sporadically in some other types, such as those in the Tusayan Gray Ware. Augite consists of glassy black crystals. Surfaces and edges of crystal facets are often somewhat frosted from weathering, giving the grains oval shapes.

OTHER TEMPER MATERIALS: Other kinds of crushed rock and multilithic sand may appear in Little Colorado White Ware, and igneous rock fragments appear in both Cibola White Ware made on the Mogollon Rim and Mogollon wares. White angular fragments in all of these wares are not necessarily all sherd—some may be volcanic tuff. San Juan Red Ware contains finely crushed igneous rock called andesite, which appears as opaque white angular fragments accompanied by sparse shiny, black, usually elongated crystals of hornblende.

IDENTIFYING PAINT

ORGANIC (CARBON) PAINT: usually made from boiled plant sap, such as Rocky Mountain Beeweed, organic paints soak into the clay surface and turn black or gray when pottery is fired. Some clays hold organic paint better than others. Organic paints usually disappear or turn into pale, orangish or light gray ghosts when fired with free access to oxygen, so pottery with organic paint must be fired in a neutral atmosphere, for example, in a fire pit that is smothered as it reaches its peak temperature.

Because organic paint soaks into the surface of the pottery, polishing streaks, exposed temper particles, and other irregularities can be seen through the paint. The luster of the paint matches that of the polished surface, except where unpainted areas have weathered more than the denser painted areas. Paint color is gray, black, bluish, or occasionally a watery orange or light brown. Edges are often fuzzy or blurry. If the clay body or slip has begun to vitrify, organic paint will not burn out completely when refired with oxygen (for example, in an electric kiln) but it will become fainter and change color.

MINERAL PAINT: Potters ground or crushed iron or manganese bearing rocks to powder, occasionally adding other minerals. This pigment must have been mixed with a vehicle such as water to make a liquid paint, but organic material such as boiled plant sap was probably also included as a binder. The paint surface is usually dull and may be bumpy. Mineral paint sits up on the surface, and covers polishing marks and other irregularities (see Blinman 1997:145, 186). Edges are usually very crisp. Sometimes the organic binder can bleed and form a somewhat blurry edge, but thick areas of paint remain dull and bumpy. Mineral-organic mixes are classified as mineral paints. Refiring with free access to oxygen in an electric kiln will cause iron-based paints to turn bright red. Manganese-based paints will remain black or dark brown.

GLAZE PAINT: Glazes are a kind of mineral paint, in which some minerals (copper or lead) form a flux and allow the paint to become glassy in firing. Shiny, glassy glazes are common on Zuni area pottery after about ad 1300. Most of the glaze paints found in the Puerco Valley are called "matte glazes" because although vitrified, their surfaces are not shiny. They are dense and black, with somewhat shiny areas together with thick, bumpy areas. Matte glazes appear on Pinedale Black-on-white, St. Johns Polychrome, and occasionally in the Kintiel-Klagetoh redware tradition.