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In This Issue: Our opening paper is a recent work exploring the production of Rio Grande glazeware at a site to the south-southeast of Fort Marcy on top of a 7-meter-high slope overlooking the Santa Fe River to the south. Our second feature article is Part 1 of a series of articles that report the results of the November, 2007, conference at the Museum of Northern Arizona entitled "Pottery North and West of the Colorado River." *On the Shelf* and *On View* follow.

Finally, we provide some technical tips on submissions. An electronic publication creates formatting challenges beyond those of conventional printing or photocopying. These tips make publishing in *Pottery Southwest* easier for our contributors. We hope you will take advantage of them and send in your submissions (see Page 27 for how-to).

CONTENTS

	<u>Page</u>
LA 149323: Evidence For The Production Of Rio Grande Glazeware During The Early Eighteenth Century by Douglas Boggess and David Hill.....	2-11
Prehistoric Pueblo Pottery North and West of the Colorado River: Museum of Northern Arizona Ceramic Conference by Kelley Hays-Gilpin and Margaret	12-20
On the Shelf: Recent Publications of Interest.....	21-24
On View: Exhibits of Interest.....	25
Pottery Southwest Mission Statement	26
How to Submit Papers and Inquiries	27
Order Form for Archival CD of Pottery Southwest	28

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LA 149323: EVIDENCE FOR THE PRODUCTION OF RIO GRANDE GLAZEWARE DURING THE EARLY EIGHTEENTH CENTURY

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ABSTRACT

The excavation of LA 149323, a trash deposit containing debris from copper smelting and household refuse, produced evidence for the production of Rio Grande Glaze wares during the first half of the eighteenth century. This report will outline the excavation of LA 149323, highlighting the Spanish and Native-made ceramics recovered. Petrographic analysis was conducted on a sample of the indigenous pottery including the examples of Rio Grande Glazeware along with Tewa Matte-Paint tradition and utility wares for the purposes of comparison with previous petrographic studies of Rio Grande Glazeware and with local geological resources.

INTRODUCTION

LA 149323 is located to the south-southeast of Fort Marcy on top of a 7-m-high slope overlooking the Santa Fe River to the south. The site, an eighteenth century midden site that also served as an informal copper smelter was discovered and initially recorded by Tom McIntosh of ArcCom Historic Preservation (ArcCom). This site was discovered during a survey and testing project conducted of a property located on East Palace Avenue, within the City of Santa Fe, New Mexico, in the Downtown Historic District. Mr. McIntosh conducted his survey and testing project in July 2005 (McIntosh et al. 2005). Douglas Boggess of Lone Mountain Archaeological Services, Inc. conducted data recovery on this site, and submitted a preliminary report describing the results (Boggess 2006). At the time of this writing, materials are still being analyzed for the preparation of a final report.

The site, however, has proven to contain Rio Grande Glazeware that does not clearly match published descriptions of prehistoric types. Given the context of the discovery, these sherds appear to be a previously undescribed eighteenth century variety.

THE EXCAVATION OF LA 149323

LA 149323 consists of a midden deposit divided into Features 1 through 4 by the discoverer. The midden appears to have been two pits (Features 1 and 3) that were excavated and filled with

refuse that overlay slightly earlier refuse-filled pit (Feature 4). A limited amount of copper processing took place in the vicinity of all three pits. Initial testing of the site recovered 2,681 sherds, 870 pieces of bone, 657 pieces of slag, seven pieces of copper ore, 173 glass shards, two pieces of wood, 14 metal artifacts, and 10 "other" (McIntosh et al. 2005:56). Upon excavation Mr. Boggess found a more or less continuous deposit of midden materials without any evidence of structures and possibly representing several depositions of material, but largely containing early to mid-eighteenth century materials. At present count, Mr. Boggess has collected 146 lithic artifacts, 4,709 sherds, 3,867 pieces of bone, 154 pieces of slag, 357 pieces of copper ore, 82 glass shards, 25 pieces of metal, as well as other possible flux and byproduct materials such as iron ore, lime, and pyrite from this deposit. This midden deposit had been buried by fill materials, possibly during the early twentieth century, as the greatest quantity of prehistoric and late nineteenth sherds were found at the contact between the overburden and the feature fill. The deposit itself appeared to have been mixed, with later pottery types, such as Powhoge Polychrome underlying earlier types, such as Tewa Polychrome, but the materials found within these mixed contexts appear to date to a period encompassing the transition from Tewa Polychrome to Powhoge Polychrome ca. A.D. 1720 to ca. A.D. 1760.

The eighteenth century glazeware found in this excavation was recovered in the portions of the midden deposit identified as Features 1 and 3, as well as some artifact-rich fill adjacent to Feature 1. Glazeware were found within the feature fill, and do not appear to be the result of contamination from earlier use of the site or through later trash disposal. The glazeware found outside the features was found some 20 cm to 30 cm below the stratigraphic contact with the later overburden.

Initial archival research, though not conclusive, indicates that Geronimo Ortega, a soldier born in Zacatecas, and his descendants owned land in the vicinity of the subject property. One of Geronimo's daughters married Antonio Urban Montano, who obtained the San Marcos Pueblo Grant in 1754. Copper sources are present near San Marcos, and smelting had taken place at the San Marcos Pueblo during the seventeenth century (Vaughn 2006). Copper processing at LA 149323 appears to have been short-lived and taken place after much of the midden deposit was formed.

SPANISH CERAMICS

The ceramic assemblage from LA 149323 is currently being reanalyzed in more detail but has thus far produced a few sherds of majolica and Chinese porcelain. As identified by co-author, David Hill, the types of Spanish majolica recovered include: Abó Polychrome (A.D. 1650 to 1750), Aranama Polychrome (A.D. 1750 to 1800), Puebla Blue-on-white (A.D. 1675 to 1800), San Elizario Polychrome (A.D. 1750 to 1850) and Qing Dynasty overglaze enamel. Sources available for the majolica types include Goggin (1968), Barnes and May (1972), Lister and Lister (1974), Deagan (1987), and Cohen-Williams (1992). A single tiny sherd with a dark brown-colored lead-based glaze on a brick-red paste was also recovered. Similar brown-colored glazed ceramics have been recovered from LA 70 in the Cochiti area (Warren 1976).

NATIVE-MADE CERAMICS

Locally available temporally diagnostic ceramic types identified include Plainwares similar to Carnue Plain, Matte-Paint and Plain Tewa types, Puname-Zia types, Pecos-style Striated wares, and micaceous Apache or Tewa sherds along with the glazewares. Tewa decorated types include Powhoge Polychrome (usually assumed to date from A.D. 1760 to as late as 1900), Pojoaque Polychrome (A.D. 1720/1730 to 1760) (Harlow 1973; Frank and Harlow 1990), Ogapoge Polychrome (A.D. 1725/1730 to 1760) (Harlow 1973; Frank and Harlow 1990), and Tewa Polychrome (A.D. 1650 to 1730 (Harlow 1973, Frank and Harlow 1990). Four sherds from a single hemispherical bowl have a design resembling Sakona Polychrome (A.D. 1650 to 1700). Harlow (1973:29) suggests that hemispherical bowls do not become common until A.D 1720. Given the anomalous vessel shape, these sherds may represent some undescribed variant of this type.

Tewa Polychrome jars are characterized by a distinctive a sharp keel covered almost entirely by a red slip, onto which a white slip was applied, and thin black lines of organic paint are applied, with usually a single framing line outlining a design panel on the central portion of the vessel (Harlow 1973: 28-30). Powhoge Polychrome has a more globular form that is only partially covered by a red slip with the base and lower portions of the vessel unslipped. The red slip often overlaps the white slip indicating that the application of red slip after the white slip. Black lines are thicker and the decorated portion of the vessel covers the entire upper body. Usually two framing lines bound the panels of decoration (Harlow 1973:31-34). Two types that appear to bridge the gap between Tewa Polychrome and Powhoge Polychrome are also known. These are Pojoaque Polychrome, which is in effect more roughly made Tewa Polychrome that lacks an overall red slip, and Ogapoge Polychrome, which is similar in the extent of decoration to Powhoge Polychrome, but incorporates red design elements within the otherwise black-on-white design panels (Harlow 1973:30-31). The analyzed portion of the assemblage from LA 149323 contains Ogapoge Polychrome but no Pojoaque Polychrome.

The nature of the ceramic assemblage suggests not only a mixed assemblage, but one that does not appear to confirm the assumed dates for some historic ceramic types. Powhoge Polychrome appears to be the most common ceramic type (n=333, features only) in the assemblage from all three features, and based on conversations between David Hill and C. Dean Wilson, a date earlier than 1760 for the appearance of Powhoge Polychrome is warranted, based on the forthcoming results of other Santa Fe excavations conducted by the Office of Archaeological Studies, Museum of New Mexico.

Puname Polychrome and San Pablo Polychrome from Zia are present. Puname Polychrome has been dated from A.D. 1700 to 1750+ (Harlow 1973) or A.D. 1680 to A.D. 1740 (Frank and Harlow 1990). San Pablo Polychrome has been dated to A.D. 1740 to 1800 (Ferg 1984; Frank and Harlow 1990). Other types include a redware that resembles San Juan Red (beginning around A.D. 1725 according to Harlow [1973]) and Pecos Heavy Striated (A.D. 1700 to 1838) (Kidder and Shepherd 1936).

The Apache ceramics most closely resemble Ocate Micaceous, which dates from A.D. 1600 to A.D. 1750 and has been found in association with Tewa Polychrome on Apache sites (Gunnerson 1969). Cimarron Micaceous, A.D. 1750 to A.D. 1900, can be thicker than Ocate

Micaceous and has a thickened olla lip (Gunnerson 1969). Distinguishing between these two types therefore requires sherds from the correct part of a vessel. Given what has been observed thus far, most sherds are likely to be Ocate Micaceous.

Given that the Matte-Paint Tewa wares and much of the majolica (with the exception of San Elizario Polychrome) predates 1750, it is posited that the assemblage reflects a range of dates from ca. A.D. 1740 to ca. A.D. 1760. Given the association of the Rio Grande glazewares recovered from LA 149323 with eighteenth century Tewa Matte-paint types like those recovered from the two eighteenth century Cochiti sites, it is likely that rather than intrusions from an unidentified earlier occupation of the site, these glazewares represent contemporary pottery.

The Rio Grande glazewares from LA 149323 have a polished buff appearance with broad stripes of uneven reddish brown glaze paint. They appear to represent only jar sherds. Several types of inclusions were observed in the pastes of these sherds, predominately porphyritic tuff containing hornblende. The glazeware sherds were too small to identify potential diagnostic rim forms.

Evidence for the continued production of Rio Grande Glazewares into the eighteenth century has been recognized elsewhere in northern New Mexico. Excavations of early eighteenth century occupations at LA 70 and LA 591 conducted as part of the Cochiti Dam Salvage project produced glazeware (Warren 1976; 1979). Glazewares have also been reported from eighteenth century Navajo sites in northwestern New Mexico (Hill in press). While some of the glazewares from Navajo sites represent earlier occupations some may also be associated with eighteenth century occupations.

PETROGRAPHIC ANALYSIS OF CERAMICS FROM LA 149323

A sample of twenty-two sherds, predominately Rio Grande Glazewares were submitted for petrographic analysis. The petrographic study is oriented toward documenting the composition of the variability in the paste of the glazeware sherds and comparing the results of this analysis with previous studies of Rio Grande glazewares and other ceramics from LA 149323 and other site in the the Santa Fe area.

Methodology

The ceramic sample was analyzed by the authors using a Nikon Optiphot-2 petrographic microscope. Analysis was conducted by examining the thin-section and generating a brief description the sherd. The size of the inclusions present in the paste is described in terms of the Wentworth Scale, a standard method for characterizing particle sizes in sedimentology. The particle sizes were derived from measuring a series of ten grains using a graduated reticule built into one of the microscope's optics. The percentages of inclusions observed in the ceramic paste of the ceramic samples were estimated using comparative charts (Matthew et al. 1991; Terry and Chilingar 1955). Given the diversity of the inclusions that are present in ceramics, the comparative method for assessing the amount and size of materials found in ceramics has been found as useful for archaeological ceramic petrography as point counting (Mason 1995).

Table 1. PETROGRAPHIC SAMPLE FROM LA 149323		
SAMPLE NUMBER	CERAMIC TYPE	PROVENIENCE
1	Tewa Polychrome	Unit 14, Level-1
2	Biscuit A	Unit 13, Feature 1, Level-1
3	Rio Grande Glazeware	Unit 10, Feature 3 E1/2, Level 1
4	Rio Grande Glazeware	Unit 1, Feature 1, Level 2
5	Rio Grande Glazeware	Unit 6, Feature 1, Level-2
6	Rio Grande Glazeware	Unit 23, Feature 3, Level-1
7	Rio Grande Glazeware	Unit, 23, Feature 3, Level-1
8	Tewa Polychrome	Unit 16, Feature 1, Level-1
9	Rio Grande Glazeware	Unit 14, Level-1
10	Rio Grande Glazeware	Unit 1, Feature 1, Level-1
11	Polished Incised Grayware	Unit 1, Feature 1, Level-1
12	Rio Grande Glazeware	Unit 16, Feature 1, Level-2
13	Tewa Polychrome	Unit 12, Feature 1, Level-3
14	Rio Grande Glazeware	Unit 12, Feature 1, Level-2
15	Rio Grande Glazeware	Unit 15, Feature 1, Level-2
16	Rio Grande Glazeware	Unit 15, Feature 1, Level-2
17	Rio Grande Glazeware	Unit 12, Feature 1, Level-1
18	Dark Gray Plainware	Unit 12, Feature 1, Level-3
19	Light Gray Plainware	General site collection
20	Tewa Tradition Polished Red-on-tan	General site collection
21	Rio Grande Glazeware	Unit 4, Feature 1, Level-1
22	Pojoaque Polychrome	Unit 23, Feature 2, Level-1

DISCUSSION OF THE PETROGRAPHIC STUDY

Samples 1, 8, 13, 20, and 22 represent examples of the Tewa Matte-paint ceramic tradition. Sample 11, a plain polished incised rim sherd also has a paste that is similar in appearance to the decorated Tewa ceramics. These sherds contain limited amounts of mineral grains derived from a

plutonic source along with occasional fragments of quartzite and/or plutonic rock fragments. Due to their infrequency, the fragments of plutonic rock represent natural inclusions in the source(s) of the ceramic clay. The low percentage in these sherds of minerals and rock fragments of a plutonic origin indicates that the source clays have a common origin, most likely weathered from the Pre-Cambrian rock of the Sangre de Cristo Mountains located to the east of the project area..

Sample 18 and 19 also contain fragments of plutonic rock. However, unlike the decorated examples of Tewa pottery, the fragments of plutonic rock account for about 10% of the ceramic paste. The greater amount of mineral grains and rock fragments of a plutonic origin present in these sherds indicates a different source of clay was used to produce these two ceramics than was observed in the paste of the sherds described previously.

Given the widespread occurrence of plutonic rocks throughout the southern Sangre de Cristo Mountains, the clays could have been procured from more than one source along the eastern edge of the mountains (Miller et al. 1963). Clay is also present in the Tesuque formation which also may contain fragments of plutonic rock (Spiegel and Baldwin 1963).

All of the above ceramics were tempered using varying amounts of glassy pumice. Pumice is widely available on the Jemez Plateau and the Tesuque and Española Basins (Reneau and McDonald 1996; Spiegel and Baldwin 1963). Two sources would have been easily available to potters living in the area. The Tesuque formation of Miocene age is exposed between Pojoaque and Tesuque Pueblo and is composed of several thousand feet of sandstones, siltstones and conglomerates composed primarily of plutonic rock fragments. Interbedded in the Tesuque formation are numerous layers of fine white volcanic ash (Galusha and Blick 1971). The volcanic ash of the Tesuque formation is still used by Tewa potters (Habicht-Mauche 1993:81).

Pumice is also available as a component of the Quaternary basalt flows of the Jemez caldera. Test trenches and a large quarry pit were reported about two miles north of Calabasas Arroyo (Spiegel and Baldwin 1963:63). It is likely that these pits represent quarrying for pumice by Tewa potters.

The single example of Biscuit A recovered from the excavations at LA 149323 also contains a trace amount of sediments derived from a plutonic source. The pumice fragments in this are much smaller and weathered relative to those observed in the Tewa wares. This sherd also contains fragments of caliche that contain sediments of a plutonic origin. The presence of these two grains of caliche suggests the use of material from the Tesuque formation that also contains calcareous deposits (Spiegel and Baldwin 1963).

Fourteen sherds classified as unidentified Rio Grande glazeware from LA 149323 were also examined through petrographic analysis. Samples 3, 4, 9, 14, 15, and 21 were tempered using a weathered gray-brown porphyritic tuff with a opaque often kaolinized groundmass that contains zoned plagioclase and brown hornblende. Laths of zoned plagioclase and hornblende also occur as isolated minerals in the paste of all of these sherds. Trace amounts of pyroxene and brown biotite are also present in these sherds. The slight variations in the amount of each of these components indicated that several vessels are represented in the ceramic assemblage.

The porphyritic tuff observed in these sherds differs from the examples of Glaze VI (Rio Grande Glaze F) examined by Anna Shepard from Pecos Pueblo (Kidder and Shepard 1936:514). Shepard describes 20 samples out of the 24 Glaze VI sherds that she examined as what she describes as a hornblende andesite with a microcrystalline groundmass, zoned plagioclase having often altered cores and brown hornblende. The hornblende andesite described by Shepard is now referred to as hornblende latite and was produced primarily at Tonque Pueblo (Warren 1979).

Sample 12 and 17 are characterized by pastes that are unique in the petrography sample from LA 149323. These two sherds contain primarily isolated fragments of zoned plagioclase and hornblende. Fragments of hornblende tuff account for only about 1% of the paste in these two sherds. The brownish red color of the paste of these two sherds stands in sharp contrast to the dark brown to black color and opaque texture of the paste of the previously described sherds that contain hornblende latite. Glaze wares produced using red-firing clays and containing hornblende tuff have been reported previously (Warren 1976). The sources of this red firing latite tempered glaze wares is unknown and are likely different from the source of the previously described sherds.

Sample 16 contains highly weathered fragments of hornblende tuff and a greater amount of isolated mineral grains than were observed in the glaze ware specimens described previously. It is believed that this sherd represents a vessel that was produced using clay that contained hornblende tuff as a natural inclusion redeposited from elsewhere rather than as an added material.

Samples 6 and 10 contains sherd temper. Sample 10 contains 10% fragments of hornblende tuff that are identical to those present in previously described samples of glazeware. In addition to the sherd temper, the paste of Sample 6 also contains primarily sands from an arkosic or plutonic source. A single grain of augite is also present in the paste of this sherd. One Glaze VI sherd from Pecos Pueblo contained sherd temper that was present in a sandy paste. However, the sherd from Pecos also contains abundant augite (Kidder and Shepard 1936:514). Given the limited comparative material available for the petrographic examination of eighteenth century Rio Grande glaze wares the source of these two sherds cannot now be determined.

Sample 5 contains sediments derived from a plutonic source. Also present in the paste of this sherd is a single fragment of an arkosic sandstone that contains weathered biotite mica and five fragments of caliche. The caliche fragments contain individual grains of angular quartz and untwinned feldspar. The presence of sediments derived from a plutonic source and the presence of caliche suggests that use of the Tesuque formation for the source of clay for this sherd (Spiegel and Baldwin 1963). However, without comparative samples of clay from the Tesuque formation attributing this sherd to that source is premature.

Very limited petrographic study had been conducted of decorated ceramics from the early eighteenth century in New Mexico. This project has contributed to this limited body of archaeological analytical literature. Future petrographic projects should include a concerted effort to include resource surveys to provide comparative data regarding the types of inclusions present in local clays and from in glaze wares from contemporary sites. Only then can archaeologists' hope to approach understanding patterns of resource procurement and exchange during this poorly documented period of New Mexico history.

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**Prehistoric Pueblo Pottery North and West of the Colorado River:
Museum of Northern Arizona Ceramic Conference
November 9-10, 2007**

Margaret M. Lyneis and Kelley Hays-Gilpin

Margaret Lyneis and Kelley Hays-Gilpin convened a two day conference at the Colton Research Center sponsored by the Museum of Northern Arizona. Approximately 40 archaeologists attended. A highlight of the conference was the Friday night reception sponsored by the Kaibab-Vermilion Trust Alliance, held at the headquarters of the Grand Canyon Trust. More than 50 years after the publication of Harold S. Colton's *Pottery Types of the Arizona Strip and Adjacent Areas in Utah and Arizona* (1952), we have learned a great deal more about the pottery of the region. It is time for a new synthesis.

The Region and its Pottery-Producing Locales

The region (Figure 1) extends from the Moapa Valley in Clark County, southern Nevada, eastward to the Escalante River which flows into the Colorado River just east of 50-mile Mountain at the eastern margin of the Kaiparowits Plateau in Kane County, Utah. It is about 200 miles east-northeast from Overton, Nevada, to the Escalante River. The Moapa Valley is the westernmost area where prehistoric Pueblo settlement was continuous, hence its choice as the western terminus of the area we cover. Nevertheless, prehistoric Pueblo pottery is common in the Las Vegas Valley, where there is evidence of intermittent settlements (Lyon and Ahlstrom 2006).

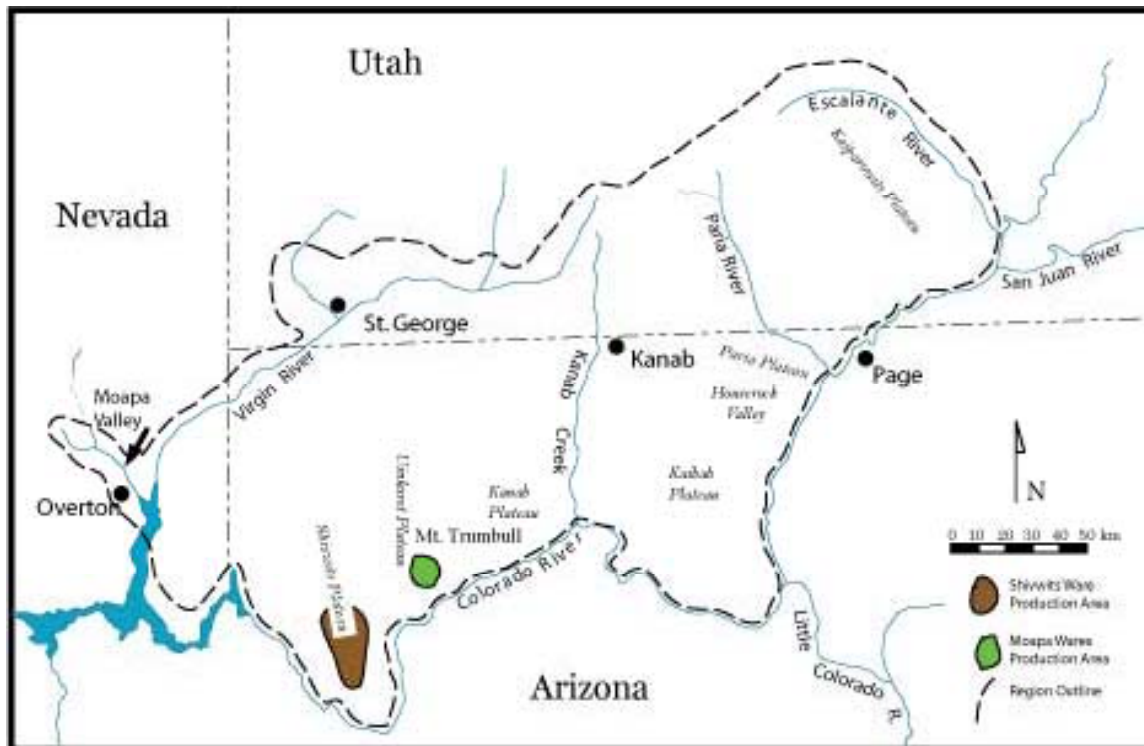


Figure 1. The prehistoric Pueblo region north and west of the Colorado River

West of Kanab Creek

Kanab Creek, which heads up in the southern part of Bryce Canyon National Park and flows south through Kanab, Utah, to the Colorado River is a convenient geographic divider. It separates two spheres of pottery production and distribution, perhaps because it is difficult to cross. To its west is the Kanab Plateau, Mt. Trumbull and the Uinkaret Plateau as well as the Shivwits Plateau.

Still further west, the Virgin River takes us from the plateaus of Zion National Park down through the St. George Basin into the low-elevation desert of far northwestern Arizona and southern Nevada to Lake Mead. The Muddy River, which drains the Upper and Lower Moapa Valleys, originates in warm springs in the upper valley at an elevation of about 400 m, and runs southeast through the Lower Moapa Valley where it enters Lake Mead. Prior to the creation of Lake Mead, it joined the Virgin River, which flowed into the Colorado River. The northern edge of the region is formed by the higher elevations of the Grand Staircase, where the growing season becomes too short [for what? for reliable cultivation of maize].

Mt. Trumbull and the Moapa Wares. Residents of the southeast edge of the Uinkaret Plateau in the vicinity of Mt. Trumbull produced surpluses of Moapa Gray Ware and Moapa White Ware, known informally if not accurately as “olivine-tempered pottery.” Crushed or disaggregated olivine-rich xenoliths from ashy tuffs provided the distinctive temper for this pottery. These wares were supplied [in ? quantities relating to lesser? large numbers] to settlements along the Muddy and lower Virgin Rivers, and in lesser quantities to the St. George Basin and the plateaus to the north, including Yellowstone Mesa, 30 miles to the north (Allison 1988). Only very small quantities reached the communities along the base of the Vermilion Cliffs. In Hildale, only .2% of the pottery was Moapa Gray and White Ware. However, there was local production of sand-tempered pottery here, using clays from the Chinle Formation from the adjacent Vermilion Cliffs (Hasbargen and Gilpin 2003). The Moapa wares were present in the Moapa Valley throughout the Pueblo occupation, from BM III to Late Pueblo II, but peaked in Middle Pueblo II times (Allison 2000: Figures 17-19).

The Moapa wares were also exchanged eastward in quantities to settlements on the Kanab Plateaus. They made up as much as 60% of the assemblages from sites without corrugated pottery. In later sites, indicated by the presence of corrugated wares, their frequency dropped to about 35%. The implications of these large quantities remain to be explored (Huffman 1993:Table 20).

The Shivwits Plateau and Shivwits Ware. The second volcanic production area was on the Shivwits Plateau where jars and a few plain bowls were made. This Ware is common in the lower Moapa Valley in Middle Pueblo II times (Lyneis 1992). However,, its occurrence in other areas is not well documented. Shivwits Ware was made from iron-rich clays, presumably derived from weathering basalt and tempered with crushed sherds.

Logandale Gray and White Wares. These are the only wares known to have been made in the Moapa Valley and lower Virgin Valleys. Their key characteristic is limestone or dolomite temper; a close look will reveal some other, secondary inclusions. It is not thought to be widely distributed beyond its production areas.

Tusayan Gray Ware, Virgin Series, and Tusayan White Ware, Virgin Series. The conference did not address the issues behind these categories. Currently they encompass a wide range of sand tempered pottery, including multilithic sand in some cases. They are distinguished from Shinarump White Ware and Shinarump Gray Ware by fired clay color and texture. Tusayan Gray Ware, Virgin Series is thought to have been widely produced west of Kanab Creek (Allison 2000:220).

East of Kanab Creek and the Shinarump Wares

The Kaibab Plateau, House Rock Valley, the Paria Plateau and the Kaiparowits Plateau lie to the east of Kanab Creek. Colton only had sherds from the Virgin Valley when he defined Shinarump Gray Ware and Shinarump White Ware (1952:55-65). He made the assumption that their ranges were limited to the Virgin and Moapa Valleys. As the only described ware with a dark paste, Shinarump Gray Ware and Shinarump Brown became a dumping ground for any sand-tempered pottery with a dark-fired clay body. The difficulties with this ware and its types came to center stage with the excavation of the Dead Raven site in Johnson Canyon, east of Kanab, Utah. By this time usage of Shinarump Gray Ware had shifted significantly from Colton's (1952) characterization. In 1986 an informal gathering in Cedar City, Utah confronted the problem. They decided a new definition of "Shinarump" was required and Robert Euler drafted one (Walling and Thompson 1988:45-52). Since 1988, most of us have used Shinarump Plain instead of Shinarump Brown to designate pottery that meets our revised sense of what this type should look like. Shinarump Gray and White Wares and their types are rare west of Kanab Creek.

Extra-regional Wares

San Juan Red Ware and Tsegi Orange Ware are found in low quantities across the region. Deadmans Black-on-red is generally the earliest type of San Juan Red Ware found. However, a few sherds of Abajo Polychrome were recovered at the Bonelli site in southern Nevada (Lyneis 2000:261). From Tsegi Orange Ware come both Medicine and Tusayan Black-on-red. Polychromes are rare.

Tusayan White Ware, Kayenta Series, also occurs in low quantities across the region, particularly as Kana-a Black-on-white and Black Mesa Black-on-white. As sherds it is sometimes difficult to distinguish it from Tusayan White Ware, Virgin Series. Lyneis postulates that Tusayan White Ware, Kayenta Series, has been under-identified.

Chronology

Temporal control is poorly developed in the region. We spoke in the terms of the Pecos stages, Basketmaker III to Pueblo II, with Pueblo II divided into early, Middle and Late. Pueblo III is rarely used, and with hesitance. Although there is increasing evidence of Pueblo occupation into the 1200s, there are few signs of Pueblo III characteristics such as aggregation. Flagstaff Black-on white or a regional interpretation of its style is scarce to absent. Type and ware description will also use this chronology.

Design Styles

A fresh look at regional black-on-white design styles was a central focus of the conference. While they are loose analogs to the design styles of Tusayan White Ware, Kayenta Series, and Colton saw them that way, the conference made a good start at distinguishing their independent characteristics. This effort was greatly enhanced by the presence of archaeologists well-versed in Kayenta design styles. The group recognized an outline of varying similarity to Kayenta designs beginning with great similarity in Basketmaker III/Lino times. There is much more contrast in PI times, with little similarity to Kana-a. Instead we will use “Washington style,” based on Washington Black-on-gray, a type in Tusayan White Ware, Virgin Series (Colton 1952: 35-36).

Greater similarity returned with St. George style, a very loose analog of Black Mesa Style named after St. George Black-on-gray in Tusayan White Ware, Virgin Series. We note that in the Kayenta series “Black Mesa style” is already loosely defined. In both areas, the style is characterized by a wide variety of bold elements including dotted and plain triangles, positive and negative squares, varied line widths, and occasional squiggle hatchure. Layouts are often banded and sometimes have panel dividers of multiple thin lines.

Similarity increased with Sosi analogs more in content than in layouts (Figure 2). In both areas, Sosi-style elements consist of elongated right triangles and broad lines. In the Kayenta area, Sosi-style broad lines are virtually always 5-7 mm wide, and the white spaces between them are wider than the black lines. In the Virgin series and other wares with Sosi style elements in the study area, we observe a wider variety of lines widths that are often more closely spaced. The distinctly regional “across-the-bowl” layouts are found with St. George style content or may incorporate Sosi-like angles and triangles (Figure 2). Dogoszhi style is readily recognizable. Although there are type names for a Flagstaff-like style in each of the white wares except Logandale White Ware, pieces with this style are hard to recognize or rare. A sub-group of conference participants will work on full characterizations of the regional styles.



Figure 2. A North Creek Black-on-gray bowl in the collections of the Lost City Museum, Overton, Nevada. Photograph courtesy of David Van Alfen.

**Northern Arizona University's Graduate Ceramics Class
and the Littlefield Site**

In preparation for the conference, Northern Arizona University's Spring 2007 Ant 552 Ceramic Analysis class analyzed pottery from the Littlefield site, NA9058. Located in far northwestern Arizona, it was situated on the eastern edge of Mormon Mesa between the Virgin River Gorge and Mesquite. It was excavated by the Museum on Northern Arizona under the direction of William Wade before the construction of I-15. All the kinds of pottery produced west of Kanab Creek are well represented in this collection. Sherds from the Littlefield site, as well as from some sites east of Kanab Creek will be added to the Colton Ceramic Repository at the Museum of Northern Arizona. The students' reports are on file in the repository.

Revised Ware and Type Names

Sherds from the Las Vegas Valley, mostly contributed by Dr. W. S. Park, were an important part of the collection used by Colton to define the wares and types of this region. Bradley Stuart contributed sherds from the Moapa Valley. Colton was inclined to name types after the localities where they were first noted. Other sherds that Colton used in describing types for the region came from sites along the Virgin River in the vicinity of St George, Utah. Names currently in use include many of those from Colton (1952) as well as a number of useful designations developed by Richard A. Thompson (Walling et al. 1986). The conference reviewed the nomenclature and agreed on a structure and names for the pottery known to be produced in the region.

Among the “policy” conclusions basic to this revision was the decision to delete separate type names for the versions of black-on-white types that have corrugated exteriors on bowls. The conference participants eliminated separate type names for versions with fugitive red on exterior. They also eliminated the only separate corrugated type that was distinguished by a particular form of corrugation, Washington Corrugated in Tusayan Gray Ware, Virgin Series.

Although Moapa White Ware (Colton 1952:3) was reinstated so that all black-on-gray and black-on-white types are grouped into white wares, Colton’s convention of calling the types “Black-on-gray” was retained. The exceptions are the types in Shinarump White Ware. They are slipped, and as in Colton’s typology, those types are “Black-on-white.”

Other additions include Logandale Corrugated in Logandale Gray Ware; Logandale White Ware to include Logandale Black-on-gray and Shivwits Ware to include Shivwits Plain and Corrugated. Tables 1-3 summarize the current names and ware/type organization for the region.

Acknowledgments

We appreciate the contributions of the graduate students in Northern Arizona University’s ANT 552 Ceramic Analysis seminar for Spring 2007. Their reports, listed below, are on file in the Colton Ceramic Repository, Museum of Northern Arizona.

Baldwin, Lisa and Lindsay Smith
2007 Chronology and History of the Tusayan White Ware, Virgin Series.

Bane, Barbara
2007 Moapa Gray Ware.

Decker, Jeremy
2007 Decorated Moapa Gray Ware Types: A Description of Olivine-Tempered Pottery Types Found in Southwestern Utah, Southeastern Nevada, and the Arizona Strip.

Joseph, Brian
2007 Shivwits Plain Ware.

Mandell, Ryan A.

2007 Logandale Gray Ware.

Novotny, Michael J.

2007 Shinarump Red Ware: A Historical Overview and Type Description.

Rodriguez, Fredy, and John Paul Schubert

2007 Shinarump Review: Laboratory Analysis, Chronology, and Type Descriptions of Shinarump Gray and White Wares.

Shurack, Nikki

2007 The History and Chronology of San Juan Red Ware.

Stehman, Kelly

2007 Tsegi Orange Ware: A History, Chronology, and Refined Type Descriptions.

Swarts, Kelly and Thann Baker

2007 Developmental History of Tusayan Gray Ware – Virgin Series Ceramics.

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Lyon, Jerry D. and Richard V. N. Ahlstrom

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1986 *Excavations at Quail Creek*. Cultural Resource Series No. 20, Bureau of Land Management, Utah.

Walling, Barbara A., and Richard A. Thompson

1988 *Archaeology of the Dead Raven Site*. Prepared for the Kane County Commission by Intersearch, Cedar City, Utah. (Reissued as Utah Cultural Resource Series No. 26, Grand Staircase-Escalante National Monument Special Publication No. 2 [2004]).

Table 1. White Wares and Types.

Design Style	Logandale White Ware	Tusayan White Ware, Virgin Series	Moapa White Ware	Shinarump White Ware
Lino-like	Logandale Black-on-gray	Mesquite Black-on-gray	Boulder Black-on-gray	not known
Washington	not known	Washington Black-on-gray	Boysag Black-on-gray	not known
St. George	not known	St. George Black-on-gray	Trumbull Black-on-gray	Wahweap Black-on-white
Sosi-like	not known	North Creek Black-on-gray	Moapa Black-on-gray	Wygaret Black-on-white
Dogoszhi-like	not known	Hildale Black-on-gray	Slide Mountain Black-on-gray	Vermilion Black-on-white
Flagstaff-like	not known	Glendale Black-on-gray	Poverty Mountain Black-on-gray	Cottonwood Black-on-white

Table 2. Shinarump Red Ware Types.

Design Style	Type
Medicine-like	Kanab Black-on-red
Tusayan-like	Middleton Black-on-red

Table 3. Gray Wares and Types.

Surface Finish	Logandale Gray Ware	Tusayan Gray Ware, Virgin Series	Moapa Gray Ware	Shivwits Ware	Shinarump Gray Ware
Plain	Logandale Gray	North Creek Gray	Boulder Gray	Shivwits Plain	Shinarump Plain
Corrugated	Logandale Corrugated	North Creek Corrugated	Moapa Corrugated	Shivwits Corrugated	Shinarump Corrugated

On the Shelf

New Perspectives on Pottery Mound Pueblo

edited by Polly Schaafsma (University of New Mexico Press, 2007)

New Perspectives includes two chapters and a useful appendix on ceramics.

"Understanding the Dynamics of Segregation and Incorporation at Pottery Mound through Analysis of Glaze-decorated Bowls," by Suzanne L. Eckert, incorporates technological and stylistic analysis of early Rio Grande glaze-on-red, glaze-on-yellow, and polychrome types, as well as Pottery Mound and Hidden Mountain polychromes and several local copies of Zuni glaze polychromes.

"Sikyatki Style in Regional Context," by Kelley Hays-Gilpin and Steven A. LeBlanc compares the decorative style of Sikyatki Polychrome pottery with Pottery Mound Polychrome and with mural paintings from the Hopi Mesas and Pottery Mound Pueblo.

An Appendix by Curtis Schaafsma presents a compilation of all previously reported ceramics excavated from Pottery Mound.

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(Vol. 73, No. 2): The Rio Arriba

Guest editors Bradley J. Vierra and J. Michael Bremer.

Articles include:

The Rio Arriba: Research Perspectives on the Archaeology of the Northern Rio Grande Valley, New Mexico, by Bradley J. Vierra and J. Michael Bremer

Foragers and Farmers in the Northern Rio Grande Valley, New Mexico, by Bradley J. Vierra and Richard I. Ford

The Late Developmental and Early Coalition of the Northern Middle Rio Grande: Time or Process? by Cherie L. Scheick

Coalition Period Subsistence on the Pajarito Plateau: Faunal Remains from Five Room Block Sites, by Kari M. Schmidt

Room to Grow with Rooms to Spare: Agriculture and Big-Site Settlements in the Late Pre-Columbian Tewa Basin Pueblo Landscape by Kurt F. Anschuetz

The Archaeology of the Pueblo Revolt and the Formation of the Modern Pueblo World, by Matthew Liebermann and Robert W. Preucel

Sangre de Cristo Micaceous Clays: Geochemical Indices for Source and Raw Material Distribution, Past and Present, by B. Sunday Eiselt and Richard I. Ford

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Editors: Kelley Hays-Gilpin and George Gumerman IV, Northern Arizona University
Semi-annual in March and September, 288 pages per volume
First Issue: March 2008

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For other questions and correspondence, contact one of the co-editors at Kelley.Hays-Gilpin@nau.edu or George.Gumerman@nau.edu.

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Thomas F. King Published October 2006, 256 pp, \$24.95 paperback

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Publications available from the Albuquerque Archaeological Society

Bice, Richard A., Phyllis S. Davis, and William M. Sundt

2003 AS-5 Indian of Mining of Lead for use in Rio Grande Glaze Paint. Albuquerque Archaeological Society. Albuquerque

From the Foreword

"Although three decades have passed between the beginning of the Albuquerque Archaeological Society's field work and the completion of this report, this report is still an historic first not just for New Mexico but for the entire country. This is a major milestone in archaeology, the first recorded excavation of a prehistoric lead and early historic lead/silver mine in the United States of America.

"Lead isotope studies have demonstrated that Rio Grande Pueblo potters almost exclusively used galena (lead) from the veins within 800 meters of the Bethsheba mine in the early 14th century (Habicht-Mauche, et al., 200, 2002). This report and the work conducted by Warren (1974) confirm that the Bethsheba and/or other veins within one/half mile were mined by AD 1300. . . ."

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Bice, Richard A., Phyllis S. Davis, and William M. Sundt

1998 The AS-8 Pueblo and The Canada de las Milpas: A Pueblo III Complex in North-Central New Mexico. Albuquerque Archaeological Society. Albuquerque

From the Foreword

"This volume is the latest in a long series of important contributions made by the Albuquerque Archaeological Society over the past 30 years. The project which is reported here involved excavations at a 13th century Anasazi pueblo and investigation of the larger community of which it was a part. Excavations focused on AS-8, a 46 room pueblo located near San Ysidro, New Mexico. AS-8 is the largest site in a cluster of mostly contemporaneous farmsteads which includes at least 48 other architectural sites located along a two mile long portion of Cañada de las Milpas. This cluster appears to represent a distinct community, and AS-8 is the preeminent site within the cluster. Several lines of evidence suggest that initial settlement in this area occurred around AD 1160, and that occupation continued until around 1305, with the period of most intensive occupation about AD 1245. . . .

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Logan Museum of Anthropology

The Logan Museum of Anthropology at Beloit College in Beloit, Wisconsin, possesses a superb collection of artifacts from the ancient Southwest. The vast majority were collected during excavations undertaken by the Museum in the 1930s under the direction of Paul Nesbitt. From 1929 to 1931, field work was done at the Mattocks Ruin in the Mimbres Valley of New Mexico resulting in an extensive collection of pottery and other artifacts from the Mimbres people. From 1931 to 1939 focus shifted to another group of Mogollon sites in the Reserve area of New Mexico. Work at the main site, the Starkweather Ruin, was supplemented by exploratory digs at the Hudson and Wheatley Ridge Ruins. These sites yielded a large number of Mogollon artifacts of all types. To these were added extensive surface sherd collections from important sites all over the Southwest. (<http://www.beloit.edu/~museum/logan/>)

Lowell D. Holmes Museum of Anthropology

"Through the Eyes of the Pot: A Study of Southwest Pueblo Pottery and Culture, The Morgan Collection of Southwest Pottery" Wichita State University, Wichita, Kansas
In 2002, the Lowell D. Holmes Museum of Anthropology at WSU received more than 100 Southwest Pueblo pots and a large library of related books from WSU alumnus Jack Morgan. On the Web site, the photographs of 109 pots, most of which are from the Morgan collection, can be rotated 360 degrees. The site also contains biographies of 54 potters represented in the collection, and the history of the pueblos where the pots were made. Many of the pots were made by well-known Pueblo artists. (<http://www.holmes.anthropology.museum>)

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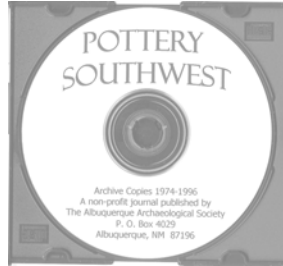
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