

2018

Indigenous Pottery from Sonora, Mexico: Examining Typologies and Spatial Distribution

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INDIGENOUS POTTERY FROM SONORA, MEXICO: EXAMINING TYPOLOGIES
AND SPATIAL DISTRIBUTION

BY

HUNTER M. CLAYPATCH

BA, Binghamton University, 2011

THESIS

Submitted in partial fulfillment of degree requirements for
the degree of Master of Arts in Anthropology
in the Graduate School of
Binghamton University
State University of New York
2018

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Accepted in partial fulfillment of the requirements for
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in the Graduate School of
Binghamton University
State University of New York
2018

April 25, 2018

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Abstract

A wealth of archaeological surveys and excavations has been conducted in Sonora, Mexico within the past century. Despite the establishment of Centro INAH Sonora, and numerous binational projects, little attempt has been made to synthesize the state's growing literature. This thesis provides the first detailed study of indigenous ceramics from Sonora, Mexico. Archaeological projects within Sonora have been bifurcated by nation-state boundaries and divergent academic schooling—both possessing their own distinct research goals and methodologies. On a pragmatic level, a synthesis of prehistoric and protohistoric Sonoran pottery is necessary to establish a methodological consensus for classifications and typologies. On a broader level, prehistoric Sonora rests at the center of two long-standing debates: (1) the relationship between nascent pottery production, agriculture, and sedentism and (2) the state's prehistoric connectivity with the Southwest/Northwest and Mesoamerica. Systematic analysis of ceramics from the entire state provides critical information for answering these large-scale questions.

Acknowledgments

The support of several individuals made this thesis possible. Randall McGuire has been instrumental in shaping my knowledge of Sonora's complex prehistory and for providing me with a wealth of support throughout the writing process. Ruth Van Dyke and Elisa Villalpando additionally provided extremely useful feedback that improved the overall quality of this thesis.

I am also grateful for Paula Hertfelder's assistance in developing the maps included in this thesis and to Centro INAH Sonora for permitting me to include many of the pottery images. Additional thanks are owed to Alejandra Abrego, Thomas Bowen, Paul and Suzanne Fish, Cristina García, James Heidke, Matthew Pailles, and Henry Wallace. Each provided me with their own invaluable perspectives and exposed me to countless publications that I had no other access to.

Finally, thank you to Juanita and my parents, Terry and Wayne, for all of your love and support. You have all been tireless supporters of my academic pursuits.

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List of Abbreviations

BCE – Before Common Era

CE – Common Era

EAP – Early Agricultural Period

INAH – Instituto Nacional de Antropología e Historia

LCBW – Lower Colorado Buff Ware

INTRODUCTION

This thesis presents a detailed study of indigenous pottery typologies and spatial distribution from Sonora, Mexico. Villalpando (2007) offered a summary of the state's pottery and figurines; however, her work only briefly outlined the rich diversity of ceramics found within Sonora. An updated synthesis provides an invaluable tool for researchers working on both sides of the international border.

Archaeological projects within Sonora have been bifurcated by nation-state boundaries and divergent academic schools which possess their own distinct research goals and methodologies. Additionally, many discussions of Sonoran pottery are hidden in obscure gray literature that is notoriously difficult to locate. These challenges have resulted in inconsistent forms of pottery classification over the past several decades. On a pragmatic level, a synthesis of prehistoric and protohistoric Sonoran pottery will help archaeologists to reach a consensus for classifications and typologies.

On broader level, Sonoran archaeology rests at the center of two long-standing debates: (1) the origins of nascent pottery production and its relationship to early agriculture and sedentism, and (2) Sonora's prehistoric connectivity with the Southwest/Northwest and Mesoamerican culture areas. In the past century, archaeologists have voiced their opinions over these larger questions (see Carpenter 1996; Ekholm 1939; Gladwin and Gladwin 1929; Pailes 1973; Villalpando and McGuire 2009). Archaeologists formed these perspectives while working in discrete areas within

the state. Their research has advanced our knowledge of specific cultural traditions; however, it only provides narrow windows onto broader cultural trends. A systematic analysis of ceramics from the entire state provides a useful method for examining these large-scale questions.

History of Research in Sonora

Periodic ethnographic studies occurred in Sonora during the late nineteenth and early twentieth centuries. However, the first archaeological surveys were not conducted until the 1920s and 1930s (Amsden 1928; Sauer and Brand 1931; Ekholm 1939). Until the late 1970s, United States archaeologists, interested in studying the *terra incognita* between the United States Southwest and Mesoamerica, conducted most archaeological projects in Sonora. These early investigations have profoundly impacted how U.S. archaeologists continue to interpret the state's prehistory.

Ralph Beals (1943) initially adopted the term "Greater Southwest" to apply to northwest Mexico as a way of demonstrating that its archaeology more closely resembled the United States Southwest. Such a term has been critiqued by researchers for framing northwest Mexican archaeology through a U.S.-centric lens (McBrinn and Webster 2008:3). Charles Di Peso initially proposed "La Gran Chichimeca" to include a wide expanse that encompasses northwest Mexico and the southwest United States. Many Mexican archaeologists (see Braniff 2002) have embraced this term; however, it carries similar problems to "Greater Southwest," as a Mexican-centric term conceived based on its peripheral associations with Mesoamerica (McBrinn and Webster 2008:3). McGuire (2002) applied the hybrid term "Southwest/Northwest" as a way of reconciling that roughly fifty percent of the aforementioned "Southwest" falls south of the international

border. I employ McGuire's "Southwest/Northwest" when describing large-scale processes that go beyond Sonora's borders.

The international boundary continues to have a lasting impact on the larger archaeological community. As Maxine McBrinn and Laurie Webster (2008:4) have argued, the border "reinforces an artificial portion of the region, giving archaeologists only a piecemeal view of broader cultural trends." The international border is a construct of modern history; however, it has influenced legal policy in two distinct countries. Different languages, academic training, and resources have subsequently created a very real problem for the transfer of academic knowledge across the international border (McBrinn and Webster 2008:4-5). McGuire (1997) offered a striking study of citations made by U.S. archaeologists from a joint U.S.-Mexican symposium. He found that only six percent of sources utilized by U.S. archaeologists were from publications printed in Spanish. A subsequent survey, conducted a decade later, found the percentage to be even lower—only one percent (McBrinn and Webster 2008:4).

The establishment of the Centro INAH Sonora in the 1970s resulted in numerous academic and *salvamento* (salvage) projects throughout the state. Given the language obstacles, many U.S. scholars unfortunately only know of Sonoran archaeology through generalized English publications (see Gallaga and Newell 2004; Villalpando 2010; Villalpando and McGuire 2017). *Informes*, or Mexican archaeological reports, are additionally notoriously difficult to obtain for U.S. scholars. As a result, U.S. archaeologists often express surprise when they learn of the extensive work that Mexican archaeologists have conducted in the state over the past several decades.

My research spans several decades of grey literature, presentation notes, and academic publications from both U.S. and Mexican archaeologists. In the interest of space, I exclude some information, and I summarize unresolved discussions. Furthermore, it is simply impossible to obtain copies of every *informe*, contract publication, or academic lecture.

Methods for Ceramic Analysis

A kaleidoscope of epistemological debates over the past century has shaped methods for organizing ceramics. James Ford argued that the modern analyst created, and imposed, typologies to understand cultural adaptation over time. Albert Spaulding, by contrast, argued that types represented “nonrandom attribute associations” that, through systematic testing, researchers could discover in the archaeological record (Rice 2015:222). While I believe classificatory schemes for organizing pottery are arbitrary, I follow Prudence Rice’s belief that associations between multiple attributes in a vessel reflect “patterned behavior”—indicative of conscious, or unconscious, tendencies on the part of the vessel’s creator (Rice 2015:224).

I employ several terms for classifying pottery throughout this thesis. These terms are familiar to archaeologists working in both the United States and Mexico, although they have been subject to subtle variations in application. Definitions are necessary to clarify my organizational tactics in the subsequent chapters. *Ware, group, type, variety* (or *sub-type*) each reflect categorical terms used for pottery analysis.

Harold Colton initially defined the term *ware* to refer to “styles of decoration that have a very wide vogue” (Colton 1943:316). I use *ware* when broadly organizing pottery

on the bases of slip color, or lack thereof. *Wares* are wide-reaching, and generally encompass multiple traditions. *Group* refers to a collection of ceramics from within a single cultural tradition. *Groups* were initially developed by archaeologists to organize pottery in the Maya region based on broad morphological similarities (Castillo 1988; Smith et al. 1960). This method of categorization has been widely applied by Mexican archaeologists working in southern Sonora. I often organize ceramics by *group* when proposed *type*-names remain the source of open debate.

The term *type* is used by ceramicists on pottery that possess unique, and consistent, modes of production. Such a regiment, developed in the spirit of Linnaean taxonomy, utilizes a geographical name followed by description of the type (such as Trincheras Purple-on-red or Villa Ahumada Polychrome) (Colton and Hargrave 1935:462). In this respect, *types* take the role of proper names and have become the standard vocabulary by which ceramics from the Southwest/Northwest are discussed within academic circles.

Anna Shepard (1965:85) noted that the act of classifying pottery into discrete *types* inadvertently obfuscates their own variability. Accepting this, I use the terms *variety* or *sub-type* interchangeably to refer to subtle variabilities within a *type*. In some cases, I challenge earlier literature that assigned unique *type* names to ceramics—instead arguing they merely reflect *varieties* of a preexisting *type*.

Large-Scale Patterns in Sonoran Pottery

Pottery emerges by 2100 BCE in the Sonoran Desert, and it reflects continuity with the Early Agricultural Period in the Tucson Basin. Incipient Plain Ware, La Playa

Lisa, and Venadito Brown are three Sonoran pottery types produced more than 1,500 years ago. The extremely early dates associated with Incipient Plain Ware are found nowhere else in the Southwest/Northwest and possibly reflect the origin of all later ceramic types. It is, however, presently unclear if the early ceramic type Venadito Brown from southern Sonora emerged independently from Incipient Plain Ware in the Sonoran Desert. If the two had divergent origins, it may account for broad, long-standing, differences in pottery from northern and southern portions of the state.

Eight archaeologically defined prehistoric traditions are located within modern Sonora: Yuman, Hohokam, Trincheras, Río Sonora, Casas Grandes, Costa Central, Huatabampo, and Serrana. The origins of these traditions begin at different times; however, they often coincide with population movement (or increase) or greater sedentism. The natural resources within Sonora are extremely variable and have resulted in a variety of adaptive strategies within these traditions. Tradition resources are further manifested in the pottery they produced (shell-scraped interiors, fine-grained coastal sand, or specular paint from crushed hematite). These prehistoric traditions extend until the arrival of European colonial powers in the sixteenth century. The indigenous populations presently residing in Sonora are almost certainly tied to the aforementioned prehistoric cultural traditions. Despite this, archaeologists have had varying success directly linking descendent communities with their ancestral past.

Pottery of the Trincheras tradition in northern Sonora exhibits great similarities with Hohokam pottery from the United States southwest. Ezell (1955:369) classified both traditions under a blanket “Sonora Brown Ware,” and both possess similar painted decorations. This relationship is not surprising. Ceramics produced in both the Tucson

Basin and the Altar and Magdalena Valleys originate from common Early Agricultural Period ceramic types. Early work in northern Sonora additionally identified similarities between the Hohokam and Trincheras traditions; however, researchers argued that “development was retarded” in Sonora (Gladwin and Gladwin 1929:129). This stigma has had an unfortunate but lasting impact on the region.

Systematic analysis of ceramics from Sonora has also provided a powerful tool for examining large-scale relationships between the Southwest/Northwest and Mesoamerican culture areas. These results remain inconclusive. The “Red-Rim” horizon (Carpenter 1996) is found in decorated ceramics in extreme southern Sonora. This decorative motif clearly demonstrates West Mexican influence on the region. Additionally, both sides of the Sierra Madre Occidental provided a corridor for the transfer of ideas and material culture from further south. This corridor is clearly manifested in the adoption of many Mesoamerican customs in the Sierra Madre by Serrana populations (Aztatlán pottery, cranial modifications, etc.), or in the high degree of social stratification in the Casas Grandes tradition.

While the Serrana region contains pottery associated with the West Mexican Aztatlán horizon, there is a large geographic break in the presence of decorated ceramics until much further north. The Ónavas and Sahuaripa valleys possess a curious amalgamation of traits from both north and south, but further investigation into the region is still needed. The decorated pottery from these valleys displays much closer affiliation to Trincheras pottery further north than with Aztatlán pottery. The phenomenon of purple-painted pottery in the Ónavas and Sahuaripa Valleys almost certainly suggests some unrealized connection between the region and the Trincheras tradition. Another

peculiarity is the high presence of incised pottery along the Sierra Madre (Río Sonora and Serrana), and near absence elsewhere in the state.

Mesoamerican influences found along the Sierra Madre Occidental are not, however, ubiquitous throughout the state. Populations who lived along coastal Sonora (Costa Central and Huatabampo) exhibit few cultural traits seen in the Sierra Madre. Ceramics along the coast are typically plain, utilitarian, vessels. While rare examples of local decorated wares exist in the Costa Central, the majority of decorated wares were traded in by these populations from the Trincheras region. These locally decorated Tiburón vessels lack systematic study. It will be significant to learn if these decorations begin only after imported ceramics from the Trincheras tradition begin appearing on the coast.

It is ironic that amid the upheaval incurred after the arrival of European powers, indigenous potters arguably produced the most stylistically similar pottery. Manure-temper is almost exclusively used by potters throughout the state during the protohistoric period. Additionally, ceramics are typically more expediently produced, and vessel decorations generally decline. This decline in production quality coincides with the introduction of alternative container technologies (such as metal). A growing tourist market in the late nineteenth-century provided the impetus for more production of painted pottery.

Thesis Organization

In writing a thesis describing pottery from Sonora, I constrained myself to an artificially constructed state boundary. This boundary provided parameters by which the

scope of my thesis was limited. I have, however, drawn from numerous findings outside Sonora, given that the state's modern boundaries were irrelevant for prehistoric populations. The spatial distribution of Trincheras ceramics (see Appendix), for example, demonstrates their known distribution encompasses much of southern Arizona.

The boundaries of Sonora's prehistoric cultural traditions are loosely based on geographic regions (such as river valleys). However, cultural traditions are not discreetly bounded. Additionally, much of Sonora's prehistory remains unknown to archaeologists. This has resulted in the establishment of general, or arbitrary, boundaries for the state's cultural traditions. As early as the 1940s, John Brew questioned the usefulness, validity, and consistent application of defining prehistoric traditions based on modern "conceptual schemes" (Brew 1946:43). Even if parameters are consistently applied by archaeologists, consideration of material culture, such as ceramics, risks generating boundaries that were irrelevant in prehistory or fail to conform to "distinctions recognized at the time" (McBrinn and Webster 2008:6).

I have opted to organize this thesis by geographic region. Logically, these geographic regions often follow defined culture tradition boundaries. Furthermore, culture histories of these traditions provide a wealth of invaluable information that I liberally employ for chronologies and macro-relations. Focusing on geographic regions enables larger discussions of social connectivity between traditions.

I have organized this thesis into seven chapters. Chapter 1 considers the earliest ceramics from Sonora and examines their relationships to sedentism and early agriculture. Chapters 2 through 7 provide detailed discussions of pottery from six different geographic regions in Sonora. These geographic regions loosely follow culture

tradition boundaries; however, when appropriate, they include multiple traditions. These chapters make a counterclockwise movement through the state. Each of these chapters have a similar organization: an introduction to the geographic region; a discussion of the region's culture history; a historiography of ceramic studies; and section describing known ceramic types or varieties. Whenever possible, I use Centro INAH Sonora site numbers that correspond with the grid coordinates used for the state (Figure 2). This enables the reader to identify where sites are located within the state.

Paula Hertfelder assisted in creating the distribution maps in the appendix. These maps display the spatial distribution for eighteen ceramic types (or groups) using ArcGIS and Centro INAH Sonora grid coordinates. Beatriz Braniff (1992) prepared cursory distribution maps in the 1980s, but there has been no attempt to update her work. The appendix presents not only pottery distribution but sherd frequency from every known site. Each map is followed by a table that displays the sites used to populate the maps.

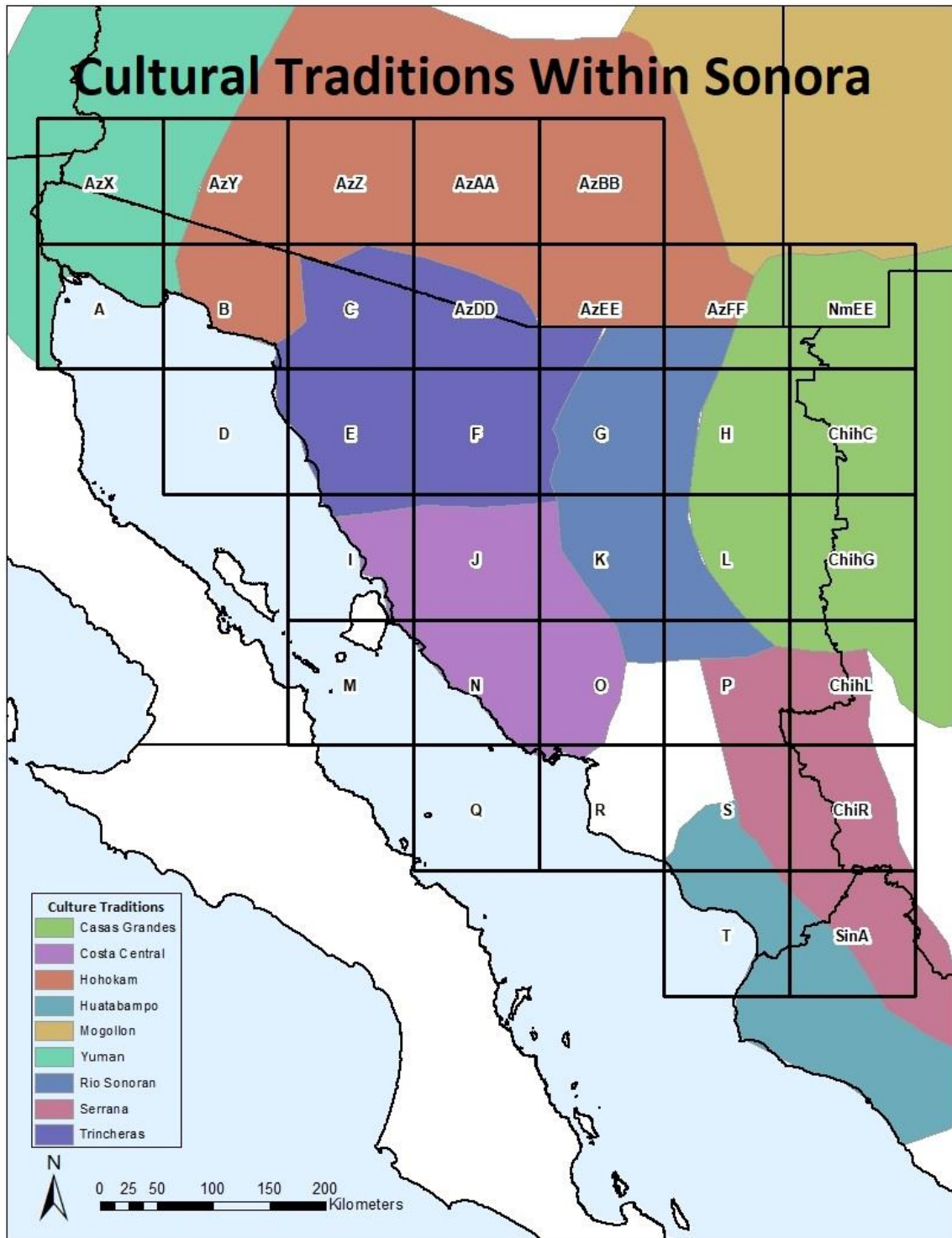


Figure 1: Cultural Traditions within Sonora (prepared by Paula Hertfelder).

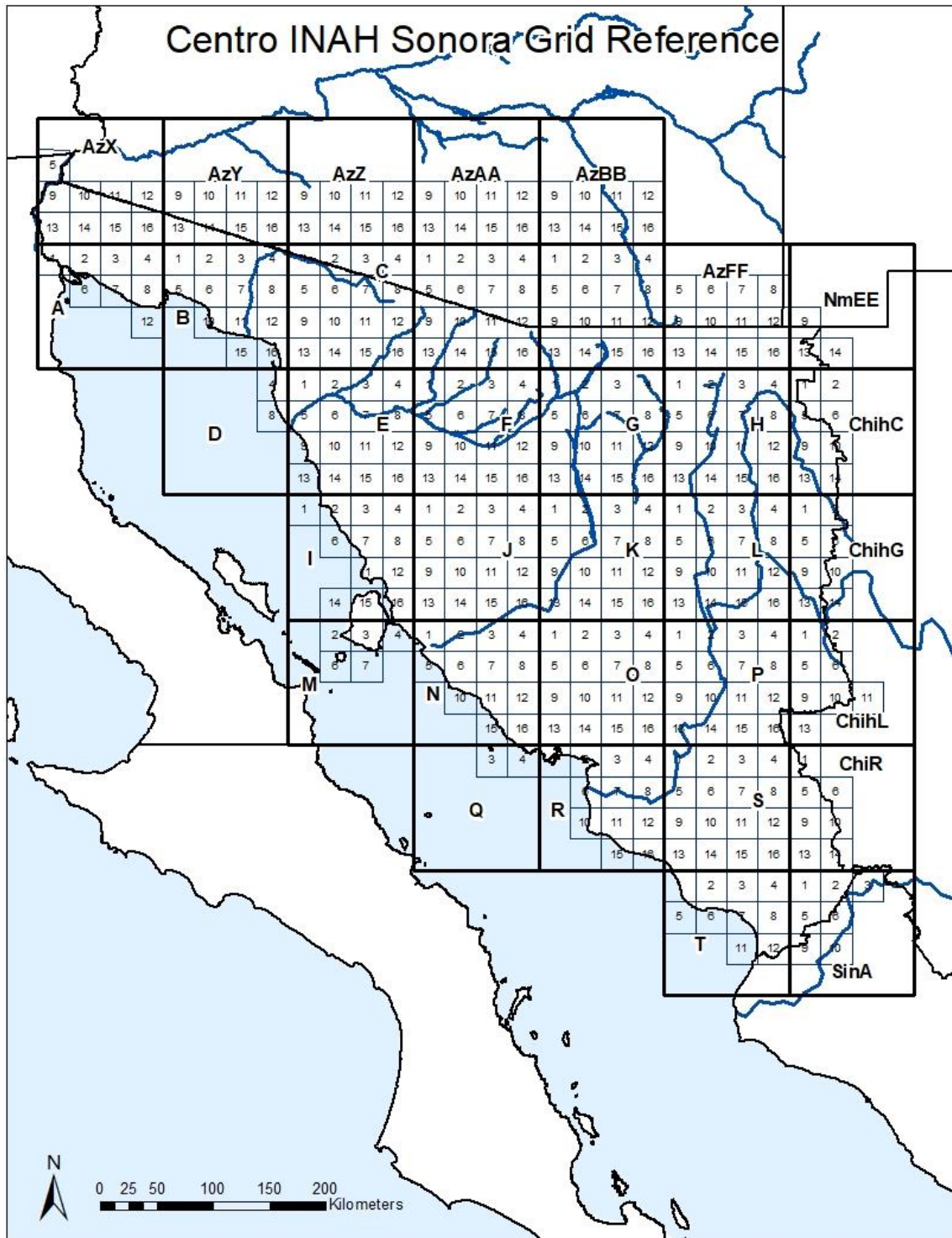


Figure 2: Centro INAH Sonora Grids (prepared by Paula Herfelder).

CHAPTER 1: EARLY AGRICULTURAL POTTERY

With the exception of ongoing work at La Playa (SON F:10:3), ceramics of Sonora’s Early Agricultural Period (EAP) have never been systematically studied. Their relationship with the emergence of pottery production, increased sedentism, and subsequent cultural traditions remain the source of open discussion. Despite ongoing debates, research has demonstrated the presence of pottery in Sonora since at least 1,200 BCE.

The Sonoran Desert: La Playa (SON F:10:3)

The earliest ceramics in northern Sonora all come from La Playa. Carpenter et al. (2008a:294) argue that the material culture associated with Sonora’s Early Agricultural Period is nearly identical to findings from Arizona’s Tucson Basin. Jo Ann Kisselburg (1993:284) first described EAP pottery from the Coffee Camp site in southern Arizona (AZ AA:6:19). More recently, six sherds recovered from the Clearwater site (AZ BB:13:6) provide evidence for pottery manufacture dating back to the newly ascribed Silverbell interval (2100-1200 BCE) (Heidke 2006:7.26; Whittlesey et al. 2010:79).

Table 1.1: Early Agricultural Chronology for La Playa and the Tucson Basin

Date	Tucson Basin	La Playa (Sonora)
0/50-500 CE	Agua Caliente Phase (50-500 CE)	La Playa Phase (ca. 0-350 CE)
400 BCE-0/50 CE	Late Cienega Phase	
800-400 BCE	Early Cienega Phase	
1200-800 BCE	San Pedro Phase	
ca. 2100-1200 BCE	Silverbell Interval	

Adapted from Heidke 2005a; 2006 and Morales 2006

Incipient Plain Ware

Incipient Plain Ware represents the earliest known pottery technology in the Southwest/Northwest. Researchers have identified over 170 sherds of this type from the Tucson Basin (Heidke 2006:7.33; Heidke and Habicht-Mauche 1998). Production of these experimental ceramics persisted over two millennia—from the Silverbell interval (2100-1200 BCE) until the Late Cienega Phase (400 BCE-50 CE) (Heidke 2005a:181; Heidke 2006:7.29).

At the site of La Playa, Centro INAH Sonora's *Proyecto La Playa* excavated a small number of Incipient Plain Ware sherds that closely resemble those found in the Tucson Basin (Morales 2006:56; Pastrana and Montero 2002:245). A single radiocarbon sample from the Incipient-bearing Feature 406 (*Área del Canal*) produced a date within the San Pedro Phase (1200-800 BCE) (Morales 2006:56). This ceramic type lacks temper and typically occurs in the form of miniature bowls (Heidke 1999:317,323). Heidke described several varieties of Incipient Plain Ware: plain, bumpy, coiled, impressed, incised, and punctate (Heidke 1999:313-314; Heidke 2005a:175). The sherds recovered from La Playa reflect Heidke's coiled variety (Pastrana and Montero 2003:244).

Given the small vessel forms, and relative infrequent production over two millennia, Incipient Plain Ware vessels may have been used for rituals. Ongoing excavations in the Tucson Basin suggest that nearly fifty percent of Incipient sherds were found in ceremonial, or ritualistic, spaces (Heidke and Habicht-Mauche 1998:73). Additionally, modern Tohono O'odham populations utilize similar specialized vessels to

consume saguaro cactus wine (Heidke 1999:328-329). Sherds from La Playa were not associated with ritual contexts (Morales 2006:57).

La Playa Lisa

La Playa Lisa, provisionally referred to as Lisa A (Villalpando et al. 1999), was subsequently renamed by Pastrana and Montero (2003). It is only known from the site of La Playa, but Juan Morales argues it corresponds with Agua Caliente phase ceramics from the Tucson Basin (Morales 2006:57). Revaluation of a single sherd from SON F:2:13, typed as “Mogollon” during the 1988 Altar Valley Survey, closely resembles La Playa Lisa and may indicate this type had a wider distribution within Sonora.



Figure 1.1: Incipient Plain Ware (l) and La Playa Lisa sherds (r) recovered from SON F:10:3 (Photographs by the author and used with permission from Centro INAH Sonora).

Despite early contradictory reports, La Playa Lisa was almost certainly formed utilizing a coil-and-scrape technique (Pastrana and Montero 2003:216). It generally possesses a well-polished exterior and lacks interior scrape marks—characteristic of later Trincheras tradition ceramics. The paste is well made, and the temper is fine to medium in size. Rim sherds most commonly represent seed jars (subsequently referred to as *tecomates*) although bowl forms also occur. Sherds from six radiocarbon dated features

at La Playa all produced dates within the La Playa Phase (0-350 CE) (Morales 2006:57-59; Pastrana and Montero 2003:216).

Vessels from southeastern Arizona's Agua Caliente Phase appear in both self-tempered and with added temper inclusions (Heidke 2002:349). These Agua Caliente ceramics occur at numerous sites (including El Arbolito and Stone Pipe). They were more widely available than earlier incipient forms, expediently produced, and intended for storage rather than ceremonial purposes (Heidke 1999:331; Heidke and Habicht-Mauche 1998:68 & 75). This so-called "Plain Ware horizon" temporally corresponds with more formalized, and larger pit structures—suggesting an increased sedentary lifestyle (Ciolek-Torrello 1995:541).

It is unclear if the subsequent Trincheras tradition emerged *in situ* from the La Playa phase, or if it was the result of population migrations. Recent work by John Carpenter favors the latter—arguing for cultural continuity with the La Playa phase and Trincheras tradition (Carpenter et al. 2015:227). Unfortunately, too little work has been conducted on early Trincheras sites to favor one position over the other. With respect to vessel polish, paste, and interior brushing, La Playa Lisa ceramics differ significantly from the earliest Trincheras sherds.

Southern Sonora: Venadito Brown

Richard Pailes (1973) first described Venadito Brown during his research at Cueva de la Colmena (SON S:16:1) (Pailes 1973:232-236). This type, dated circa 200 BCE-500 CE, has been recorded from several sites in southern Sonora. Until the introduction of redwares, Venadito Brown appears to have been the only ceramic produced in southern Sonora and northern Sinaloa (Carpenter 2014:42 & 50). It was

coil-and-scrape constructed and is often found with shell scrape marks on the vessel interior (Carpenter 2014:50; Pailes 1973:232-236). Sherds generally contain fine quartz temper and possess surface polishing. Pailes has noted that tapping Venadito Brown sherds together created a “clink”—possibly a result of high firing conditions (Pailes 1973:232-236). As with other early ceramic traditions, *tecomates* are common, but Venadito Brown also appears in bowl and olla forms (Braniff 1992:289).

John Carpenter argues Venadito Brown represents the ancestral ceramic for all subsequent types in southern Sonora and northern Sinaloa (Carpenter 2014:42 & 50). Carpenter (2014:50) has noted Venadito Brown resembles other early plain wares found throughout the Southwest/Northwest—including Alma Plain of the Mogollon region. Beatriz Braniff additionally observed similarities with the later Techobampo Brown—such as fine temper and shell scraping, however lacked the polished surface present in Venadito sherds (Braniff 1992:289).

Eastern Sonora

Richard Pailes excavated plain brown ware pottery in the lowest strata of SON K:4:25 (110 cm) during his work along the Río Sonora. A radiocarbon date from a slightly higher level (93 cm) produced a radiocarbon date of 550 (+/- 70) BCE. Unfortunately, he provided no further descriptions (Pailes 1984:311-312). Given that no other sites along the Río Sonora date this early, it is difficult to determine the accuracy of Pailes' dating methods. Middle and Late Phase occupations associated with the Río Sonora tradition were found on the upper 30 cm of the site, and it is possible that these ceramics were pushed to lower levels through formation processes (Pailes 1984:312). Douglas and Quijada (2004b) have pushed back the temporal dating for the Río Sonora

tradition, however it remains unclear if these ceramics represent early Río Sonora vessels (without surface brushing or incision), or if they reflect an earlier Early Agricultural horizon.

Theoretical Implications for Early Ceramic Production

Research of the Early Agricultural Period has been primarily limited to discussions of agriculture and has given little attention to the origin of ceramic technology (Heidke and Stark 2002:345). Furthermore, archaeologists have traditionally linked the production of the earliest ceramics to the introduction of maize, greater sedentism, and a necessitation for food storage (Heidke and Habicht-Mauche 1998:67-70). Heidke and Habicht-Mauche (1998), however, have suggested that the earliest pottery in the Southwest/Northwest was used for ritual ceremonies, not food storage.

In *Man Makes Himself*, Gordon Childe (1951) suggested craftspersons made the earliest pottery to imitate earlier gourd or basket containers (Childe 1951:93). Archaeological evidence still supports Childe's claim—whereby the earliest ceramic containers often appear in the form of “skeuomorphs” (Rice 2015:10). Moreover, Heidke argues the bumpy variety of Incipient Plain Ware mimics forms of wild gourds found in southern Arizona (Heidke and Habicht-Mauche 1998:72).

Paul Martin (Martin et al. 1952:79) first introduced the concept of a “Plain Ware horizon” to account for similarities in early ceramics within the Mogollon region. The discovery of numerous ceramic-yielding EAP sites from the Tucson Basin, the northern San Juan, and southern Chihuahua prompted a revitalization of the term (see Deaver and Ciolek-Torrello 1995:484; Foster 1995:202; Wilson and Blinman 1993). This horizon is purportedly linked by a common ancestral San Pedro Phase that developed an “adaptive

complex” in the wake of increased sedentism, and domestication, during the first centuries of the common era (LeBlanc 1982:27-28; Carpenter 2014:42).

The discovery of Incipient Plain Ware in northern Sonora and southern Arizona suggest that ceramic production first emerged in the Sonoran Desert. Placing the origins of ceramic production in this region fits well with Heidke and Habicht-Mauche’s (1993) model of pottery production occurring in three phases: (1) ritual usage (Incipient Plain Ware); (2) rapid adaptation (plain ware horizon); and (3) ceramics as a form of “symbolic expression and information exchange” (unique decorations/constructions) (Heidke and Habicht-Mauche 1998:65).

At present, discussion of the origins of Early Agricultural ceramics in Sonora remain speculative. The only way to understand the origins of ceramic production and its relation to subsequent cultural traditions will be to conduct further comparative analysis, and to target Early Agricultural sites within Sonora. If the so-called “plain ware horizon” holds true for much of Sonora, we should anticipate finding ceramic-producing EAP sites elsewhere in the vast expanse between La Playa and southern Sonora.

CHAPTER 2: THE RÍO ALTAR, RÍO MAGDALENA, AND THE INTERNATIONAL BORDER

This chapter focuses on pottery from within the Sonoran Desert. This geographic region encompasses several heavily populated river valleys within Sonora: the Río Altar, Magdalena, Concepción, and San Miguel. The Trincheras tradition occupied this region, although it was also occupied by Hohokam populations from the Papaguería as well as subsequent ancestral O’odham, who still claim the region as their ancestral territory (McGuire and Villalpando 1989; McGuire and Villalpando 2011:6). Numerous binational projects have arguably made this region, and its ceramics, the most well understood in Sonora. Trincheras material culture has long been characterized by specular purple-painted pottery and by occupation of terraced volcanic hills—typified by the site of Cerro de Trincheras (SON F:10:2).

History of Research in North-Central Sonora and the Tucson Basin

Aside from cursory traveler accounts, and a brief ethnographic study of Papago’s (O’odham) along the international border by D.D. Gaillard (1894), the Sonoran Desert received little archaeological attention until the late 1920s. These limited investigations demonstrated that the Pecos Classification (a widely-used chronological schema on the United States’ Colorado Plateau) did not fit well with the archaeology of the so-called Red-on-Buff Culture in southern Arizona. A series of surveys through Gila Pueblo were undertaken to find the cultural boundaries for this poorly understood Red-on-Buff Culture (later termed “Hohokam”). Harold and Winifred Gladwin’s survey extended into

northern Sonora and inadvertently resulted in the first descriptions of the Trincheras tradition and its purple-painted ceramics (Gladwin and Gladwin 1929).

Carl Sauer and Donald Brand's survey through much of northern Sonora identified the Altar and Magdalena Valleys as the focal point for the Trincheras tradition. They characterized the locally decorated "Trincheras Purple-on-red" pottery by broad brush work, specular hematite paint, and a "clumsy chain of solid triangles" as the principal design element. They additionally described a finer decorated polychrome variety that employed purple and red paint on a cream-colored surface (Sauer and Brand 1931:109-110). While Sauer and Brand believed the Trincheras tradition represented a unique cultural manifestation, the two perpetuated Gladwin's earlier ideologies that its ceramics were aesthetically inferior to Hohokam pottery (Sauer and Brand 1931:117-118).

A series of archaeological projects during the 1930s to 1950s in southern Arizona were instrumental in establishing ceramic seriation for Trincheras and Tucson Basin Hohokam traditions. These projects included excavations at Snaketown (Gladwin et al. 1938), Frederick Scantling's work at Jackrabbit Ruin (1940), Arnold Withers at Valshni Village (1941), and numerous projects by Charles Di Peso through the Amerind foundation (1951, 1953, 1956). Ironically, tradition boundaries between Trincheras and Hohokam—referred by Reinhard and Shipman (1978:247) as "the Santa Cruz contact zone"—aligned remarkably close to the modern international boundary line. Withers' excavations at Valshni Village (AZ DD:1:11) provided the first type description for Trincheras Purple-on-red, as well as identifying two variants of Trincheras polychromes (Withers 1941:36-43).

Thomas Hinton's six-week survey of Sonora's Altar valley was the first large-scale survey in the state. As with earlier work by Sauer and Brand, he noted the presence of Trincheras Purple-on-red sherds throughout the region. He, however, observed that not all sherds exhibited easily definable specular paint (Hinton 1955:3-4). Hinton further noted distinctive pottery near historic Spanish missions and suggested they were produced by the ancestors of contemporary Papago (O'odham) people (Hinton 1955:9).

Alfred Johnson (1960:65-69) spent several months conducting test excavations at the site of La Playa (SON F:10:3) in 1959. Johnson proposed more intensive study of plain ware and suggested petrographic analysis for material sourcing. Unfortunately, it would be decades before archaeologists applied such techniques. Johnson argued that the distinctions between specular and non-specular paint resulted not from differing pigment sources, but rather from surface polishing obliterating natural paint specularity (Johnson 1960:65-69).

William Walsey organized a survey of Sonora through the University of Arizona between 1966-1967. In his 1972 unpublished manuscript, Thomas Bowen described forty-nine sites recorded by the project, and argued that the tradition's geographic boundaries be drawn on the basis of the distribution of Purple-on-red pottery (Bowen 1972:6). Bowen questioned previous applications of types-categories to define Trincheras ceramics. He argued that Trincheras Purple-on-red was "equivalent to hypothetical types consisting of all Anasazi black-on-white pottery or all Hohokam red-on-buff" (Bowen 1972:81). Bowen made a significant observation that Trincheras purple-painted ceramics were typically unslipped brown wares that produced a reddish surface when fired. This resulted in a type distinction between unslipped painted vessels

(Trincheras Purple-on-brown) and the red-slipped Trincheras Purple-on-red (Bowen 1972:70).

Following the establishment of Centro Regional del Noroeste, Beatriz Braniff conducted extensive research throughout northern Sonora. This included excavations at two major sites: La Proveedora (SON E:8:5) near Caborca and El Ranchito (SON G:10:2), along the Río San Miguel. At the rock art site of La Proveedora, Braniff identified an abnormally high percentage of decorated ceramics (over twelve percent) (Braniff 1992). Subsequent work by César Villalobos demonstrated slightly higher percentages and included at least one Ramos Polychrome sherd—providing the westernmost known distribution for Casas Grandes pottery (Villalobos 2003:22-24).

Braniff's excavations at El Ranchito, and survey of the Río San Miguel, established the widely accepted boundary between the Trincheras and Río Sonora traditions. Her classification of local utility wares, based on interior or exterior brushing, demonstrated high quantities of the latter (Braniff 1992:733, 830). Exterior brushed ceramics occur in much lower quantities further west.

Recent interpretations of the Trincheras tradition center in the Río Altar and Río Magdalena. In 1988, Randall McGuire and Elisa Villalpando's survey of the Altar Valley documented ninety-eight archaeological sites and made surface collections of 21,546 sherds. In the absence of a ceramic type guide for the region, the two compared previous descriptions, and examined collection sherds housed in the Arizona State Museum. The ceramic typology they developed (discussed in detail below) still serves as the model for all subsequent discussions of the Trincheras tradition (McGuire and Villalpando 1993).

Table 2.1: Prehistoric Chronology from the Trincheras and Hohokam Traditions

DATE (CE)	TRINCHERAS TRADITION		HOHOKAM TRADITION		
	RÍO ALTAR	RÍO MAGDALENA	PERIOD	TUCSON BASIN PHASE	
1400	Realito Phase	El Cerro Phase	Classic	Tucson	
1350					
1300					
1250	Altar Phase			Sedentary	Tanque Verde
1200					
1150					
1100					
1050					
1000					
950					
900					
850					
800					
750	Atil Phase		Colonial	Rillito	
700					
650					
600					
550					
500					
450					
400					
350					
300					
250					
200					

Adapted by author from Pailes (2017) and Wallace (2003:22)

McGuire and Villalpando adopted a tentative chronology for the region based on Bowen’s earlier work (Bowen 1972). The Atil phase (circa 200-800 CE) is characterized by small pithouses and utility ware ceramics. The Altar phase (800-1300 CE) saw the introduction of decorated ceramics—including polychromes, while the El Realito phase (1300-1450 CE) resembled Classic Period Hohokam sites from the Papaguería. The Realito phase marked an end to locally produced decorated pottery. The subsequent Santa Teresa, Oquitoa, and Tohono O’odham phases were characterized by missionization of the region during the protohistoric period, and occupation by ancestral O’odham (McGuire and Villalpando 1993:71-73).

A decade after the Altar Valley survey, Paul and Suzy Fish surveyed the Magdalena Valley in the areas surrounding Cerro de Trincheras. Evidence from 225 sites suggested that around 1300 CE the populations along the Rio Magdalena underwent a social transformation that differed from the Altar Valley—the so-called El Cerro phase. Mayela Pastrana’s examination of 18,452 sherds revealed that much of the assemblage dated to the El Cerro phase. A final iteration of this survey awaits publication (Fish and Fish 2007; Pastrana n.d.).

It was not until the 1990s that intensive excavations began at either Cerro de Trincheras or La Playa. Ellsworth Huntington (1912) first interpreted Cerro de Trincheras as covered with agricultural terraces. Following initial mapping of the site (O’Donovan 1997), Randall McGuire and Elisa Villalpando engaged in a binational excavation project between 1995 and 1996 (McGuire and Villalpando 2011). Site functionality was subsequently interpreted as a defensive structure occupied during times of warfare (McGuire and Villalpando 2015). Excavators recovered over one million sherds—reflecting intensive occupation during the El Cerro phase (1300-1450 CE). The low quantities of decorated ceramics are primarily non-local—almost entirely from the Hohokam and Casas Grandes regions (Gallaga 2011). Gallaga’s spatial analysis of polychromes demonstrated an unequal distribution on the site. He inferred these ceramics marked “social prestige,” and emphasized power relations at Cerro de Trincheras (Gallaga 2004:90). Nearly one-third of the assemblage’s utility wares reflected an amalgamation of Hohokam and Trincheras ceramic styles.

INAH constructed a museum and visitor center at the bottom of the hill following excavations at Cerro de Trincheras. Over one hundred secondary cremations, along with

over 7,000 sherds were discovered in the process of museum construction. Many of these vessels date to the occupation of Cerro de Trincheras, although numerous Trincheras decorated wares, and sherds associated with the Atil or Altar phase were also identified. These findings from “Los Crematorios” (SON F:10:151) suggest that Cerro de Trincheras was significant landscape marker prior to its habitation (Cruz and Nava 2013:68-69).

La Playa spans nearly ten square kilometers. Sauer and Brand (1931) initially described the site, and while subject to limited testing by Alfred Johnson (1960), it did not undergo systematic excavations until *Proyecto La Playa* began in the late 1990s (Carpenter et al. 2009). The majority of these excavations have targeted San Pedro and Cienega phase occupations and have provided invaluable information on the spread of agriculture and Early Agricultural ceramics (discussed in Chapter 2). Recent research has targeted Trincheras tradition occupations and has demonstrated decorated ceramics began being produced in the region earlier than previously thought (Abrego et al. 2016). Discussions surrounding the Early Agricultural Period to Trincheras tradition transition remain open (Carpenter et al. 2015).

Pottery from North-Central Sonora

All Hohokam and Trincheras plain ware falls under the larger classification of Sonora Brown Ware—a term referring to vessels using clays that originate from igneous rocks that were “laid in beds” (Rosenthal et al. 1978). Hohokam pottery is characteristically produced using paddle-and-anvil methods, while Trincheras ceramics characteristically employ coil-and-scrape pottery manufacture. This distinction is particularly important for identifying cultural affiliation during the transitional Realito phase. Forming these distinctions is often ambiguous—particularly with small sherds.

Roger Owen discussed coil-and-scrape manufactured pottery among Opata populations along the Río San Miguel, which, through “scraping and smoothing,” gave the illusion paddle-and-anvil construction (Owen 1957:291). Owen’s observations remind us that pottery analysis based solely on construction technique risks assigning unwarranted cultural affiliation to sherds that are otherwise ambiguous.

Trincheras Lisa/Plain Ware Group

McGuire and Villalpando (1993) developed the Trincheras Lisa (or plain ware) group. They adopted a classificatory scheme from earlier work by Braniff (1992) and Jácome (1986) that arranges plain ware on the basis of surface treatment and vessel hardness. The terms *brushed* or *scraped* are used interchangeably to describe the interior surface treatment frequently found on Trincheras jars or tecomates. I refer to this treatment as *brushed* throughout my thesis, although many academics have suggested it be more appropriately called *scraped* (Randall McGuire, personal correspondence, 2018).

Lisa 1, thought to reflect the first in the series, is characteristically unpolished and is very soft (2-3 mohs). Sherds are often heavily eroded—resulting in protruding temper that gives a “sandpaper appearance.” Tecomates appear in high frequency, and vessel surface, though variable, is typically reddish. Trincheras Lisa 1A reflects a polished variety of Lisa 1, but is otherwise morphologically identical (McGuire and Villalpando 1993:29).

The subsequent variety, Trincheras Lisa 2, is often lightly polished, thicker, harder, and contains coarser temper than Lisa 1. Trincheras Lisa 3, provisionally named “Thin Plain” (McGuire and Villalpando 1993), represents the youngest, and most finely constructed, of the Lisa series. The exterior is typically well polished. It is thinly

constructed and often possesses deep interior bush marks. Trincheras Lisa 3A reflects a unique paddle-and-anvil constructed vessel, that also employs traditional interior brushing. This type is exceedingly uncommon outside of Cerro de Trincheras (Gallaga 2011:95-96).



Figure 2.1: (l) Interior brushing typical of Trincheras pottery. (r) Trincheras Textured. Both Sherds from SON F:2:61 (Photographs by the author and used with permission from Centro INAH Sonora).

Tanya Chiykowski has argued that the unusually high percentage of Hohokam Sells Plain (thirty-five percent) from Cerro de Trincheras was the result of endemic warfare that forced Hohokam women “across cultural boundaries.” Her study suggested Lisa 3A was a “hybrid ware” constructed by captive Hohokam women who incorporated interior brushing on their paddle-and-anvil pottery (Chiykowski 2016:190-191).

Petrographic analysis by Chiykowski (2016) demonstrated that both Trincheras Lisa 3 and Lisa 3A from Cerro de Trincheras were produced using clays local to the Río Magdalena.

Trincheras Textured represents a newly classified variety of the Lisa group. This type diagnostically possesses a brushed exterior. Vessel interiors are often brushed and are otherwise characteristically identical to other members of the Lisa series. Examples

from the recently excavated site of El Póporo (SON F:2:61) demonstrate this type was produced along both the Río Altar and Río Magdalena (Morales 2006).

Surveys from the Altar and Magdalena Valleys demonstrate significantly higher occurrences of Trincheras Lisa 3 along the Río Magdalena. If temporal assumptions about Lisa 3 are correct, they may be suggestive of sudden large-scale population movement between 1300 and 1450 CE. Such assumptions have been augmented through excavations at Cerro de Trincheras, which suggest the El Cerro phase was characterized by social unrest and violence (Chiykowski 2016; McGuire and Villalpando 2015).

Table 2.2: Trincheras Lisa Ceramics Described from Altar and Magdalena Surveys

Type	Altar Valley		Magdalena Valley	
	Count	% of Total	Count	% of Total
Trincheras Lisa 1	1,464	6.79%	525	2.84%
Trincheras Lisa 1A	453	2.10%	---	0.00%
Trincheras Lisa 2	6,626	30.75%	3,312	17.94%
Trincheras Lisa 3*	454	2.10%	9,508	51.52%
Trincheras Lisa 3A	---	0.00%	185	1.00%

Compiled by author from Table 3.1 (McGuire and Villalpando 1993:26) and Pastrana (n.d). Trincheras Lisa 3 Recorded as "Thin Plain" during Altar Valley survey.

Sells Plain/Red

Sells Plain and Red were initially defined by Scantling (1940:30-35) during excavations at Jackrabbit Ruin. Findings in Sonora were provisionally named "Late Plain" by McGuire and Villalpando (1993), but it has become increasingly clear that Late Plain is diagnostically identical to Sells Plain. Sells Plain is paddle-and-anvil constructed, and representative of the Hohokam Classic Period. It has a wide distribution that encompasses the Papaguería, Tucson Basin, and the Río Altar and Magdalena (McGuire and Villalpando 1993; Rosenthal et al. 1978).

Construction frequently results in visible dimple marks. Vessel surfaces are variable but range from highly polished to unpolished. Fire clouds appear frequently.

Temper is also variable depending on clay source. Aside from employing a red slip, Sells Red (formerly “Late Red” in Sonora) is morphologically identical to Sells Plain. Vessel polishing often results in “parallel striations” along the vessel exterior. Bowls are significantly more common in this type than in Sells Plain. DiPeso (1956:310-313) used the name “Peck Red” to refer to a red slipped, unpolished type. However, unpolished sherds are typically classified as Sells Red in the Tucson Basin (McGuire and Villalpando 1993:32-33; Rosenthal et al. 1978:99-102).

Trincheras Purple-on-red/brown

Considerable variability exists under this heading. Gladwin and Gladwin (1929:121) first described these ceramics as “Sonora Red-on-buff,” Sauer and Brand (1931:107-110) renamed them “Trincheras Purple-on-brown.” All members of this type are broadly unified by the application of purple paint (sometimes specular) on surfaces that may be slipped or polished. Forms include ollas, tecomates, and bowls. Peak construction of these vessels occurred in the Altar phase (800-1300 CE), although recent evidence suggests it was also produced earlier. In his work at Valshni Village, Arnold Withers provided the first formal type description, and distinguished between a specular and non-specular paint variety (Withers 1941:36-40). In their survey of the Altar Valley, McGuire and Villalpando suggested finer brushwork, without polishing, may predate broader lined, polished varieties (McGuire and Villalpando 1993:39). Despite these proposals, application of labels such as Trincheras Purple-on-red, Purple-on-brown, specular, or non-specular have been inconsistent or broadly recorded as “Purple-on-red.” Mindful of this, the spatial distribution provided in the Appendix encompasses all varieties.



Figure 2.2: Trincheras Purple-on-red/brown design elements from SON F:2:61 (Photograph by author and used with permission from Centro INAH Sonora).

Systematic design analysis is paramount for recognizing variations, and/or temporal distinctions within this type. Di Peso (1956:361) used “Ramanote Purple-on-red” to refer to polished, crudely painted, however usage of this type name has not been widely applied. Johnson (1960:62-63) noted a propensity for decorators to pattern the rim with a “sawteeth” design. An emphasis on rim band decoration reflects a consistent trend found in nearly all Trincheras decorated ceramics. In many cases only the rim may have been decorated—making it difficult (if not impossible) to determine if unpainted body sherds once belonged to a decorated vessel. Decorated sherds may be more likely to possess interior brushing, but this remains speculative. A “Chex Mix” pattern consists of nine interlocking squares and occurs very frequently on decorated ceramics. This pattern is also known to occur on Sacaton Red-on-buff ceramics from the Tucson Basin (Henry Wallace, personal correspondence, 2017).

Heidke (1993) described Broadline Purple-on-red in the Tucson Basin—a locally produced purple-painted Hohokam ceramic from Valencia Vieja (AZ BB:13:15). This type was found by archaeologists in contexts dating to the Tortolita phase (475-650 CE)

and has long been considered an independent predecessor of Trincheras painted ceramics (Heidke 1993:189). Recent excavations and C-14 dating, from La Playa, however, demonstrate Trincheras Purple-on-red was produced contemporaneously with the Tortolita phase (494-652 CE) (University of Arizona 2017). The early dates for Purple-on-red ceramics from La Playa—coupled with findings from the Tucson Basin—suggests a possible a purple-painted horizon emerged from a common EAP but was only experimentally adopted at Hohokam sites.

Nogales and Altar Polychromes

Considerable confusion surrounds the naming convention of these two polychrome types that stems from the inconsistent application of the type-name “Trincheras Polychrome.” Sauer and Brand (1931) initially described polychromes of the Trincheras series using the blanket term “Trincheras Polychrome.” Withers (1941), subsequently noted two distinct forms—naming one Altar Polychrome and one Trincheras Polychrome. However, the later adoption of the type-name “Nogales Polychrome” has led many researchers to apply “Trincheras Polychrome” to what Withers recognized as Altar Polychrome. McGuire and Villalpando (1993) aimed to resolve this confusion by rejecting “Trincheras Polychrome” in favor of Nogales and Altar Polychrome, but issues in naming conventions still persist. This thesis uses the conventions developed by McGuire and Villalpando (1993).

Polychrome designs are consistent with Trincheras Purple-on-red/brown, and ollas and tecomates are frequently brushed on the interior (Bowen 1972:78-79; Jácome 1986:42-44). Nogales Polychrome, initially named “Trincheras Polychrome” (Sauer and Brand 1931; Withers 1941:40-42), employs purple and red paint on a cream-colored clip.

Its creamy slip makes this type readily distinguishable from all other Trincheras types. It appears most frequently as bowls and is generally better constructed than other types within the series (Jácome 1986:42-44; McGuire and Villalpando 1993:39).



Figure 2.3: *Nogales Polychrome (l) and Altar Polychrome (r)*. Note the “Chex Mix” design on the middle column of *Nogales Polychrome*. All sherds from SON F:2:61 (Photograph by author and used with permission from Centro INAH Sonora).

Altar Polychrome was initially described by Withers (1941:42-43). This type is a purple and red painted type on an unslipped (brown) surface (McGuire and Villalpando 1993:39). Altar Polychrome is significantly more difficult to identify than *Nogales Polychrome*. If portions of red paint are lacking, it will invariably be classified as *Trincheras Purple-on-brown*. Additionally, while a “red-on-brown” ceramic type has been tentatively described (McGuire and Villalpando 1993:31), it is probable that these sherds reflect portions of *Altar Polychrome* that lack portions of purple paint. A handful of sherds collected from SON F:2:18.2 offer the only compelling evidence for periodic employment of strictly “red-on-brown” designs. Morales (2006:11) proposed *Altar Polychrome* predates *Nogales Polychrome*, however this remains largely speculative.

Hohokam Painted Ceramics

The Hohokam tradition emerged from the EAP Agua Caliente phase around 500 CE (Wallace 2003:22). Nearly all Hohokam pottery found in Sonora dates to the later, Classic Period (1150-1450 CE), and provides indirect dating for the lesser-known Trincheras tradition. Despite their obvious prevalence in southern Arizona, Hohokam painted ceramics rarely occur in Sonora. Their presence has been documented at several Trincheras sites, in northeast Sonora, and along the western coast, near Puerto Peñasco. Interestingly, Cerro de Trincheras (SON F:10:2) possesses the most examples of decorated Hohokam ceramics from any Sonoran site, but Tanque Verde Red-on-brown does not occur there (Villalpando and McGuire 2009:235).

The stylistically similar types, Babocomari Polychrome and Santa Cruz Polychrome, both date to the Classic Period. Both employ red and black paint on a white slip, although Santa Cruz Polychrome features a crazed slip (Whittlesey and Heckman 2000:110). Tanque Verde Red-on-brown characteristically employs an equal use of positive and negative decorated space. Triangle designs are common, with designs “overwhelmingly rectilinear in treatment and execution.” As with all ceramics from the Tucson Basin, paste is brownish in appearance (Heckman 2000:89).

Other decorated Hohokam ceramics are rare in Sonora; however, Sacaton Red-on-buff has been periodically recorded from Puerto Peñasco and the Sierra Pinacate (Gifford 1946; Hayden 1967). Recent excavations from La Playa uncovered two Sweetwater Red-on-gray sherds (Gómez et al. 2016:120-121). Along with Broadline Purple-on-red, these sherds provide limited evidence for connectivity between the Trincheras and Hohokam during the Pioneer Period (475-750 CE).

Historic O’odham Ceramics

The historic O’odham made paddle-and-anvil ceramics. Whetstone Plain, initially described by Di Peso (1953:154-156), represents the earliest protohistoric O’odham type (1450-1600 CE). The transition from Sells to Whetstone Plain remains the source of considerable debate. Whetstone Plain has a wide distribution within the Papaguería and along the Río Altar and Magdalena (McGuire and Villalpando 1993:33; Villalpando and McGuire 2009:234-235). It is characterized by an unpolished, often irregular, surface—possibly the result of finger impressions, and is variable in appearance. Whetstone Plain commonly includes gold mica temper in the Altar Valley; however, this temper does not appear in the Papaguería. Occasional use of organic temper has also been observed, and light brushing marks are also common (McGuire and Villalpando 1993:33-34). Whetstone Plain typically has a greyer surface color than local prehistoric plain wares. Petrographic analysis of sherds from Cerro de Trincheras demonstrated pyroxene and mica to be the primary temper and were suggested by Gallaga to have been non-locally produced (Gallaga 2011:105-106). Lauren Jelinek (2012) has stressed great variability, and inconsistencies, in previous applications of the type name Whetstone Plain. Jelinek suggests Whetstone Plain be more appropriately used as a “horizon marker” for the protohistoric period, rather than a marker of ancestral O’odham occupation (Jelinek 2012:229-230).

Initially described by Hinton (1955:9), Oquitoa Plain presumably slowly transitioned from Whetstone Plain. It is usually buffer in color than Whetstone Plain and is often lightly polished. This type, additionally, lacks the brush marks found in Whetstone Plain. Archaeologists have found it at mission-era sites along the Altar Valley

(McGuire and Villalpando 1993:34). Examination of sherds from the 1988 Altar Valley Survey suggests a propensity for extremely coarse micaceous temper protruding from the sherd surfaces. A decorated variety, Oquitoa Red-on-brown, was observed by Hinton at the mission sites of San Antonio de Oquitoa and San Valentin de Bisáni. It utilizes “crude” red lines and sporadic use of dots (Hinton 1955:9). Oquitoa Red-on-brown appears to have an extremely limited distribution; it eluded McGuire and Villalpando during their subsequent survey.

The Papago group includes O’odham ceramics produced from the eighteenth through the early twentieth century. A blackened core from manure temper is diagnostic for this group. The Papago period is divided into two phases: Period 1 (1700-1860 CE) and Period 2 (post 1860 CE). Papago Red is the red-slipped variety of Papago Plain, and appears in the Papaguería, the Tucson Basin, and the Altar Valley (Fontana et al. 1962; McGuire and Villalpando 1993:35). Bowen (1976:65) and Martínez-Tagüeña (2015) have additionally identified examples of Papago pottery near Desemboque. These sherds demonstrate that populations from the Sonoran Desert (both Trincheras and O’odham) engaged in “regional exchange systems” with coastal Seri populations for generations (Martínez-Tagüeña 2015:210).

The painted variety, Papago Red-on-brown, characteristically incorporates sloppily executed simple line bands, and occasional solid design elements (Fontana et al. 1962:128-130). Papago Glaze is a variety of Papago Red-on-brown, where potters applied a green glaze to accompany the red paint. A Papago White-on-red/brown reflects an additional variant of the series (Fontana et al. 1962:103-104).

Ongoing Research

Ongoing work of the *Proyecto Tradición Trincheras* has targeted three sites along the Altar Valley with the hopes of elucidating regional connectivity with the southwest United States and west Mexico. Surveyors recorded El Póporo (SON F:2:61) in 1988, and excavators probed the site in 2014 (McGuire and Villalpando 1993:157-158; Villalpando 2015). From September through December 2017, excavators recovered approximately 72,000 sherds—reflecting occupations minimally spanning the Altar, Realito, and protohistoric periods. Non-local painted ceramics are rare, but include Hohokam, Casas Grandes, and Salado polychromes. Upcoming work targets two additional sites, including SON F:2:82—a site postulated to reflect a single component Atil phase occupation.

CHAPTER 3: THE NORTHWEST SONORAN COAST AND THE PAPAGUERÍA

This section discusses ceramics from the Río Sonoyta to the extreme northwest of Sonora. The Sierra Pinacate and the Gulf of California (primarily near Puerto Peñasco) dominate archaeological work in this region. Aside from seasonal settlements along the Gulf of California, and the Sierra Pinacate, much of this region has been considered “archaeologically sterile” by researchers (Ives 1971:1). Archaeological evidence suggests this region was only seasonally occupied between 500 and 1000/1200 CE by groups capitalizing on marine resources (Mitchell and Foster 2000:38).

The Yuman Tradition

This tradition, additionally referred to as the Lowland Patayan tradition, occupies the geographic region surrounding the Colorado river—from southern Nevada to the Gulf of California. Malcolm Rodgers broadly identified pottery of the Yuman region as “Lower Colorado Buffware.” Between 1919 and 1945, Rodgers described over 500 sites, and examined over 60,000 sherds from Arizona, California, Nevada, and northern Mexico (Waters 1982a:275-276). Rodgers believed that the tradition was related to indigenous Seri populations of Sonora’s central coast but saw distinctions in methods of vessel construction—particularly the paddle-and-anvil technique employed by Yuman ceramicists (Rodgers 1936:3).

Rodgers subsequently divided the Yuman Tradition into three phases: Yuman I, II, and III. He believed that Yuman I marked a population migration (likely from Mexico). Yuman II was marked by a population increase, and eastward movement, at around 1000

CE. Yuman III began around 1500 and is defined by population movement due to limited resources and subsequent contact with the Spanish (McGuire 1982:220). Rogers established a tentative chronology for Lower Colorado Buff Ware based on associated Hohokam findings and their association with prehistoric trails of varying antiquity (Rogers 1945:171-189). Despite his extensive work in the region, Rogers passed away before publishing much of it—leaving much of his chronology, and pottery typology, as sources for debate (McGuire 1982:218).

As with Rogers' research, the term "Yuman" has remained a source of ongoing discussion. Lyndon Hargrave first proposed usage of the Walapai word "Patayan" (meaning "old people") to refer to the region (Colton 1945:119); however, Rogers favored the term "Yuman" because Yuman populations have inhabited the Colorado River since as early as 1540 (early Yuman III phase) (Rogers 1945:179). "Patayan," however, became the formal nomenclature at the 1957 Pecos Conference, and it has remained the standard name convention for archaeologists working in the United States (Waters 1982a:275). The term "Patayan" has not been maintained by INAH archaeologists in Mexico—see for example recent work by Antonio Porcayo in Baja California (Porcayo 2009; Porcayo 2012). Given the tradition's apparent association with historic Yuman populations, and the frequent usage of the term in Mexico, I employ "Yuman" for all subsequent discussions of this tradition.

In 1951, Albert Schroeder recorded sixty-six Yuman sites along the lower Colorado River and reclassified Lower Colorado Buff Ware into thirty-three ceramic types. These types were all part of seven larger categories: Parker Series, Gila Bend Series, Palo Verde Series, Salton Series, Lower Gila Series, La Paz Series, and Barstow

Series (Schroeder 1958; Waters 1982a:279). Schroeder formed his types based on temper variation—contrasting with Rogers’ earlier categories that relied heavily on rim form and vessel design to create distinctions. Schroeder believed that Rogers relied too heavily on rim form and vessel design (McCormick 2010:14).

In 1982, Michael Waters became the first to revised these early typologies. He assigned five ceramic types to the Yuman I phase (circa 700-1000 CE): Colorado Beige, Colorado Red-on-beige, Colorado Red, Black Mesa Buff, and Black Mesa Red-on-buff. Ceramic techniques (including the “chimney neck” and incising) ceased during the Yuman II phase (1000-1500 CE). These new ceramic types, including: Tumco Buff, Parker Buff, Topoc Buff, Palomas Buff, and Salton Buff were produced over a larger geographic region. Types possessing a “stucco finish” also appeared for the first time during the Yuman II and persisted through the subsequent phase. All varieties of Yuman II ceramics have a Red-on-buff equivalent. Yuman III phase (1500-1800/1900 CE) is marked by large population shifts from Lake Cahuilla to the Colorado River, however changes in ceramic types are subtle. Palomas and Parker Buff persist into the Yuman III, however all other types cease. Colorado Buff and Colorado Red-on-buff reflect new types introduced in this time (Waters 1982a:281-291).

More recent work along the lower Colorado River has raised questions regarding the temporal sensitivity of proposed ceramic types (Ahlstrom 2008:474). Others have doubted if a “reliable taxonomy” can be formed with the region’s undecorated ceramics (Hildebrand et al. 2002:121). Helen McCormick argues that Waters’ typology was arbitrarily established. She suggests that several of his criteria, including rim form, could not be “definitively identified and recorded by the analyst” (McCormick 2010:110).

While her own attempt to revise the typology was inconclusive, she stressed the value of sherd thickness, and Munsell color, to determine more “verifiable characteristics” (McCormick 2010:3).

Yuman Ceramics within Sonora

Despite challenges, Waters’ (1982) typology remains the most complete for the Yuman region. His analysis of ceramics from the Sierra Pinacate provides the most systematic study of Lower Colorado Buff Ware in Sonora, and subsequent work by Antonio Porcayo in Baja California largely employs his typology (Porcayo 2012; Waters 1982c). Only ceramic types found within Sonora, and its immediate periphery, are discussed in this section.

Aside from the northwestern portion of Sonora, Yuman ceramics rarely occur in the state, and several types are not known within its boundaries. There has been a tendency to group all Yuman sherds in Sonora as Lower Colorado Buff Ware (LCBW), rather than to specify individual type names. William Wasley reported low quantities of LCBW during his Sonora-Sinaloa Project at Trincheras tradition sites (including SON E:5:6A/B) (Braniff 1992:900-901). Additionally, LCBW sherds have been observed along the middle Río Magdalena—at Cerro de Trincheras (SON F:10:2) and SON F:11:88 (Pastrana n.d.:9; Villalpando and McGuire 2009:244).

Archaeologists have recorded dozens of Yuman sites along the Colorado River from Baja California, Arizona, and California; however, the Río Colorado has never been systematically studied on the Sonoran side. Antonio Porcayo described forty-nine sites in the northeast portion of Baja California’s Mexicali Municipality. Tumco Buff is almost exclusively present at these sites and suggests that the Mexican portion of the Colorado

River may have been primarily occupied during the Yuman II phase (1000-1500 CE) (Porcayo 2012:59-60).

Black Mesa Buff

This type dates to the Yuman I phase (circa 700-1000 CE) and uses non-tempered alluvial clay that is generally poorly prepared—resulting in “pulverized clay fragments” (Waters 1982b:558). The surface finish is variable, its dark grey surface color makes it easily distinguishable from other Yuman ceramics. Vessels of this type are often asymmetrical, with “chimney neck” rims. Jar, bowl, and scoop forms occur, and rim notching, or punctate patterns are occasionally present (Waters 1982b:558-559). Archaeologists have not found the painted variety of this type, Black Mesa Red-on-buff, in Sonora.

Colorado Beige / Colorado Red-on-beige

As with Black Mesa Buff, Colorado Beige and Colorado Red-on-beige date to the Yuman I phase. Researchers distinguish Colorado Beige by its beige color and abundant temper—which includes quartz, feldspars, crushed rock, and occasional mica. Early forms of this variety possess a “chimney neck” rim, although later vessels have a slight recurve—possibly dating to the Yuman II phase. Rim notching, incised designs, and burnishing commonly occur on Colorado Beige. Colorado Red-on-beige varieties use a thick red iron oxide paint that may have been finger applied. Designs are most commonly dots, or broad lines (either curvilinear or geometric). Rims are frequently painted red (Waters 1982b:560-561).

Colorado Red

Also dating to the Yuman I phase, Colorado Red only differs from Colorado Buff because of its “turkey red” slip. Waters described a red-on-red decorated example of this type, although it is thought to be exceedingly rare (Waters 1982b:562). Schroeder described a sub-variety of Colorado Red—with larger temper, a grayish core, and a maroon-red slip (Schroeder 1958).

Tumco Buff / Tumco Red-on-buff

Waters considers Tumco Burr and Tumco Red-on-buff to be a Yuman II (circa 1000-1500 CE) “refinement” of Black Mesa Buff (Waters 1982b:563). As with Black Mesa Buff, these types are non-tempered but possess recurved rims and generally have a pink to buff exterior surface. Potters used red ochre to paint Tumco Red-on-buff varieties. Lines are generally much finer than Black Mesa Red-on-buff, but fired paint color, and designs, are variable, possibly representing temporally distinct sub-variants. Waters and Porcayo have additionally described rare varieties of black painted Tumco ceramics in southern California and eastern Baja California (Porcayo 2012:62; Waters 1982b:562).

Palomas Buff / Palomas Red-on-buff

Yuman peoples produced Palomas Buff and Palomas Red-on-buff for several centuries—from Yuman II through Yuman III (circa 1000-1800/1900 CE). Palomas Buff is characterized by its greyish color, general softness, and temper of white feldspar and quartz. A stucco finish sub-variety is also known of this type. Palomas Red-on-buff is relatively uncommon and is characterized by poor line work and asymmetrical designs (Waters 1982b:568-569).

Colorado Buff / Colorado Red-on-buff

The Colorado Buff series begins circa 1500 CE (Yuman III) with production extending into the 1900s. As with Palomas Buff, stucco varieties of this type commonly occur. Temper is extremely variable but is generally fine-grained. Rim forms are recurved and reinforced. Potters applied bright red ochre paint to form Colorado red-on-buff. Waters observed a tendency for geometric designs near the river, and zoomorphic in the desert. Waters' typology considers Needles Red-on-buff (described by Schroeder (1958)) a sub-variant of Colorado Red-on-buff (Waters 1982b:569-570).

The Sierra Pinacate

The Sierra Pinacate is located just west of the Río Sonoyta and north of Puerto Peñasco. Several dozen sites are situated along a unique 600-square mile volcanic landscape (Hayden 1967:335). Paul Ezell (1955) briefly described the archaeology of the region, but Julian Hayden extensively published on it during the 1960s and 70s. Hayden argued that the region was inhabited by an Amaragosan population, but he suggested that much of the material culture, including all ceramics, were traded in by Yuman, Hohokam, or Trincheras populations (Hayden 1967:335-336).

A single sherd dating to Hohokam's Snaketown Phase (700-750 CE) is thought to represent the earliest ceramic in the Sierra Pinacate. Hohokam ceramics, such as Santa Cruz Red-on-buff, and Sacton Red-on-buff also occur in the region. Trincheras Purple-on-red is also found, but Yuman ceramics are significantly more common than either Hohokam or Trincheras types (Hayden 1967:339-340).

Hayden collected 636 Yuman sherds from thirty-eight sites during his work in the Sierra Pinacate. Most of these sites appear to have been continuously revisited from

Yuman I through the historic Yuman III phases and were concentrated in the southern portion of the volcanic landscape. Palomas Buff (Yuman II/III) represents the most frequent type from the Pinacate (n=228), followed by Colorado Beige (Yuman I) (n=138). Stucco varieties of Tumco, Palomas, and Colorado Buff occur at several sites. Located in the eastern portion of the Pinacate, SON B:3:6 contained the highest quantity of Yuman ceramics (n=58). This site was occupied throughout Yuman I, II, and III phases, although it lacks early Black Mesa Buff historic-period Colorado Red-on-buff (Waters 1982c:580).

In the protohistoric period, the Pinacate provided a trail to the Gulf of California. A Spanish account from 1701 described a small band of Hia-Ced O'odham foraging within the Pinacate, and modern Tohono O'odham identify El Pinacate peak as their place of origin (Crosswhite 1981:53). Ceramics attesting to historic O'odham usage—including Papago Black-on-red—have additionally been recorded from the Pinacate (Ezell 1955:369; Hayden 1985:242).

The Northwest Sonoran Coast

The northwest Sonoran coastline includes a series of bays and estuaries that run from the Colorado River to the Río Sonoyta. The modern coastal city of Puerto Peñasco lies between Bahía Adair and Bahía la Cholla to the east, and Estero de Morua and Estero La Pinta to the west. Low annual rains and sparse vegetation characterize the region, but it is rich in marine resources (Mitchell and Foster 2000:28-29). Radiocarbon dates suggest marine resources, primarily shell, were exploited during the Middle Archaic, and continued until the protohistoric period (Foster et al. 2008:284; Foster et al. 2012:756).

Archaeologists understand that the majority of shell located within Hohokam sites came from the Puerto Peñasco region. Mitchell and Foster have proposed that during the Colonial (700-900 CE) and Sedentary periods (900-1100 CE), Hohokam populations living in the western Papaguería traveled to the coast to collect and procure shell artifacts. These populations subsequently traded with riverine Hohokam to obtain resources scarce in the Papaguería. This suggests that shell primarily entered the Hohokam ‘core’ through diffuse trade (Mitchell and Foster 2000:37-38). Such arguments are supported by sites in Arizona’s Papaguería that specialized in the manufacture of jewelry for subsequent trade (Marmaduke 1993:1).

E.W. Gifford (1946) first published on the archaeology of the region when he recorded three sites along the mouth of the Río Sonoita: SON B:10:1, SON B:10:2, and SON B:11:1. At these sites, he described ceramics associated with Yuman (Black Mesa Buff and Tumco Buff), Hohokam (Vahki Plain, Sacaton Red-on-buff, and Sells Plain), Trincheras (Trincheras Purple-on-red), and O’odham (possible Papago Plain) (Gifford 1946:216-220).

William Wasley’s Sonora-Sinaloa Project surveyed much of the Sonoran coast in 1966-67. The project’s focus was not the Puerto Peñasco region, but Wasley’s crew revisited SON B:11:1 where they described an assemblage consisting of Gila Plain, Lower Colorado Buff Ware, and a single Sacaton Red-on-buff sherd (Bowen 1972:13). Aside from work by John Foster (1975) on the ecological environment of Estero de Morua, the region remained largely unstudied until the 1990s.

Coastal highway construction prompted several recent INAH *salvamento* projects. The first of these, *Proyecto Arqueológico Marina Peñasco*, recorded twenty-nine sites

between November 1995 and January 1996. Of these sites, only eight contained pottery (Rodriguez 1996). Ernesto Rodriguez organized these assemblages into five categories—*Café Media* (interpreted as Gila Plain), *Café Burda* (Lower Colorado Buff Ware), *Fine Crema* (indeterminate type), *Media Bayo* (indeterminate Hohokam), and painted ceramics. Excavations yielded only two painted ceramics; one—a large olla rim sherd—was typed as Sacaton Red-on-buff (Rodriguez 1996:73-77).

Table 3.1: Assemblages from the Puerto Peñasco region

SITE	Plain Ware (<i>Sin Decorado</i>)	Slipped (<i>Monocroma</i>)	Painted (<i>Bicroma</i>)	Polychrome	Indeterminate
SON A:07:1	3	2			
SON A:07:2	40	73	4		6
SON A:08:3	5				
SON A:08:4	5	7			2
SON A:08:5	1	7			
SON A:08:6	2		1		
SON B:05:2	312	226	23		4
SON B:05:3	6				
SON B:08:2	4	2			
SON B:10:14	24	33	1		6
SON B:10:16	46	30	1		7
SON B:10:17	26	65	3	4	1
Isolated Occurrence	1				

Compiled by author from M. García (2006).

Beginning in 2004, Cristina García organized *Proyecto Salvamento Arqueológico Carretera Costera Puerto Peñasco* to document the 131.5 kilometers of proposed highway from Santa Clara to Puerto Peñasco (C. García 2006). They collected a total of 1,002 sherds from twelve sites. Martha García focused her analysis on variability within vessel paste, surface treatment, and form—choosing not to place them into preexisting type categories. She divided sherds into plain ware (*sin decorado*), slipped (*monocroma*), painted (*bicroma*), and polychrome groups. García recorded only thirty-eight painted sherds. Four polychrome sherds were recovered from SON B:10:17. These sherds were very likely associated with the Hohokam tradition and were comprised of red

and dark brown (or black) paint over a light brown surface. Four sherds from SON A:7:2 and eight from SON B:5:2 possess purple paint, and should be considered Trincheras Purple-on-red/brown (M. García 2006:237-251).

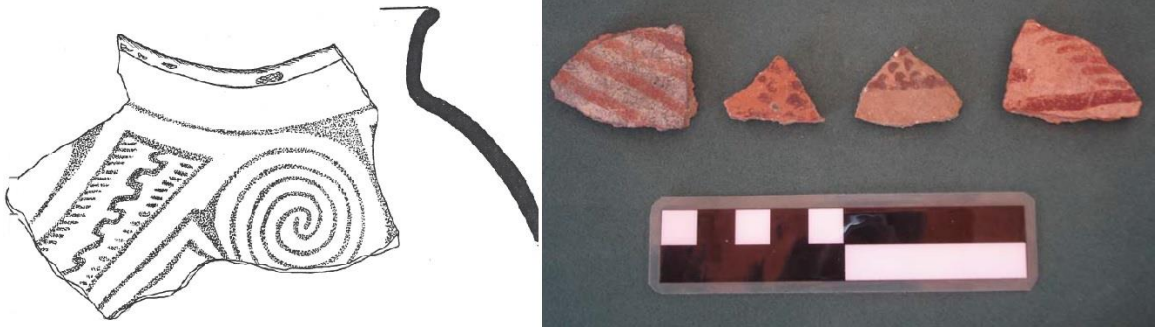


Figure 3.1: Sacaton Red-on-buff olla sherd (l) (from Rodriguez 1996: fig. 59). Decorated ceramics of unidentified affiliation (r) (from M. García 2006:245). All sherds are from the Puerto Peñasco region. Images are used with permission from Centro INAH Sonora

An Archaeologically Specialized Region

Traditionally, the Eastern Papaguería has been classified by archaeologists as the southwestern limit of the Hohokam regional sphere, whereas the Río Sonoyta forms the westernmost ceramic/cultural boundary for Sonora Brown Ware (Trincheras and Hohokam tradition) (Ezell 1955). These boundaries have either defined northwest Sonora as an ambiguous middle-ground, or as an “archaeologically sterile” landscape (Ives 1971:1). I argue we should instead interpret northwest Sonora as an “archaeologically specialized” landscape—rich in resources available nowhere on the mainland. This interpretation is supported by the diversity of pottery types found in the region, and subsequent exploitation of marine resources from throughout Sonora and southern Arizona.

CHAPTER 4: THE COSTA CENTRAL REGION

Nomadic populations who specialized in marine exploitation and shell commerce lived in the Costa Central region (Bowen 1976). Punta Tepoca (north of Desemboque) and Punta San Antonio (north of Guaymas) broadly define the northern and southern boundaries of the Costa Central. Prehistoric/protohistoric occupation extended along the coast and on the Sonoran islands of Tiburón, San Esteban, and Baja California's island of San Lorenzo. The eastern extent of the Costa Central is arbitrary, although the confluence of the Río San Miguel and Río Sonora forms a tentative boundary (Bowen 1976; Carpenter et al. 2008a:302).

Indigenous oral history, ethnographic, and archaeological evidence suggest the Costa Central was the ancestral territory of the modern Seri (or Comcáac) populations. I refer to this region as "Costa Central," as opposed to "Seri" or "Comcáac," for two reasons. For one, this thesis favors geographic boundaries over often ambiguous culture areas. Additionally, the modern Seri inhabit a far more restricted geographic region than is the scope of this chapter (Moser 1963:14). These terms are, however, often used interchangeably by scholars working in the region.

Culture History

The Costa Central tradition begins with the appearance of ceramics around 700 or 800 CE. In the absence of chronometric dates, these sites have been indirectly dated from associated Lower Colorado Buff Ware and Trincheras pottery (Bowen 1976). Rogers (1945) initially proposed that the ancestral Seri originated from Yuman

populations leaving Baja California during the Yuman III period (1500 CE). While Rogers' argument for a Yuman III moment is contrary to earlier evidence along the Costa Central, modern Seri assert that they once populated Baja California. MacFarlan and Hendrickson's (2010) study of historic accounts from Jesuit missionaries additionally supports traditional Seri claims for an origin in Baja California.

The region's lack of reliable fresh water necessitated a largely nomadic lifestyle. The Costa Central maintained strong contact with the Trincheras tradition. This is evidenced by Trincheras pottery along the coast, and shell from the region near Trincheras-occupied Río Altar and Magdalena sites (Bowen 1976). Trade was fundamental for the ancestral Seri long after the decline of the Trincheras tradition. Paleoethnobotanical evidence from two sites further inland, El Tetabejo (SON O:5:6) and El Gramal (SON N:11:21), demonstrates that ancestral Seri obtained maize and beans during the protohistoric period from Pima and Yaqui communities (Sánchez and León 2017).

Adoption of European resources, including organic temper for their ceramics, occurred during the Historic Seri period (1700-1930s CE) (Bowen 1976). Seri continued participating in exchange networks with local farmers and ranchers until a mid-nineteenth century genocide, committed by encroaching Mexican ranchers, eradicated nearly half of their population (Bowen 2000b:443-444; Villalpando 2010:248). Despite this genocide, modern Seri continue to live in the region, and have adapted their production of material goods to satisfy a growing tourist economy (Bowen 2000a:382).

History of Academic Research

W.J. McGee's 1894-95 ethnographic research on Seri populations provides the foundation for all subsequent studies of the Costa Central. McGee observed similarities between pottery produced by local Seris and the sherds strewn throughout the landscape (McGee 1898:174). He was particularly impressed by the size to weight ratio of Seri pottery and believed that the technology was "twice as economical" as Pueblo or Papago ceramics (McGee 1898:182). McGee's publication remains significant, because it offers the only discussion of Seri pottery prior to the group's widespread utilization of metal (Bowen 2000a:382).

Aside from a brief survey near Estero Tastiota by Donald Lehmer (1949), the archaeology of the Costa Central remained largely unexplored until George Fay conducted a survey in 1953. Fay took note of the region's ceramics—observing a distinction between the "very crude, coarse" Seri pottery produced during his time, and an occasionally polished "thin, suntan-colored ware" found in archaeological contexts (Fay 1955:571). The Sonora-Sinaloa Project 1966/67 was prompted by then recent findings at the site of Snaketown that were argued to display affinities with Mesoamerica (Bowen 1976:11). While the Costa Central only encompassed part of the survey area, the fifty-nine sites recorded in the region became the focus of Thomas Bowen's 1969 doctoral dissertation (Bowen 1976).

Prior to completing his dissertation, Bowen worked with Edward Moser, who had been conducting ongoing ethnographic work on Seri language since 1952 (Moser 1963). Moser had amassed a collection of artifacts from around El Desemboque that Bowen utilized to synthesize the region's prehistory (Bowen 1976:13). Moser and Bowen

(1968) co-authored an article for *Kiva* on modern Seri pottery. The article not only included documentation of vessel construction, but a discussion of the region's prehistoric "eggshell" pottery. Local ceramicists believed these thin vessels were the work of their ancestors. Given this information, the two "tentatively" argued that the archeological ceramics were part of an unbroken ceramic tradition that extended to modern Seri peoples (Bowen and Moser 1968:129).

Tiburón, San Esteban, and San Lorenzo Islands

Periodic research on these islands had occurred since McGee (1898), however investigations were cursory until 1979 when INAH launched *Arqueología del Extremo Oeste de la Costa Central*. In January 1983, Thomas Bowen, Elisa Villalpando, and Dan Bench spent twelve days surveying Isla Tiburón. Their research attempted to confirm Seri oral histories asserting that a scarcity of water forced their ancestors relocated to Isla Tiburón from San Esteban. Their research focused on two regions of the southern coast of the island but proved inconclusive. They did, however, document thirty-seven sites at Arroyo Sauzal and fourteen at Punta Tordilla. Most sites were small with predominantly prehistoric, Tiburón Lisa, ceramics, although three sites were dominated by Historic Seri ceramics (Bowen 1983:1-4). The site of Tecomate (SON I:15:1) contained fifteen sherds, with twelve being non-local Trincheras or Lower Colorado Buff Ware. This site's atypical ceramic assemblage and stratified deposition led Bowen (1976) to believe it was an important site for future research.

Elisa Villalpando's 1984 *Licenciatura* through the Escuela Nacional de Antropología e Historia summarized findings from the ongoing work on Isla San Esteban (Villalpando 1989). Villalpando observed a low presence of pottery on the island and

considered the majority of recorded ceramics to be a late variety of Historic Seri (“*Seri Histórico Tardío*”). In the northeast portion of San Esteban, feature B2 yielded sherds of Lower Colorado Buff Ware associated with local Tiburón Lisa (Villalpando 1989:47). Thomas Bowen subsequently recorded nearly 400 sherds on the island—classifying nearly ninety percent as Historic Seri. These ceramics, coupled with four radiocarbon samples (dating 1790 to 1870 CE +/- 70 years), suggest the island was primarily occupied during the eighteenth and nineteenth centuries (Bowen 2000a:383-388).

Bowen’s recent work on Baja California’s Isla San Lorenzo supported Seri oral claims that their ancestors once inhabited the islands. Site SL-6 produced twenty Historic Seri sherds (including one painted) (Bowen 2005:402-403). Petrographic analysis conducted on sherds from San Esteban revealed that ceramics were produced outside of the island—suggesting that ceramics on San Esteban and San Lorenzo were imported from either Isla Tiburón or the mainland (Bowen 2000a:384). Such evidence may account for the relative scarcity of ceramics on these islands.

Costa Central Pottery

The ceramic tradition of the Costa Central was organized into three types by Bowen (1976): Tiburón Plain, Historic Seri, and Modern Seri. While these types form useful parameters for identifying prehistoric and protohistoric occupations, more recent evidence suggests additional temporal variability within these types. Aplastic or organic temper form a diagnostic division between prehistoric Tiburón Plain and later Seri pottery. All ceramics from the Costa Central were coil-and-scrape produced (Bowen 1976).

Non-local ceramics in the Costa Central are uncommon; however, archaeologists have observed Trincheras ceramics and low quantities of Lower Colorado Buff Ware. The majority of Trincheras sherds are found near estuaries and make up a major component of the site at SON I:11:5A. Of the 413 Trincheras sherds recorded during the Sonora-Sinaloa Project, thirty-seven percent were decorated (Bowen 1976:65-66). This unusually high percentage of decorated wares supports the notion that these vessels were trade commodities. The only other non-local ceramics in the region were twenty-four sherds of Papago Red found at SON I:7:5. These Papago sherds comprised one-fifth of an assemblage that was otherwise dominated by Historic Seri sherds (Bowen 1976:65-67).

Tiburón Plain

Early discussions refer to this type as either “eggshell pottery” (Bowen and Moser 1968:125) or “Tiburón Island Thinware” (Smith 1970:8). Tiburón Plain diagnostically lacks organic temper, and generally contains fine alluvial sand within the clay. The production of this type spanned over a millennium—from 700 to 1800 CE. It is very thin and hard—with an average thickness of 3mm, and 4.5 on the Mohs scale. Surface color varies, but generally ranges from tan and brown to light gray (Bowen 1976).

Vessel interiors and exteriors are also typically smoothed, although some interiors exhibit interior brushing characteristic of Trincheras pottery. An ellipsoidal form was most common, but deep bowls are also known. Some forms are quite large—the largest known is 66.5 cm in height (Bowen 1976). Researchers have suggested that the thin walls of Tiburón Plain were part of a larger adaptive complex that enabled the

transportation of water to remote areas (see Smith 1970:7-8; Carpenter et al. 2008a:302-303).

Tiburón Plain appears periodically on Trincheras sites—particularly in the Altar Valley (McGuire and Villalpando 1993:26). These finds suggest that either Tiburón Plain was occasionally traded back to the mainland, or that ancestral Seri, themselves, periodically ventured away from the Costa Central. Painted and incised varieties of this type are known but are extremely uncommon. A single red and white paint polychrome has also been observed, however these painted examples have never been typologically distinguished from Tiburón Plain (Bowen 1976:53-55). Bowen has suggested that Tiburón vessels may have been more frequently painted and believes natural weathering could obliterate any surface paint from the sherds (Bowen 1976:63).

Historic Seri

European-obtained organic temper is diagnostic for Historic Seri pottery. Nuestra Señora de Pópulo was the first Seri mission. It was founded in 1679 CE, making this the earliest possible date for production of this type (Bowen 1976:59). Although nascent production of Historic Seri may have begun during this initial mission phase, it is quite possible that production of Tiburón Plain continued in many regions of the Costa Central until the early nineteenth century. At Isla San Esteban, Bowen suggested the site's assemblage primarily consisted of transitional Tiburón Lisa and Historic Seri sherds that dated to the eighteenth and nineteenth centuries (Bowen 2000a:383-388).

Historic Seri pottery is not found outside the Costa Central, and production ceased by 1930s CE (Bowen 1976). It is nearly as thin as Tiburón Plain and it is more friable. Its surface color ranges from dark grey to brown. Historic Seri often possesses pitted

surfaces from fiber temper combustion. Ellipsoidal ollas are common with this type. Painted and incised varieties have been documented but are rare (Bowen 1976:55).

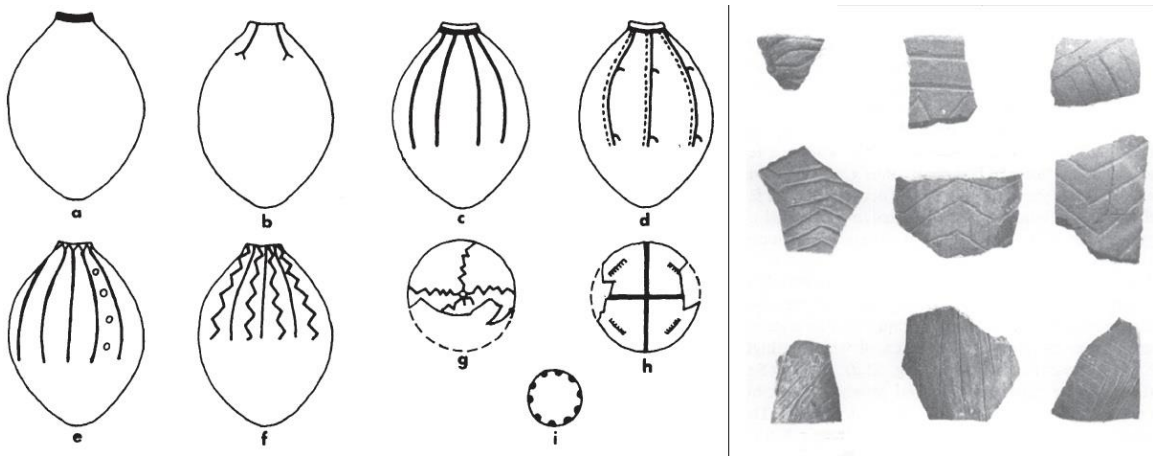


Figure 4.1: Decorations found on Tiburón Plain and Historic Seri pottery. (l) Painted designs. (a-f) on ellipsoidal forms, (g-i) on bowls or olla lids. (a,c,d,e,f) are Tiburón Plain. All others are Historic Seri. (r) Exterior incising on Tiburón Plain sherds. (Both images from Bowen 1976:63-64 and used with permission by author).

Modern Seri

This type is a ‘catch all’ for ceramics produced by modern Seri peoples (post 1930s). Potters often smoothed Modern Seri vessels using either a shell or metal spoon (Bowen 1976:59). Modern Seri potters primarily produce pottery to satisfy the tourist market. By contrast with Tiburón Plain or Historic Seri, Modern Seri vessels commonly exhibit painted or incised decorations (Bowen 1976:55-58).

Unknown Local Pottery

A sample of some eighty sherds examined by Bowen (1976) fell outside the range of Tiburón Plain, Historic Seri, or Modern Seri, but all appear to have been locally produced. These sherds lack organic temper, but they have a markedly different paste than Tiburón Plain, and they generally possess a thicker, uneven, surface. Moser suggested these vessels may be the result of peoples living in remote areas who were

forced to utilize atypical clays for vessel construction (Bowen 1976:64). The absence of organic temper suggests the sherds were produced prehistorically.

Pottery from the Guaymas Region

The southern extent of the Costa Central is traditionally located just north of the modern city of Guaymas. Indigenous Yaqui occupy the region from Guaymas to Ciudad Obregón and have limited archaeological projects in the region. Aside from surveys near Guaymas by Fay (1955), and the Sonora-Sinaloa Project (Bowen 1976), the archaeology of the region is virtually unknown. The recently completed *Salvamento del Gasoducto* project extend through this region, however a final report awaits publication (Elisa Villalpando, personal correspondence, 2018).

Fay noted ceramics near Guaymas that differed from those of the Costa Central. These sherds were characteristically very thick (7-11 mm), sand-tempered, well-fired, and roughly smoothed. Further south, near Empalme and Playa el Cochorit, he continued to observe plain ware, but also either incised or cord-impressed sherds (Fay 1955:573-577). Bowen (1965:29-30) published on the archaeology of Guaymas, and subsequently divided ceramics of the region into five types: Type A-E. He made his tentative type distinctions primarily on the basis of surface and temper variations. A small quantity of Trincheras Purple-on-red sherds were also recovered from near Guaymas.

Bowen reevaluated his Guaymas “types,” and found that Type A, B, and C all fell within the range of Tiburón Plain from the Costa Central. Additionally, he felt the distinctions between Type D and E were insignificant and that both could be categorized by a “singularly nondescript plain brownware” (Bowen 1976:113). Many of these sherds

resembled those described by Fay, although some contained organic temper—indicating that the later types were historic (Bowen 1976:113).

Through *Proyecto Arqueológico Sur de Sonora*, Gristina García recorded the rock art site of Pinturas Santa Úrsula (SON O:13:3) (García 2009a:106). Located just a few miles north of Guaymas, this site yielded only three sherds—two associated with the Huatabampo tradition, and one with the Serrana (Domínguez et al. 2009:168). Bowen postulated that the Guaymas region is represented by either ancestral Yaqui, or “the product of a different, as yet undefined, tradition” (Bowen 1976:114). Alternatively, the area may also reflect the confluence of several traditions: Seri, Huatabampo, and ancestral Yaqui. The presence of Tiburón Plain, as well as Trincheras types, suggest connections between the region and traditions further north. More research is necessary to move discussion of the region beyond speculation.

Typological considerations

While Bowen’s initial typology for the Costa Central is broadly satisfactory, more recent findings suggest temporal variations with these types. The single “type” Tiburón Plain spans a wide geographic range over a millennium. Interior brushed Tiburón Plain ceramics demonstrate characteristic affiliation with the Trincheras tradition. Given that the Trincheras tradition ends circa 1450 CE (McGuire and Villalpando 1993), I suspect that Tiburón sherds of this variety do not postdate the end of the Trincheras tradition. Such information suggests brushed Tiburón Plain sherds do not post-date 1450 CE. Additionally, painted or incised decoration on Historic and Modern Seri pottery has never been systematically studied.

CHAPTER 5: THE RÍO MAYO AND THE SOUTHEAST SONORAN COAST

The Huatabampo tradition is centered along the Río Mayo and Sinaloa's Río Fuerte. The tradition's northern boundary is tentatively placed in the poorly understood region just south of Ciudad Obregón, while its southern extent ends near the modern city of Culiacán, Sinaloa. The tradition extends along the coast, and as far west as the low sierra (Carpenter 2002:145; Villalpando 2010:247). A substantial portion of this tradition extended into modern Sinaloa and is used to elucidate chronology and typology.

Culture History

The region's Paleoindian and Archaic periods remain virtually unknown. Evidence for occupation during the San Pedro phase has led many to believe the subsequent Huatabampo tradition formed as an in-situ development (Carpenter 1996:194; Carpenter 2014:42). Based on her extensive work in the region, Ana María Álvarez divided the Huatabampo tradition into four phases. Phase I (177 BCE-300 CE) coincides with the region's Early Agricultural period. The pottery type, Venadito Brown, is produced throughout the region, although red-polished ceramics first appear near the end of this phase. Phase II (circa 300-700 CE) marks the inception of the Huatabampo tradition. Polished Huatabampo Red typifies this period's ceramics, although trade wares, likely obtained through trade of shell, also begin to enter the region. Phase III (circa 700-900 CE) is marked by population and settlement growth, although population movement occurred in Phase IV (circa 1000 CE until European contact) after both the

Río Mayo and Río Fuerte became an increasingly unstable source of water (Álvarez 2007; Carpenter 2014:42).

By the beginning of the eleventh century, populations migrated further south. These populations began coalescing with populations already impacted by Mesoamerica's northernmost sphere of influence in what is known as the Aztatlán tradition. This influence prompted a stylistic horizon in the region's artifact production—known as the Guasave phase (Carpenter et al. 2008b:26). The Aztatlán horizon retreated by the time of European contact, and continuity within indigenous populations is marked by the production of dung-tempered ceramics. Carpenter and Sánchez (2014a:133) have argued that descendants of the Huatabampo and Serrana spoke a common Cahita language and subsequently formed the modern Yoreme (Mayo) communities still residing in the region.

Previous Research

By the early 1930s, investigations into northern Sonora identified traditions believed to be culturally affiliated with prehistoric groups of the United States southwest (Amsden 1928; Sauer and Brand 1931). Concurrently, research into southern Sinaloa and northern Nayarit had defined the Aztatlán tradition—a complex tied to West Mexico and Mesoamerica (Kelly 1938; Sauer and Brand 1932). With the hope of elucidating the relationship between Southwest/Northwest traditions and Mesoamerica, archaeologists from the American Museum of Natural History organized the Sonora-Sinaloa Project (Carpenter 2014:37; Ekholm 1940).

From 1937 to 1940, the project director, Gordon Ekholm, recorded 175 sites between Nogales, Sonora and Culiacán, Sinaloa. Near the town of Huatabampo, Ekholm

reported several sites containing hard redware pottery that he believed to be associated with a previously undescribed tradition (Ekholm 1939:10). Naming it the Huatabampo tradition, Ekholm initially related it to traditions in the Southwest/Northwest. Subsequent work in Sinaloa prompted a reevaluation of the area as intermediary between the Southwest/Northwest and Mesoamerica (Ekholm 1939:10; Ekholm 1942:34).

Further south, along Sinaloa's Río Fuerte, he observed Huatabampo ceramics interspersed with painted sherds. His subsequent excavations at the burial mound of El Ombligo (near Guasave, Sinaloa) established the first chronology for the region. Ties to Mesoamerica were affirmed by the rich burial goods from El Ombligo—including polychrome ceramics, cloisonné jars, copper, turquoise, and prismatic obsidian blades (Ekholm 1942). Ekholm's initial observations of the region's archaeology have been echoed by subsequent scholars, who argue the Río Fuerte forms the boundary between two prehistoric "macrotraditions" (Carpenter 2014:37).

George Fay's 1953 survey included two sites near Huatabampo—Yavaros and Agiabampo. Fay observed several varieties of sand-tempered plain ware, including a crazed polished redware that he suggested was a "possible diagnostic trait" (Fay 1955:578). He ventured to Topolobampo, Sinaloa and continued to observe sand-tempered plain ware—often red to tan in color (Fay 1955:578-579). Later work by Richard Pales (1973) was primarily focused on defining the Río Sonora tradition (subsequently renamed Serrana) in the extreme southeastern portion of Sonora. His survey of over one hundred sites produced only twelve sites containing Huatabampo sherds, and a total of seven sherds assigned to Guasave Red-on-buff. Pales collected nearly half of his Huatabampo sherds from one of his westernmost recorded sites, SON

T:07:1. His work at Cueva de la Colmena, however, providing the initial description for the region's earliest ceramic type—Venadito Brown (Pailes 1973:60-63, 245).

With the establishment of *Centro Regional del Noroeste* by Beatriz Braniff and Arturo Oliveros, Mexican archaeologists began controlling research in the region. As part of *Proyecto Arqueología del Norte de Sinaloa*, Ana María Álvarez and Elisa Villalpando recorded 102 sites in extreme southern Sonora and northern Sinaloa. Their survey included the important site of Machomoncobe (SON T:1:5)—previously described by Ekholm (Álvarez and Villalpando 1980). Subsequent excavations at Machomoncobe produced radiocarbon dates suggested that site had been continuously occupied from 180 BCE to 950 CE (Álvarez 1982:242; Álvarez 1990:73).

John Carpenter revisited El Ombligo for his dissertation work at the University of Arizona. Assigning the burials to either the Huatabampo tradition or the Guasave phase, he noted a drastic change in grave goods during the latter phase. Based on eight radiocarbon dates, Carpenter revised Álvarez's previous chronology: dividing it into the Huatabampo period (650/750 BCE-1050/1100 CE) and the Guasave period (1050/1100-1400/1450 CE) (Carpenter 1996:277). After decades of working in the region, Carpenter initiated the *Proyecto Arqueológico Norte de Sinaloa* in 2004. This long-term project centers on the Sinaloan municipalities just south of the Sonoran border, El Fuerte and Choix (Carpenter and Sánchez 2006:22).

Prompted by construction of an electrical line from the Álamo Dorado mine to Miguel Hidalgo dam, Carpenter and Guadalupe Sánchez (2006) led a *salvamento* project spanning Sonora's Álamos municipality, and the Sinaloan Municipalities of El Fuerte and Choix. Fourteen sites were excavated—including the important sites of La Viuda (SIN

A:6:17) and Rincón de Buyubampo (SIN A:6:18). The ceramics from these sites included Huatabampo, Guasave, Serrana, and Aztatlán types.

Most recently, Cristina García’s work in Sonora’s municipality of Huatabampo included re-excavation at the important site of Machomoncobe (SON T:1:5), as well as at SON T:1:26. This project also included a survey of El Tapalcatero (SON T:1:11), SON T:1:25, and SON T:1:27. García examined 836 sherds from these five sites. Sherds from these sites were almost exclusively Huatabampo varieties, with only a few Guasave sherds recorded (Gasamans 2016:68-70).

Table 5.1: Assemblages from the Southeast Sonoran Coast—SON T (2013-2016)

SITE	Huatabampo Red	Huatabampo Brown	Huatabampo Coarse	Huatabampo (Unspecified)	Guasave Group	Serrana Group
SON T:01:5	<i>420</i>	<i>242</i>			2	
SON T:01:6				1	4	2
SON T:01:11	<i>24</i>	<i>9</i>				
SON T:01:23				4		
SON T:01:24	<i>40</i>	<i>12</i>	2			
SON T:01:26	<i>50</i>	<i>16</i>				
SON T:01:27	<i>3</i>		<i>11</i>		4	
SON T:05:1				1		1
SON T:05:2				7		1
SON T:06:3				3	1	1
SON T:07:5				2	6	
SON T:12:1				3	2	
SON T:12:4				1	1	
SON T:12:7				4	6	
SON T:12:13					4	2
SON T:12:14				2	2	
SON T:12:15				1		

Table compiled by author from “Gráfica 1” (Castillo and Rodríguez 2013:87) and Gasamans (2016:62-72). Italics indicate count is based on graph plotting, but exact count not given.

Southeastern Sonoran Pottery

Classificatory schemes fundamentally differ between U.S. and Mexican archaeologists. Pottery from both the Huatabampo and Serrana regions were initially described by U.S. archaeologists, but subsequent research has, almost exclusively been the domain of Centro INAH Sonora/Sinaloa. Diverse approaches have made a useful

discussion of ceramic types difficult. In order to effectively arrange this region's pottery, I have organized local indigenous pottery into three temporally successive *groups*: the Huatabampo group (circa 200-1100 CE), the Guasave group (circa 1100-1500 CE), and protohistoric ceramics (García 2009c:165).

All ceramics from southern Sonora are thought to originate from a common Early Agricultural ceramic type—Venadito Brown (Chapter 2). The Huatabampo series begins with the introduction of redware pottery around 200 CE (Carpenter 2014:50). Non-local pottery along the southwest Sonora coast is uncommon, and almost exclusively produced by the neighboring groups of the eastern sierra.

Huatabampo Group

All Huatabampo ceramics were coil-and-scrape produced. Bowls, ollas, and tecomates were produced within the Huatabampo group, but also appeared in the form of bi-lobed jugs. This series is typified by the production of Huatabampo Red—a hard, red-slipped vessel, that appears in the earliest phases of the Huatabampo tradition (Carpenter 2002:145; Villalpando 2010:247). Production of the Huatabampo series coincides with Álvarez's Phase II and III (circa 200-1000 CE), although Carpenter has argued that its manufacture persisted in the coastal region until shortly after Spanish contact (Álvarez 2007; Carpenter 2014:50). Aside from the Serrana region, the Huatabampo sherds do not commonly occur outside southern Sonora/northern Sinaloa. Limited sherds of Huatabampo Red have been observed in northern Sonora—including SON B:11:1 and SON E:8:3 (Braniff 1992:900-902), although it is possible these sherds were misidentified.

Ekholm (1942:77) initially described Huatabampo Red under the moniker “Huatabampo redware.” Huatabampo Red, along with the entire Huatabampo series, is characterized by its extremely fine paste and fine-grained aplastic sand inclusions (Pailes 1973:238-239). A uniform red slip is applied on the vessel and can often be bright red (generally 10R 4/6 or 10R 5/8). The surface is frequently highly polished, with a waxy appearance. Thickness varies, but generally falls between 5 and 9 mm. Huatabampo Red vessels possessing a brownish surface are the result of formation processes that have eroded the surface (Castillo and Rodríguez 2013:74-75).

Pailes (1973) first described Huatabampo Brown based on presence of a brown, or reddish brown, slip (Castillo and Rodríguez 2013:76; Pailes 1973:239). Gasamans (2016:68) also described a shell-scraped interior sub-variety of Huatabampo Red and Brown he termed *Alisado con Concha*. Castillo and Rodríguez (2013:77-80) initially described Huatabampo Coarse (*Huatabampo Burdo*) based on findings along the coast. They considered its coarse appearance to be the result of combusted organic temper; it differs from the fine-grained Huatabampo Red or Brown. Ollas and bowls of Huatabampo Coarse have been recorded and occur in both red and brown-slipped varieties (Castillo and Rodríguez 2013:77-80). The use of organic temper suggests this type may have been produced later than other Huatabampo vessels. This supports Carpenter’s claims that the series persisted along the coast until European arrival (Carpenter 2014:50).

Based on a single sherd from Batacosa (SON S:7:2), Laura Romero-Padilla (2010:125-126) described a variety of Huatabampo that employs a white slip (*Viuda Blanco*). Janalacahui is an additional type within the Huatabampo series (Domínguez

2009:74-75). Alejandra Abrejo, however, believes Janalacahui is merely a variety of Huatabampo Red or Brown that employs slightly thicker walls (Alejandra Abrejo, personal correspondence, 2018).



Figure 5.1: (l) Huatabampo Red sherds (Castillo and Rodriguez 2013:75) and (r) Guasave Red-on-buff (Carpenter et al. 2010:155). Used with Permission from Centro INAH Sonora.

Guasave Group

Ekholm (1942) initially described pottery from the Guasave group during his excavations in Guasave, Sinaloa. Its production temporally coincides with Álvarez's Phase IV (circa 1000-1532 CE) (Álvarez 2007; Carpenter 2014:50). As with the Huatabampo series, Guasave ceramics are coil-and-scrape constructed, however they are coarser, with larger inclusions, than the Huatabampo series (Pailes 1973:239). Along with bi-lobed jugs, a bottle form frequently occurs. Álvarez categorized four varieties of these forms from her work at SON T:1:5: "swollen neck," "chimney neck," canteen, and eccentric. She observed bottles constructed using concave bases, suggesting they could be suspended to transport water (Álvarez 1990:48). Decorated varieties of Guasave ceramics occasionally reflect influences from the Aztatlán horizon, although some motifs are closer to those found in the Northwest/Southwest, including Hohokam's Tanque Verde Red-on-brown (Carpenter 2014:50).

Guasave Red

Ekholm (1942:74-77) considered Guasave Red a descendent of Huatabampo Red, because of its thin, hard, construction, and he called it the “finest ware in the Guasave series.” Castillo and Rodríguez (2013:80-81) identified that the slip of Guasave Red can vary from reddish orange 2.5YR 4/8 to reddish yellow (5YR 6/6). Jars were generally entirely slipped, while bowls were often only slipped on the interior (Ekholm 1942:74). This type’s generally coarser appearance than Huatabampo Red results from the use of larger grained temper. Sherds from SON T:1:5 contained a variety of quartz, feldspar, hematite, mica, and volcanic rock temper (Álvarez 1990:48). Guasave Brown is a type diagnostically identical to Guasave Red, barring its brownish slip (7.5YR 5/3 or 10 YR 6/4) (Castillo and Rodríguez 2013:82).

Guasave Red-on-buff

Ekholm offered initial descriptions for Guasave Red-on-buff from findings near the Río Fuerte; however, it was his excavation at El Ombligo that yielded the first type description (Ekholm 1940:324; Ekholm 1942:46). Vessel thickness can be quite variable depending on form, and temper is identical to that of other members of the Guasave series (Domínguez 2009:77). Vessel slip is generally brownish-buff, or dark cream, and often unevenly applied. This uneven application often results in a “streaked” or “fugitive” appearance (Ekholm 1942:46).

Thick red or brownish red paint is applied to the slip. This thick, crackly, paint often adheres poorly to the vessel, likely due to the poor slip. Designs along vessel rims nearly always extend across both the interior and the exterior. A decorated band below the primary rim band is a common design feature. Carpenter (2014:50) has used the

type-name Guasave Red-on-brown to describe pottery with a browner paste. Ekholm saw artistic commonalities from Guasave Red-on-buff with ritual ceramic designs from West Mexico, but believed Guasave designs were “diluted and had, to a large extent ... lost their ritualistic significance” (Ekholm 1942:52). In keeping with Ekholm’s stylistic analysis, Carpenter believed the utilization of a red rim band in Guasave Red-on-buff represents a west Mexico design technique he refers to as the “Aztatlán Red-rim ceramic horizon” (Carpenter 1996:251-252).

Guasave Polychrome and La Palma Polychrome

These varieties have never been found within the modern boundaries of Sonora but they have been observed within the neighboring municipality of Choix, Sinaloa. Rincón de Buyubampo (SIN A:6:18) provides the northernmost extent of these types. Feature 2 yielded two sherds of Guasave Polychrome, and one of La Palma Polychrome. Guasave Polychrome possesses a light brown slip, with painted decorations of black, red, and white. Rims of this type are generally painted on the interior and exterior. La Palma Polychrome received its moniker from Ekholm’s work in La Palma, Sinaloa. It has a pinkish slip with red and black painted decorations (Carpenter and Sánchez 2006:136).

Protohistoric Ceramics

Investigations at Rincón de Buyubampo demonstrate an unbroken pottery sequence that spans the Guasave and protohistoric phases. This site has been particularly important for understanding changing adaptive strategies for indigenous populations in the region. The use of organic temper in ceramics emerged concurrently with livestock brought by Jesuit missionaries in the mid-sixteenth century. This dung-tempered pottery replaced earlier ceramic types and created a pan-ceramic tradition that

extended throughout much of southern Sonora and northern Sinaloa. Manufacture of many pottery types discussed below continued until the nineteenth century (Carpenter and Sánchez 2014a).

San Miguel Group

Great variability exists within surface decoration of the San Miguel group. Richard Pailes provided the initial type descriptions for San Miguel Red and Brown based on unpublished work by William Wasley. As is typical with organic temper, the surface becomes pitted during firing. Cores are typically dark black. A red slip distinguishes San Miguel Red (Pailes 1973:255-256). Painted types within this series—San Miguel Red-on-cream and San Miguel Cream-on-red possess floral or geometric designs over either a red or cream slip. Castillo and Vicente (2008) identified several additional varieties of these types based on coarseness and surface color. An incised variety has also been observed (Castillo and Vicente 2008).



Figure 5.2: San Miguel Red-on-cream showing decorated floral motifs (Castillo and Vicente 2008:98). Images used with permission from Centro INAH Sonora.

La Ciénega, Sibiri, Torocobampo, and Wari Groups

Janeth Castillo Medina and Julio Vicente Lopez (2008) provided detailed discussions of these series based on sherds recovered during *Proyecto Arqueológico de Salvamento Acueducto Alamo Dorado, Sonora*. Several types, and sub-varieties, exist within the La Ciénega, Wari, and Sibiri group. Torocobampo Textured is the only type in the Torocobampo group.

Ekholm (1942) initially described Torocobampo Textured. This type possesses a yellowish-brown paste and temper containing both low quantities of organic material along with angular quartz fragments. The design of the texturing is often a crisscross patterning (Castillo and Vicente 2008:131). The Wari series is similar to prehistoric Batacosa ceramics from the Serrana region in that its temper consists of fine grain white quartz. Unlike Batacosa, Wari ceramics additionally employ organic temper.

Sibiri group sherds can be easily mistaken for San Miguel ceramics, given their high organic content. However, sherds in the Sibiri group have white, gray, and purple quartz temper, and a fine calcium carbonate paste (Castillo and Vicente 2008:143). The La Ciénega group contains larger temper, making it appear coarse. Sherds from this series may have been slipped, although this is difficult to determine given that many of the known sherds are eroded (Castillo and Vicente 2008:91-92).

The Huatabampo Tradition and Pan-Regional Connectivity

Since 2006, several important INAH projects in southern Sonora and northern Sinaloa have revised our understanding of the region's chronology and geographic distribution of ceramic types. Probably more than any other site, Rincón de Buyubampo illustrates the complex regional social networks that occurred during the late prehistoric

through the protohistoric period. The Huatabampo tradition was inexorably impacted by its neighboring traditions—Serrana and Aztatlán. This pan-regional connectivity is directly reflected in the region’s changing ceramic assemblages, which include a pan- Early Agricultural ceramic type (Venadito Brown), decorated assemblages influenced by the Aztatlán horizon, and large-scale organic-tempered ceramic production during the protohistoric period.

CHAPTER 6: SOUTHEASTERN SONORA: THE SIERRA MADRE AND ÓNAVAS VALLEY

Sonora's vast Sierra Madre Occidental was initially classified as the Río Sonora tradition. Subsequent research has split the region into two traditions: the Río Sonora in the north, and the Serrana in the south. The boundary between these traditions remains a source of active discussion. I have included recent research on the Ónavas valley in this chapter, although the pottery from this region is distinct. The foothills of the sierra, directly east of the Río Mayo, form a *de facto* western geographic boundary. Although the Sierra Madre extends south through much of west Mexico, the boundaries of the Serrana tradition extend east into Chihuahua and south into Sinaloa for an indeterminate distance (Carpenter and Vicente 2009:87; Pailes 1973; Pailes 2016:1).

Research in Southeastern Sonora

Gordon Ekholm's Sonora/Sinaloa Project was the first systematic study of southern Sonora. Unfortunately, aside from meager site designations (including: EK-47 (SON P:4:2) and EK-65 (SON S:3:1)), few records of his survey in eastern Sonora exist. A similar situation developed after William Walsey's Sonora/Sinaloa Project. While Walsey and his team recorded several sites in the Serrana region (including SON P:4:1 and SON S:7:2), his life ended before he generated a synthesized report (Bowen 2002; Braniff and Quijada 1977; Gallaga 2013:17-21).

The archaeology of southeastern Sonora remained essentially *terra incognita* until Richard Pailes' dissertation work through Southern Illinois University. Pailes' survey

focused on the foothills between the Río Mayo and Río Fuerte. In his recording of over one-hundred ceramic-bearing sites, Pailes noted variability between ceramics found in the lowlands (Serrana Baja) and those in the highlands (Serrana Alta). Both regions, however, appeared to be unified by a common plain ware horizon (Venadito Brown) and an early Batacosa phase (Pailes 1973:358-360).

Through obsidian hydration, radiocarbon dating, and seriation, Pailes developed the region's first chronology (Pailes 1973:329). Around 500 CE, the Batacosa phase emerged from the pan-geographic Venadito phase and marks the inception of Serrana tradition. The Batacosa phase was characterized by continuity between the Serrana Baja and Serrana Alta; regional differentiation began to occur around 700 CE. The Serrana Baja's Cuchujaqui phase included undecorated wares that extended until European contact. Occupation of the Serrana Alta is divided into two phases—Los Camotes (700-1200 CE) and San Bernardo (1200-1532 CE)—based on stylistic differences in incised ceramics produced. The arrival of Spanish missionaries in the sixteenth century marked a period of cultural homogeneity among indigenous populations of southern Sonora (Carpenter and Sánchez 2014a; Pailes 1973:353; Pailes 2017).

Following Pailes' pioneering work, all subsequent research has been undertaken through Centro INAH Sonora/Sinaloa. The sites of La Viuda (SIN A:6:17) and Rincón de Buyubampo (SIN A:6:18), originally recorded after an electrical line *salvamento* project, have been the source of ongoing discussion surrounding the region's connectivity with west Mexico. Located approximately five kilometers south of the Sonora border, along a drainage of the Río Fuerte, these sites have an occupation spanning 200 and 1750 CE. The vast prehistoric assemblage consists predominantly of sherds associated with

the Serrana tradition, although there are thousands of non-local sherds, including Huatabambo, Guasave, and Aztatlán ceramics. Historic occupation at the sites has been attributed to ancestral Yoreme (Mayo) who remain in the region (Carpenter 2014:44-46; Carpenter and Sánchez:2006).

In 2006, *Proyecto de Salvamento Arqueológico Álamo Dorado* uncovered 13,149 ceramics near the Sinaloa border. The majority of sherds dated to the protohistoric period (San Miguel, La Ciénega, Sibiri, and Wari). However, Janeth Castillo and Julio Vicente (2008:87) argued that two sites, La Ciénega (SIN A:5:22) and La Botijuela (SIN A:5:25), possessed high quantities of protohistoric ceramics that skewed the data. El Tejito (SIN A:5:21) and La Colorada Álamos (SIN A:5:23) contained limited pottery, although their assemblages were predominantly associated with the Batacosa phase of the Serrana tradition.

Most recently, under the direction of Cristina García Moreno, INAH initiated *Proyecto Arqueológico Sur de Sonora* (PASS) to further investigate connectivity between the Southwest/Northwest and west Mexico. In the project's first year, research focused north of previous research in the poorly known region near Ciudad Obregón (García 2009a). The assemblages from twenty-three sites possessed a mix of Serrana and Río Sonora tradition sherds. The site of Batacosa (SON S:7:2), however, possessed not only mixed assemblages from the Sierra Baja and Alta, but several non-local types including sherds from the Huatabampo and Guasave series (Dominguez et al. 2009:154-168). Subsequent excavations at Batacosa placed it within the Batacosa phase and demonstrated that the Serrana maintained long-term commercial and/or ideological connections with coastal populations (García 2009b; García 2015).

Serrana Pottery

As with ceramics of the Huatabampo region, differences between Mexican and U.S. ceramic typology have necessitated an organizational strategy. I have organized pottery of the Serrana region into four groups: Batacosa, Cuchujaqui, San Bernardo-Los Camotes, and Rincón. The first three groups contain ceramics initially identified by Pailes (1973) and subsequently expanded following recent INAH projects. The Rincón series was first identified the early 2000s and appears frequently throughout Sonora's Sierra Madre. Potters manufactured all the ceramics discussed using the coil-and-scrape technique (Carpenter and Sánchez 2006; Pailes 1973).

Batacosa Group

Production for the Batacosa group began around 500 CE and persisted in the Serrana Alta until 1100 or 1200 CE (Carpenter 2014:50). Pailes initially included three types within this series: Batacosa Brown, Batacosa Red, and Batacosa Brown (Los Tanques Variety). These types all contained similar angular sand fragments, quartz, mica, and rhyolite, and they generally possessed surface polishing (Pailes 1973). Carpenter and Sánchez (2006:139) described eleven varieties within this series, and Castillo and Vicente (2008) later added to this list. The majority of recent varieties represented subtle surface color, or paste, variations of the types initially described by Pailes.

Batacosa Brown, initially named by Wasley, represents the single most common prehistoric ceramic type found in the Serrana Baja and Alta. The type was initially defined as unslipped, however several brown slipped varieties, including "*Batacosa*

Crema Fino,” have recently been identified. The Los Tanques variety is identified by a high presence of mica and crushed rock. It is found throughout the region but occurs with far less frequency than Batacosa Brown (Carpenter and Sánchez 2006:145-148; Pailes 1973:226-232).

Batacosa Red is the red-slipped variety of this series. Unlike Batacosa Brown, this type is primarily found only in the Serrana Baja. Vessels of this type are generally thick, with a thinly applied slip of either light red or red. The name “Búfalo Liso” has been recently applied to a red-slipped variety of the Batacosa series and “Cuatabaque Red” is used for a reddish-brown slipped variety. It is presently unclear if either Búfalo Liso or Cuatabaque Red possess distinct attributes to merit their own type name (Carpenter and Sánchez 2006:145-148; Castillo and Vicente 2008:160-161; Pailes 1973:226-232).

Cuchujaqui Group

Pailes (1973) described Cuchujaqui Red as a highly polished red-slipped ceramic found in the Serra Baja. It is typically associated with Batacosa Red but persists until shortly after Spanish contact. Temper generally contains rounded quartz, and vessel thickness, while variable, is generally thinner than the Batacosa series. Rims typically appear straight on the exterior, but often reveal an interior bulge. (Pailes 1973:221-224; Carpenter 2014:50). Vessels of this series occasionally bear shell scraped interiors. Cuchujaqui Brown, provisionally named “Coyote Café” (Carpenter and Sánchez 2006), is a recently described brown-slipped variety. Several additional variations of Cuchujaqui, including a possible red painted rim variety, have been described based on excavations at La Viuda and Rincón de Buyubampo (Carpenter and Sánchez 2006:151-157; Domínguez

2009:90). This painted variety appears to be the only locally produced prehistoric painted ceramic type in the region.

San Bernardo-Los Camotes Group

Pailes (1973) initially described types within this group during his work in the Serrana Alta. Los Camotes Incised is temporally associated with the Los Camotes Phase (700-1200 CE). Incising was typically made just below the rim and extended to the vessel shoulder. This type generally contains a dark grey quartz temper and a reddish-brown (5YR 5/4), unpolished, surface color. Vessel thickness is generally between four and nine millimeters (Pailes 1973:212-215).

Several ceramic types emerge during the subsequent San Bernardo phase (1200-1532 CE). San Bernardo Incised represents a continuation of earlier incised ware; however, line incisions are typically thicker than Los Camotes Incised. Chevron, hatching, and herringbone patterns are all typical with this type. San Bernardo Punctate/Incised makes use of incised areas by filling them with punctate patterns. Los Camotes Incised, San Bernardo Incised, and San Bernardo Punctate/Incised were all recorded as far north as the site of Batasosa (SON S:7:2) (Pailes 1973:215-220; Romero-Padilla 2010).

San Bernardo Corrugated is a unique type formed through tool or finger pinching coils. Pailes recorded this type at only two sites: CHIH R:9:14 and CHIH R:9:14. Techobampo Red is a red-slipped plain ware that often possess shell-scraped interiors. Distribution is primarily isolated to the drainages of the middle Río Mayo. Given its similarities to Venadito Brown, Pailes postulated it was produced relatively early.

Techobampo Brown reflects an unslipped version that was more commonly produced (Pailes 1973:215-237).



Figure 6.1: (l) San Bernardo Incised, (m) San Bernardo Punctate/Incised, and (r) Cuchujaqui Brown (shell-scraped interior). All sherds from Proyecto Arqueológico Sur de Sonora 2010 and part of Centro INAH Sonora's study collection (Photographs by author and used with permission from Centro INAH Sonora).

Rincón Group

Carpenter and Sánchez (2006:181) initially proposed the Rincón group following excavations at La Viuda and Rincón de Buyubampo. Ceramics of this group were produced from 800 CE until European contact. This series possesses coarse paste, with sand and gravel temper. This group is organized into several types: Rincón Lisa (including a granular variety), Rincón Brown (a brown-slipped type), and an orangish-red variety. The Rincón group has been found further north—including Batacosa (SON S:7:2) (Carpenter and Sánchez 2006:181-192; Domínguez 2009:97).

Azatlán Pottery

The Azatlán horizon refers to a cultural complex, dating to between 700-1300 CE, and found along the coast of central Sinaloa, Nayarit, and Jalisco (García 2009c:165). This horizon emerged along Mesoamerica's northernmost sphere of interaction (Carpenter and Sánchez 2006:169; Carpenter et al. 2008b:26). Sauer and

Brand's (1932) initial survey of southern Sinaloa and northern Nayarit provided the first descriptions for this ceramic "horizon." Isabel Kelly's subsequently improved type descriptions following excavations in Chametla and Culiacán, Sinaloa (Kelly 1938; Kelly 1945).

Ceramics associated with the Aztatlán horizon are rare in Sonora. From over 14,000 sherds amassed from the Sonora/Sinaloa Project, Richard Pailes typed no more than twelve sherds to the tradition (Pailes 1973:60-63, 245). More recent excavations by Carpenter and Sánchez (2006:2-3) at La Viuda (SIN A:6:17) and Rincón de Buyubampo (SIN A:6:18), however, have uncovered several thousand non-local ceramics—including over five-hundred Aztatlán sherds. The high presence of Aztatlán ceramics at these two sites offers compelling evidence for their role in an extensive pan-regional trade network.

The Aztatlán horizon's influence on the Guasave phase has resulted in an amalgamation of unique ceramic traits not found elsewhere in Sonora. Carpenter and Sánchez (2006:169-173) developed the category ("*Aztatlán Mixto*") for pottery employing a mixture of paddle-and-anvil and coil-and-scrape techniques. Vessel surfaces are often highly polished, very hard, and possess a wax-like surface (Carpenter and Sánchez 2006:169-173).

Polychromes typically employ a red and black (or brownish-black) paint on either a light brown slip, or an un-slipped surface. Red-rim bands are ubiquitous on Aztatlán decorated wares and mutually appear on Guasave Red-on-buff ceramics (Carpenter 1996:251-252). The type Aztatlán Polychrome employs a light brown paste on both the vessel interior and exterior and characteristically exhibits a black line below the primary red-rim band. Temper generally consists of quartz but occasionally contains scatterings

of gold mica (Carpenter and Sánchez 2006:174-175). Navolato Polychrome does not employ a slip on its brownish-yellow surface but is otherwise similar to Aztatlán Polychrome (Carpenter and Sánchez 2006:176-177).

Pailes (1973:251) identified Tacuichamona Polychrome, a cruder version of Navolato Polychrome. Two bowl sherds of Culicán Polychrome (Fantail Monster variety) were also identified at Rincón de Buyubampo. This type, initially identified by Kelly (1945), exhibits a highly polished surface, bold colors, and an “[e]laborate, highly conventionalized monster with segmented body, angular appendages, [and a] fan-shaped tail (Carpenter and Sánchez 2006:178; Kelly 1945:52). Tuxpan Red-on-orange, Culicán Incised Ware, and Lolandis Red-Rimmed have also been described near the Sinaloa border. Presence of these types are known from only one site (Carpenter and Sánchez 2006:175-177; Pailes 1973:244-247). These ceramics presumably originated from southern Sinaloa or possibly further south.

Recent Research in the Ónavas Valley

Aside from Ekholm and Wasley’s unpublished research, indigenous Yaqui landholding rights in the Ónavas Valley restricted archaeological research until a series of legal changes in the 1990s. As part of INAH PROCEDA (*Proyecto de Certificación y Delimitación Ejidal*), these policies necessitated an INAH survey of all indigenous *ejido*-held lands. INAH PROCEDA’s presence in the Ónavas Valley was minimal. Surface collection at five sites—SON P:6:2 and SON P:10:2 through 10:5—was conducted during 1998. Ceramic assemblages from these sites were a mix of plain and red ware, although one sherd associated with the Casas Grandes tradition was collected (Babícora Polychrome) (Gallaga 2006:12-13; Gallaga 2013:24).

This research prompted Emiliano Gallaga to conduct the *Onavas Valley Archaeological Project* between June and August 2004. Gallaga's investigation targeted the regions between the Alvaro Obregón and El Novillo dams—considered one of the most poorly known archaeological regions in the state (Gallaga 2013). From over one hundred sites in the valley, Gallaga collected 10,717 sherds. The unique ceramics from the region revealed discontinuity between the northern and southern portions of Sonora's Sierra Madre Occidental, and provided a catalyst for the subsequent split in culture tradition boundaries. Unclear of the region's association with preexisting traditions, Gallaga developed a unique chronology and typology for the Ónavas Valley that endures. Ninety-six percent of the ceramics recovered were a plain ware he coined "Onavas Plain." Gallaga also described a local decorated type, Onavas Purple-on-red, along with limited quantities of non-local decorated sherds associated with the Casas Grandes and Trincheras traditions (Gallaga 2007:337-338). All of Gallaga's non-local decorated ceramics came from two sites: El Cementerio (SON P:10:8) and a single Ramos Polychrome from SON P:10:59 (Gallaga 2006:349-351).

Proyecto Arqueológico Sur de Sonora (PASS) has focused on excavations at El Cementerio. Janeth Castillo's classifications are based on sherd paste, rather than surface treatment, as the primary means of grouping local ceramics. Originally divided into six paste groupings, Castillo later refined the categories to three: "*Grano grueso*," "*Grano mediano*," and "*Grano fino*" (Castillo 2012; Castillo 2013; Castillo and Vargas 2011). Later analysis by Jessica Ramírez at El Cementerio (SON P:10:8) maintained Castillo's categories for undecorated wares, and expanded categorization of purple-painted ceramics on the basis of design motifs. Ramírez provisionally identified sherds believed

to represent local imitations of Casas Grandes ceramics; however, she subsequently rejected the category after the ceramics were determined to be non-locally produced (Ramírez 2016a; Ramírez 2016b). Atypical Casas Grandes ceramics on the Sonoran side of the Sierra Madre have also been recorded by Pailes (2016) along the Moctezuma Valley, suggesting greater variability within Casas Grandes ceramic production and distribution than scholars have previously considered. These ceramics are discussed in Chapter 8.

Ónavas Valley Pottery

While Castillo and Vargas (2011:300-301) argued that paste is a more effective means of organizing the region's ceramics, Gallaga's analysis of surface treatment is more consistent with how ceramics are organized elsewhere in the state. In several cases, unique decorated varieties have been revealed through the *Proyecto Arqueológico Sur de Sonora* (PASS). Several slipped ceramic varieties ("Smooth Orange Slipped Ware," "Coarse Red Slipped Ware," and "Smooth Red Slipped Ware") are believed to have been non-locally produced. These varieties are possibly synonymous with Cuchujaqui Red, Techobampo Red, or Batacosa Red—all described earlier. All Ónavas Valley ceramics were coil-and-scrape constructed (Gallaga 2006).

Gallaga's (2006) Onavas Plain Ware occurs abundantly throughout the valley but possesses an uncertain temporal range. Select sherds associated with this type exhibit shell-scraped interiors. Surface color and paste generally vary, but sherds are typically soft (2-3 on Mohs scale). Vessel temper contains abundant quartz and rock fragments. This type is seldom polished or slipped (Gallaga 2006:154-156).

Onavas Purple-on-red, initially described by Gallaga (2006), reflects a locally-produced painted type tentatively dated to 800-1200 CE. Potters applied a dark purple to red paint to a generally well-polished surface. While this type's purple paint bears similarities to Trincheras Purple-on-red/brown, it lacks a brushed vessel interior and specular hematite characteristically found in the later. Additionally, the purple paint exfoliates easily—particularly when exposed to water (Gallaga 2006:166-170).



Figure 6.2: Onavas Purple-on-red (Castillo and Vargas 2011:329, 337). Images used with permission from Centro INAH Sonora.

More recent work along the Ónavas Valley has revealed greater variability within local decorated types: including purple-on-brown, black-on-red/brown, and incised/punctate forms. A local polychrome (black and red on brown) has also been proposed, however it is unclear if the black lines are painted or the result of oxidation. Castillo organized local decorated ceramics on the basis of twelve standard design motifs. Ramírez further expanded these motifs, and include dot-filled triangles, barbed-wire, and zigzag designs. Designs generally originated from a larger line band on the vessel (Castillo 2013; Castillo and Vargas 2011; Ramírez 2016a). Gallaga has suggested this type may represent local imitations of Trincheras decorated ceramics (Gallaga 2006:166-

170). With these design studies in mind, motifs from Trincheras ceramics must be examined to determine commonalities, or lack thereof.

CHAPTER 7: NORTHEAST SONORA: THE RÍO SONORA, MOCTEZUMA, BAVISPE, AND SAHUARIPA

This chapter discusses the archaeology and ceramics of two archaeological traditions: the Río Sonora and Casas Grandes. The final section discusses non-local Mogollon and Salado tradition pottery occasionally found within Sonora. For pragmatic purposes, this chapter's geographic region extends east of the Río San Miguel to the Chihuahua border. The international border forms an arbitrary boundary for the Río Sonora tradition, however further investigation is necessary (Pailes 2016:1). The southern boundary extends to the Ónavas Valley, and the northern boundary of the Serrana tradition. The relationship between prehistoric Río Sonora and Casas Grandes populations and contemporary Ópata remain a source of open debate (Gallaga and Newell 2004:11; Pailes 2017).

Early Archaeological Investigations in Northeastern Sonora

Adolf Bandelier's survey of the United States southwest and portions of northwest Mexico offered the first glimpse of archaeology in the region. He was particularly intrigued by the sheer number of decorated vessels from Paquimé in northwest Chihuahua, although Bandelier did record sherds of a "red incised kind" near Huásabas, Sonora (Bandelier 1892:504). His preference for Chihuahuan archaeology over Sonora's "scarcely distinguishable remains" created a lasting bias still impacting research in northwest Mexico (Bandelier 1892:515). By 1916, interest in Paquimé was

widespread, and A.V. Kidder had published the first classificatory scheme for the region's "highly specialized" pottery (Kidder 1916:267).

Although ethnographic work by Carl Lumholtz (1902) spanned the Río Bavispe, it was not until Monroe Amsden's 1927 survey that archaeologists focused on northeastern Sonora. Amsden provided descriptions of two distinct traditions during his survey. Along the Río Bavispe drainages, he recorded several sites believed to represent an inferior, but culturally related, "Peripheral Casas Grandes" tradition. Further east, along the Río Sonora and Río Moctezuma, Amsden identified an unaffiliated tradition he branded "Río de Sonora" (Amsden 1928:44-47).

Carl Sauer and Donald Brand's (1931) subsequent survey supported Amsden's earlier findings along the Río Bavispe. They defined two varieties of Casas Grandes polychromes—"Classic Chihuahua" and "Inferior Chihuahua"—based on their apparent relatedness to findings from Paquimé. They further noted the presence of incised red, and plain black wares (Sauer and Brand 1931:77). Brand's 1935 synthesis of northwest Mexican ceramics refined the Casas Grandes classification and offered input on Amsden's poorly understood Río Sonora ceramic complex. Brand (1935:298) typified Río Sonora pottery by "plain and rather coarse wares individualized by some poorly incised designs or crudely raked exteriors."

Two decades passed before Robert Lister's (1958) work in the Sierra Madre Occidental. Lister sought to expand knowledge of the region's relationship with Mesoamerica, believing trade would have passed along the Sierra Madre. His excavations at five cave sites in Sonora's Arroyo el Concho, however, problematized earlier assumptions by finding Mogollon occupations (including Alma Plain and Alma

Scored pottery) stratigraphically under those associated with the Casas Grandes tradition (Lister 1958:1-2). Lister's report posed new questions regarding the Sierra Madre's cultural affiliation, and the region's relationship to traditions of the United States southwest (Lister 1958:44-57). Despite sixty years of research, matters of cultural affiliation immediately south of the international border in eastern Sonora remain largely unanswered.

The Casas Grandes Tradition: Chronology and Pottery Typology

Charles Di Peso's *Joint Casas Grandes Expedition* extensively excavated at Paquimé in the late 1950s and provided the foundation for all subsequent interpretations regarding the Casas Grandes tradition. While Di Peso's proposed chronology has been the source of considerable critique and modification, archaeologists still use his phases. The earliest, Viejo period (600-1150/1200 CE), is characterized as a southern manifestation of the Mogollon tradition whereby pit houses coalesced with communal structures. It is during the Medio period (1150/1200-1450 CE) when the site of Paquimé reached its apex of social importance. The region's sudden increase in social prestige has been argued to be the result of Mesoamerican merchants who moved into the region and placed Paquimé at the core of a large economic system (Di Peso et al. 1974; Gallaga and Newell 2004:13). Paquimé appears to have been destroyed around 1450 CE and was never rebuilt. Dispersed populations in the so-called Tardío period continued living in the region; however, many people also migrated over the Sierra Madre Occidental into Sonora (Pailes 2017).

Although several researchers attempted to organize Casas Grandes ceramics (Brand 1935; Kidder 1916; Sayles 1936), it is Di Peso's 1974 opus from Paquimé that

provides the type-guide for all Casas Grandes pottery. With minor exceptions (discussed below), these typologies have been applied to all pottery west of the Sierra Madre Occidental. The characteristic polychrome vessels of the Medio period are abundant in Sonora, and attest to Paquimé's regional significance. Casas Grandes polychromes occur as far east as SON E:8:3 and as far south as SIN A:6:14 (Bowen 1972:95-96; Carpenter and Sánchez 2014b). In the absence of abundant chronometric dating in Sonora, these sherds contribute significantly to relative dating methods. Petrographic analysis of Casas Grandes ceramics from several Sonoran sites demonstrate production from a limited number of sources in Chihuahua (Gallaga 1997:118-120). Given their non-local production and widely accessible literature, I have opted not to include detailed discussions of major Casas Grandes ceramic types here. Nonetheless, I have mapped the distribution of five polychrome types (Ramos, Villa Ahumada, Carretas Huérigos, and Babícora) in the Appendix. What follows is a discussion of newly identified Casas Grandes types described from eastern Sonora.

Imitation, or "inferior," Casas Grandes sherds in Sonora have been noted since Sauer and Brand (1931), although their classification remains ambiguous. In her analysis of ceramics from El Cementerio (SON P:10:8), Jessica Ramírez allocated "*Grupo imitación*" to describe Casas Grandes pottery that loosely resembled Ramos or Villa Ahumada Polychromes. After determining these sherds were non-locally produced, Ramírez revoked the previous category in favor of the less certain "*¿Casas Grandes?*" (Ramírez 2016a; Ramírez 2016b). Furthermore, four sherds were thought to represent imitations of Ramos Polychrome after an initial survey of the Moctezuma Valley (Pailes 2016:84).

To aid in clarification, Matthew Pailes described several new varieties of Casas Grandes pottery from the Moctezuma Valley. Larkin et al. (2004:188-191) initially described Santa Ana Polychrome during *Proyecto Arqueológico Chihuahua* (PAC) surveys in western Chihuahua. She interpreted this type as a late-Viejo period precursor to Babícora Polychrome that employs opposing red and black line work on an orange to buff surface. Based on contexts from the Moctezuma Valley (SON L:2:1), and occasional presence of a lead sub-glaze, Pailes has suggested it postdates the Viejo period. He has additionally noted that this type has been found in southern Sonora, but has been misidentified as either Ramos or Babícora (Pailes 2016:78-79).

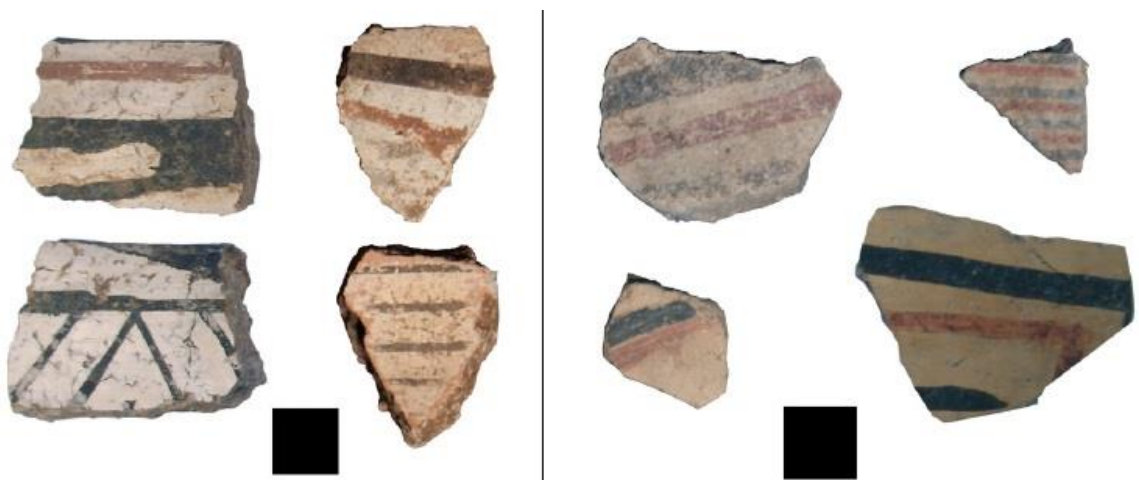


Figure 7.1: (l) Jecori Polychrome and (r) Santa Ana Polychrome (photos compiled from “figura 76” and “78” in Pailes 2012:45-46 and used with permission from author).

Jecori Polychrome, named after a small town in the Moctezuma valley, uses red and black paint on a white or greyish slip. The two paint colors are generally in “oppositional arrangements” and rarely touch. Pailes divided Jecori Polychrome into four stylistic categories; however, given that only fourteen sherds have been identified from one site (SON L:1:23), a stylistic division appears premature. Teonadepa Polychrome is known from five sherds (three bowls and two olla/tecomates) found at

SON L:1:23. Black and red designs are painted on a white slip. It is similar to Ramos Polychrome, but utilizes far less red paint (Pailes 2016:76-78).

A final category, “Other Chihuahuan,” includes sherds that appear to be of the Casas Grandes tradition but lack use of any red paint. Pailes interpreted La Volanta Polychrome (described later) as a true “imitation” Casas Grandes type found in Sonora. In most cases, these eccentric types make limited use of red-paint (Pailes 2016:80-81). The relatively poor quality of these sherds is likely the result of expedient production. This may also suggest that “imitation” Casas Grandes pottery was produced further away from areas where “true” Casas Grandes polychromes were produced. A geographic boundary for such availability has been proposed by Pailes.

Research in Northeast Sonora since the Joint Casas Grandes Expedition

William Wasley’s *Sonora/Sinaloa Project* did little surveying in eastern Sonora but did record the presence of Río Sonora and Casas Grandes ceramics along the Río Altar and Río Magdalena. Thomas Bowen had difficulty in differentiating local from non-local plain wares from Trincheras sites, but he assigned sherds from nine sites with exterior brushing to the Río Sonora tradition (Bowen 1972:95-96). The recent identification of an exterior brushed Trincheras type (Morales 2006) suggests at least some of Bowen’s sherds may have been misdiagnosed.

Richard Pailes organized the *Río Sonora Project* in 1975. Forty-six sites were recorded in five by five kilometers along the Río Sonora (between Baviácora and Aconchi) (Dirst 1979:85). Pailes organized the region’s chronology into three phases: Early Phase (before 1000 CE), Middle Phase (1000-1150/1200 CE), and Late Phase (1150/1200-1350 CE). The presence of an Early Phase was based on stratified findings

from a single site, SON K:4:25. The Middle Phase was initially interpreted as the earliest phase of the Río Sonora tradition, whereby two styles of pithouses, and textured pottery, emerge. The Late Phase is characterized by above-ground adobe foundations and a prevalence of Casas Grandes polychromes (Pailes 1984:311-313; Villalpando 2010:249-250).

Victoria Dirst, originally part of Pailes' project, returned to the region in 1975 and 1976 to investigate earlier notions that the region was subsequently colonized by Casas Grandes populations between 1350 to 1500 CE. Dirst's attempt to test a "frontier model," proved inconclusive. Nonetheless, she argued that Río Sonora textured ceramics exhibit strong similarities with ceramics from Casas Grandes, including Convento Incised, and Playas Red (Dirst 1979:143). Dirst classified locally-produced pottery into four types. These typological distinctions favor surface treatment over variation in paste (Dirst 1979:139-141).

Working off Carroll Riley's (1976) discussion of cultural connectivity within the Northwest/Southwest, William Doolittle (1984:13) suggested the Río Sonora Late Period resulted from population influxes. Social hierarchy at core-center of Paquimé was thought to result in the formation of "statelets," or a network small and "regionally discrete political units," throughout the Sierra Madre. Beatriz Braniff subsequently applied Doolittle's hierarchical distribution of settlements during her excavations at Ojo de Agua (SON H:2:2). Braniff believed Ojo de Agua bore strong ties to Paquimé during the Medio or Tadio periods. She used a core-and-periphery model which suggested that political change following the decline of Paquimé necessitated the implementation of new regional centers within Sonora (Braniff 1990:180-181; Braniff 1992:101-103).

Despite receiving a new moniker (“*Ojo de Agua*”), Braniff suggested the site’s pottery types were equivalent to either previously defined brown ware ceramics from the Río Sonora or the Casas Grandes region (Braniff 1992:301-386). While the assemblages’ painted ceramics were overwhelmingly Casas Grandes in origin, the site also yielded types associated with Hohokam (Santa Cruz Polychrome and Tanque Verde Red-on-brown), Salado (Gila Polychrome and Tonto Polychrome), and Mogollon traditions (Chupadero Black-on-white). One polychrome, argued to originate in Jalisco, is the only known example of Mesoamerican pottery from northern Sonora (Braniff 1992:418, 439).

John Douglas and César Quijada (2004a:107) rejected earlier “statelet,” or core-and-periphery, theories. They cited unreliable Spanish accounts, lack of structured political authority found elsewhere in the prehistoric Southwest/Northwest, and a dearth of archaeological testing. Instead, the two argued that the Río Sonora tradition possessed its own “distinct cultural trajectory” that emerged simultaneously with the rise of Paquimé. They organized a binational crew to conduct surveys along the Río Bavispe in 1998; they recorded thirty-one sites and conducted test excavations at six. Findings suggested social interaction had occurred over the Sierra Madre prior to Paquimé’s rise (Douglas and Quijada 2004a:93-94; Douglas and Quijada 2004b:34; Douglas and Quijada 2005:275). At Atravesaño de Lencho (CHIH C:9:24), Douglas and Quijada encountered red-slipped brushed ceramics which resembled Río Sonora pottery, but predated the Middle Phase. Vessel forms from this phase were primarily seed jars (Douglas and Quijada 2004b). Based on these findings, the two proposed a “previously unrecognized cultural phase dating to about the sixth century” synonymous with Richard Pailles’ Early Phase (Douglas and Quijada 2004b:44).

Matthew Pailes conducted research in the Moctezuma Valley between 2010 and 2012. This research centered on the excavation of three sites: Teonadepa (SON L:1:23), El Nogal (SON L:2:1), and Los Mineros (SON L:2:22) (Pailes 2012). His work in the Moctezuma Valley refuted earlier notions of complex social networks in the region (Pailes 2015:534). Noting the rise of Paquimé in Chihuahua and Cerro de Trincheras near the Rio Magdalena, Pailes argued that the Rio Sonora occupied not a “conductive center of regional political complexity,” but a “balkanized buffer zone” between two political centers (Pailes 2015:545).

Pailes’ study of local brown wares included petrographic analysis of thirty-four sand samples and 137 thin-sectioned sherds. His study revealed that ongoing trade of brown wares occurred over a distance of thirty square kilometers. These results suggest that groups along the Río Moctezuma engaged in regular “face-to-face” interaction (Pailes 2016:595).

Only 174 of the 29,150 sherds collected during the project were painted. None of Moctezuma Valley’s Casas Grandes polychromes were attributed to well established types. This is by contrast with Braniff’s earlier work at Ojo de Agua, wherein sixty-seven percent of the assemblage was represented by well-defined Casas Grandes types (Pailes 2016:75-80). Pailes (2016:84) has argued this site differentiation reflects a social boundary between populations living near the Río Fronteras and those along the Río Moctezuma.

Río Sonora Pottery

All Río Sonora pottery is coil-and-scrape manufactured. Pottery was produced as early as 500 CE and continued through the introduction of Casas Grandes polychromes

(Braniff 1992; Douglas and Quijada 2004b). Undecorated brown wares are divided into three types: Bavispe Brown, Aconchi Brown, and Dos Santos Crude. William Wasley initially named Bavispe Brown, and Braniff employed the name Río Bavispe Brown to refer to a well-polished, fine-grained plain ware she thought was homologous with local brown ware from Ojo de Agua (Braniff 1992:291-302). The type is the most widely known of Río Sonora plain ware, and it has a wide distribution. It is found as far south as SON S:11:2 and SON S:15:6 (Domínguez et al. 2009).

Dirst named Aconochi Brown during analysis from San Jose (SON K:4:24). This type is unslipped and is generally “heavily tempered” with opaque quartz. Interior brushing occasionally occurs on vessels and surface color is variable. Dirst mentioned similarities with Batacosa ceramics from further south, and Alma Plain from immediately north of the international border, but Aconochi Brown is distinguished by its unpolished surface. Its tentative distribution occurs along the Río Sonora, Río Moctezuma and Sahuaripa valleys. The variety Dos Santos Crude represents an uncommon variety of Aconochi Brown. It is unpolished but possesses a highly irregular, “lumpy,” surface, and it is slightly thicker than Aconochi Brown. Dirst described its presence from only two sites: SON K:4:24 and SON K:4:41, with miniature vessels being the primary form (Dirst 1979:132-135).

Local Brushed and Textured Ceramics

Dirst (1979) initially proposed Geronimo Brushed to refer to exterior brushed ceramics; however, the type has been subsequently rejected in favor of all local brushed, or textured, ceramics falling within the Bavispe series (Douglas and Quijada 2004b). In the absence of a preexisting classificatory system, Braniff organized sherds from Ojo de

Agua based on surface treatment: textured, corrugated, incised, and punctate (Braniff 1992:439). Pailes conducted a similar systematic study of Bavispe brushed and textured pottery along the Río Moctezuma, whereby brushing *style* was divided into four major categories: crosshatch, parallel, subparallel, and no orientation, while *depth* was arranged into deep, fine, fugitive, obliterated, and regular (Pailes 2016:61-75).



Figure 7.2: Assortment of Bavispe incised and punctate sherds from the Río Moctezuma (composite of “Figura 75a” and “75b” in Pailes 2012:44 and used with permission from author).

Pailes utilized the category “Other Textured Brownware” to encompass a wide range of local corrugated, incised, textured, and tool punched (punctate) ceramics (Pailes 2016:66-75). His analysis proved inconclusive for determining a brushed “design field,” although a comparison with brushed ceramics from Paquimé demonstrated a significantly higher preference for “no orientation” brushing in the Moctezuma Valley (Pailes 2016:63-64). A combination of incised and punctate sherds, found in San Bernardo-Los Camotes ceramics, is rare in the Moctezuma valley, however incising occurs more frequently than at Ojo de Agua (Pailes 2016:72).

Redware

Dirst (1979) employed the name Huepac Red to refer to a polished type with a soft red wash applied to the surface. She suggested its similarities to Casas Grandes Convento Red but stressed distinction from the well-defined Playas Red on account of

the latter's inclusion of crushed rock temper and high polish (Dirst 1979:137-139). Braniff subsequently described a Río Bavispe variety of red-slipped pottery that was occasionally brushed (Braniff 1992:381). This variety remains poorly defined. Pailes identified the presence of redwares in the Moctezuma Valley, but avoided typological distinctions, suggesting variability in surface hue, was merely the result of available resources (Pailes 2016:61). Redwares appear to be considerably less common in the Moctezuma Valley than at sites further north (Pailes 2016:73).

Painted Pottery

Aside from unpublished findings along the Río Sahuaripa (Carpenter et al. 2016), discussion of locally produced Río Sonora pottery is reserved for recent research in the Moctezuma Valley. Matthew Pailes identifies the type, La Volanta Polychrome, as a locally produced imitation of Casas Grandes pottery. La Volanta Polychrome is characterized by broad red and black lines, with red presented in a chalky paint. The slip is thick and poorly-applied. Sherds of this type are known from two sites: SON L:2:1 and SON L:2:22 (Pailes 2016:80-81). Hinojo and Blanquel (2011) first defined Cumpas Black-on-red/orange based on excavations at La Cuchilla (SON L:1:16). The black-on-red variety employs fine black linework on a red slipped background, while black-on-orange is the unslipped variety (Pailes 2016:82).

Moctezuma Black-on-brown is another locally produced type that uses “poor execution of black lines on brown paste.” Pailes has suggested that this type may represent “novice” decoration attempts given that the paint is often fugitive, and the surface unpolished (Pailes 2016:81). Pailes additionally used an ambiguous “Sonora-Serrana” category to encompass sherds that employ a hematite paint on variable

backgrounds. Given the low sample size from the Moctezuma Valley, Pailes could not discern whether they represented locally produced types, or non-local imports (Pailes 2016:83-84). It is my opinion that any “Sonora-Serrana” sherds utilizing specular hematite paint should be classified as Trincheras Purple-on-red/brown.



Figure 7.3: (l) Cumpas Black-on-red/orange and (r) Moctezuma Black-on-brown (photos compiled from “figura 81” and “82” in Pailes 2012:47 and used with permission from author).

Mogollon and Salado Pottery

Mogollon pottery has a distribution that is limited to extreme northeastern Sonora. Distinguishing Mogollon brown ware from locally produced brown wares is problematic. Prior to the recognition of a local Early Agricultural Period, select sherds were classified as “Mogollon Brownware” during the 1988 survey of the Altar Valley (McGuire and Villalpando 1993:26). Reexamination of some of these sherds, however, suggests they may reflect locally produced ceramics, synonymous with La Playa Lisa or Agua Caliente ceramics from the Tucson Basin (see Early Agricultural chapter). Decorated Mogollon types, including Chupadero Black-on-white and Cloverdale Corrugated, have been more firmly identified in Sonora, but are only found in close proximity to New Mexico’s “Bootheel” and the Chihuahua border (Braniff 1992:409).

The origins of the Salado phenomenon have undergone several revisions since it was first described in the late 1920s. Early researchers argued that Salado represented a

coherent cultural tradition that migrated from east-central Arizona (Gladwin and Gladwin 1930). Crown (1994), however, believed that Salado be more appropriately characterized as an ideology—encompassing dissimilar cultures, but unified in ceramic iconography. Archaeological evidence currently supports that Salado reflects an Ancestral Puebloan population that migrated from the Kayenta region of northeast Arizona during a large drought in the late thirteenth century. The pottery produced by Kayenta migrants slowly replaced most decorated Hohokam pottery in the Tucson Basin and Papaguería during the fourteenth century. Continued production of Tanque Verde Red-on-brown remains a notable exception (Clark and Abbott 2017:362-364). Salado’s distinct ceramics have a much wider distribution than Mogollon pottery in Sonora and remain significant for relative dating within the state.

Salado ceramics in Sonora consist of two distinct types, Gila Polychrome and Tonto Polychrome. These have been relatively well dated to the fourteenth and fifteenth centuries. Gila Polychrome employs black-on-white designs on either bowl interiors, or jar exteriors. The exterior of bowls further possesses a red slip applied to the entire surface, while the red slip is typically only found in rim or base bands on jars. “Lifelines” are typical designs in bowl rims or near the bottom of jar necks. Tonto Polychrome potters incorporated the red slip into designs. This red slip generally surrounding a black-on-white pattern (Crown 1994:19-20). The temporal distribution of Salado polychromes coincides with the Casas Grandes Medio period, and assemblages bearing Salado ceramics in Sonora typically also include Casas Grandes polychromes. It occurs at several sites in the northeast portion of the state (Braniff 1992; Gallaga 1997), but also appears sporadically along the Altar and Magdalena Valleys, and as far east as

SON E:8:3 (Braniff 1992:900-901; McGuire and Villalpando 1993; Villalpando 2001; Villalpando and McGuire 2009).

Recent Research along the Río Sahuaripa

Proyecto Arqueológico Río Sahuaripa y la Sierra Central targeted the virtually unexplored 10,000 square kilometers between Guaguasari (Yécora Municipality) and the confluence of the Río Sahuaripa and Río Yaqui (Carpenter et al. 2016). While much of this ongoing research remains to be published, the project has documented sixty sites—conducting test excavations at seven. Recorded sites demonstrate occupation spanning Archaic through protohistoric periods (Carpenter 2015:7; Carpenter and Sánchez 2016:13). Two sites have been the source of intensive study: Buenavista (SON P:4:2) and Ekholm 55 (SON L:16:10). Both sites are large settlements with roomblocks surrounding a main plaza. Casas Grandes pottery includes Babícora, Carretas, and Villa Ahumada Polychromes. Hohokam sherds from Buenavista have also been observed and may reflect the tradition's southernmost pottery distribution (Braniff 1992).



Figure 7.4: Arivechi decorated sherds (Carpenter et al. 2016). Image used with permission from Centro INAH Sonora.

A “relatively unknown and ill-defined” Arivechi series (including variants of Purple or Red-on-brown, buff, and grey) are thought to represent a locally produced ceramic tradition (Carpenter et al. 2016; Carpenter and Sánchez 2016:13-14). Such types likely correspond with Sahuaripa Purple/Red-on-brown—an unpublished type originally recorded by Wasley from three sites: SON P:4:2, SON L:16:1, and SON L:16:3 (Braniff 1992:916-919). Arivechi Red-on-brown has been identified as far south as Rincón de Buyubampo in northern Sinaloa (Carpenter and Sánchez 2014b). Alternatively, these decorated types may all reflect variations of Gallaga’s Onavas Purple-on-red. An undecorated type from Buenavista, Sahuaripa 1, has additionally been provisionally named (Carpenter 2015:5). Adequate descriptions for these ceramics await publication by Carpenter.

CONCLUSION

Archaeological research in Sonora has increased exponentially over the past several decades. In the last twenty years, surveys of previously unexplored river valleys, binational projects, and INAH *salvamento* projects have provided critical insights into broader trends in prehistoric and protohistoric pottery production. While more information can always be gleaned from archaeological surveys and excavations, I believe that archaeologists should make establishing a consensus on pottery classification a priority.

Numerous researchers share a need to classify Sonora's indigenous pottery, including United States archaeologists and members of Centro INAH Sonora. Centro INAH Sonora has recently begun a series of ongoing meetings regarding classification methods for Sonora's pottery (Cristina García, personal correspondence, 2018). Differences in terminology, and difficulty obtaining gray literature, have, however, posed problems for establishing a methodological consensus. This thesis exercises solidarity with INAH archaeologists in the hopes of establishing such a consensus.

Nascent Pottery Production

Pottery emerged over four thousand years ago in the Sonoran Desert and findings from Sonora demonstrate continuity with the Early Agricultural Period in the Tucson Basin. Incipient Plain Ware vessels from the Silverbell interval (2100-1200 BCE) coincide with the earliest evidence for maize domestication (Vint 2017); however,

Heidke and Stark (2002) suggest that the earliest plain ware served a ritualistic function. These nascent pottery vessels have subsequently challenged decades-old assumptions that pottery emerged for domesticated food storage.

The subsequent ceramics produced in the Sonoran Desert (La Playa Lisa and Agua Caliente phase) presumably emerged from Incipient Plain Ware and are linked by a “Plain Ware horizon” that swept through the landscape in the first centuries of the common era (Deaver and Ciolek-Torrello 1995; Foster 1995; Morales 2006; Wilson and Blinman 1993). The impact of this horizon is manifest in the great similarities found in pottery produced during the Trincheras and Hohokam traditions. These similarities are clearly present in painted decorations (including the “Chex Mix” design). Broadline Purple-on-red sherds associated with Tortolita phase Hohokam assemblages (Heidke 1993) additionally suggest that early examples of purple-painted pottery had a wider distribution than previously recognized and may have emerged from this common horizon. Future research on both sides of the international border is need to understand the deep connections with the Trincheras and Hohokam traditions.

Unfortunately, outside of La Playa, there have been no archaeological projects within Sonora that target the Early Agricultural Period. This lacuna means that the relationship of Incipient Plain Ware to Venadito Brown from the Sinaloa border remains speculative. Three scenarios for the emergence of Venadito Brown are possible: (1) it may reflect an early pottery that emerged from Incipient Plain Ware, (2) it may have emerged as an independent innovation, (3) it may have emerged from an earlier, yet unidentified, basal type. The Early Agricultural Period in Sonora remains one of the few research areas hinging on further excavations and survey to improve our base knowledge.

The Southwest/Northwest and Mesoamerica Connection

Archaeologists have grappled with how Sonora's prehistoric cultural traditions fit preestablished culture areas (Southwest/Northwest and Mesoamerica) since the first expeditions into the state. Early terminologies such as "Greater Southwest" (Beals 1943) or "La Gran Chichimeca" (Di Peso et al. 1974), carry tremendous biases that still impact how archaeologists interpret Sonoran prehistory. Although Southwest/Northwest and Mesoamerican connections are disputed, some interesting patterns emerge from an examination of pottery distributed across the state.

Sonora exhibits no connectivity with West Mexico and Mesoamerica until the eleventh century (Carpenter et al. 2008). During the eleventh century, influences from West Mexico occur in both Sonora and Chihuahua. The "Red-Rim" Aztatlán horizon (Carpenter 1996) extended into southern Sonora and altered the material culture of the local Huatabampo and Serrana traditions. Painted ceramics were entirely unknown in the region prior to this. The recently discovered Rincón de Buyubampo (SIN A:6:18) in extreme northern Sinaloa is an exemplary case of the complex regional social networks that occurred during this time. This site contains an unbroken pottery sequence that provides critical information for understanding the dynamic social changes that continued to occur until well after European contact.

The Sierra Madre Occidental has been argued to provide a route for the transfer of ideas and material culture from West Mexico and Mesoamerica into the Southwest/Northwest. Robert Lister's (1958) work at cave sites in northeast Sonora was the first to test this hypothesis. Recent work by Centro INAH Sonora in the Ónavas and Sahuaripa Valleys confirm that eastern Sonora maintained complex exchange networks

and peripheral associations with West Mexico (Carpenter and Sánchez 2016; García and Watson 2016). Strangely, there is a large geographic break in the presence of decorated pottery from Aztatlán ceramics in southern Sonora and decorated pottery in the Ónavas and Sahuaripa Valleys further north.

The pottery found within the Ónavas and Sahuaripa Valleys are a complicated agglomeration of Casas Grandes trade wares and poorly understood locally produced pottery. The regions locally produced decorated pottery lack “Red Rim” decorations diagnostic of the Aztatlán horizon. Instead this pottery displays much closer affiliation with Trincheras ceramics found near the international border. The phenomenon of purple-painted pottery in the Ónavas and Sahuaripa Valleys, almost certainly suggests an unrealized connection between these valleys and the Trincheras tradition. While cultural practices in the Ónavas and Sahuaripa Valleys may suggest connectivity with West Mexico, the pottery they produced does not.

Di Peso et al. (1974) stressed social complexity resulting from Mesoamerican influences at the Chihuahuan site of Paquimé. The high presence of Chihuahuan-produced Casas Grandes polychromes in the northern Sierra Madre Occidental and further east (Trincheras region) demonstrates an extensive social network for trading these ceramic types. Academics in previous decades (Doolittle 1984; Braniff 1990) have argued the presence of this pottery was the result of Paquimé exhibiting centralized power over its subject “statelets.”

The influence of Paquimé in Sonora has been more recently discounted (Douglas and Quijada 2004a); however, the strong presence of Casas Grandes polychromes remains an intriguing phenomenon. Strictly from a visual perspective, Casas Grandes

painted-pottery exhibits significantly higher artistic skill (both in slip and vessel design) when compared to anything produced locally in Sonora. These aesthetic qualities were perhaps more significant for the trade of Casas Grandes pottery than the regional influence of Paquimé or tentative connectivity with West Mexico. The production of “imitation” Casas Grandes pottery along the Río Moctezuma (Pailes 2016) additionally supports aesthetic desirability for Casas Grandes polychromes.

In echoing earlier researchers (Di Peso et al. 1974; Lister 1958), I argue that the Sierra Madre Occidental *did* provide an important trade route from West Mexico into Sonora. The presence of Aztatlán pottery in southern Sonora, coupled with Mesoamerican influences found throughout the Southwest/Northwest, cannot be ignored. The degree of connectivity between the Southwest/Northwest and Mesoamerica, however, does not appear consistently throughout this region. It is particularly intriguing that Ónavas Valley populations show clear evidence for long-distance trade, and mimicked cranial modifications characteristic of West Mexican elites, but produced pottery stylistically more similar to those found in northern Sonora and southern Arizona (García and Watson 2016). Ongoing work in the neighboring Sahuaripa Valley will doubtless elucidate our understanding of the significant role that the Sierra Madre Occidental played in long distance trade.

Moving forward

This thesis has offered the first steps in establishing a consistent classification for prehistoric and protohistoric Sonoran pottery. In this respect, I do not claim that my perspectives, or organizational tactics, are the *only* correct framework for future research.

This thesis is simply an attempt to synthesize old information in new, and meaningful, ways.

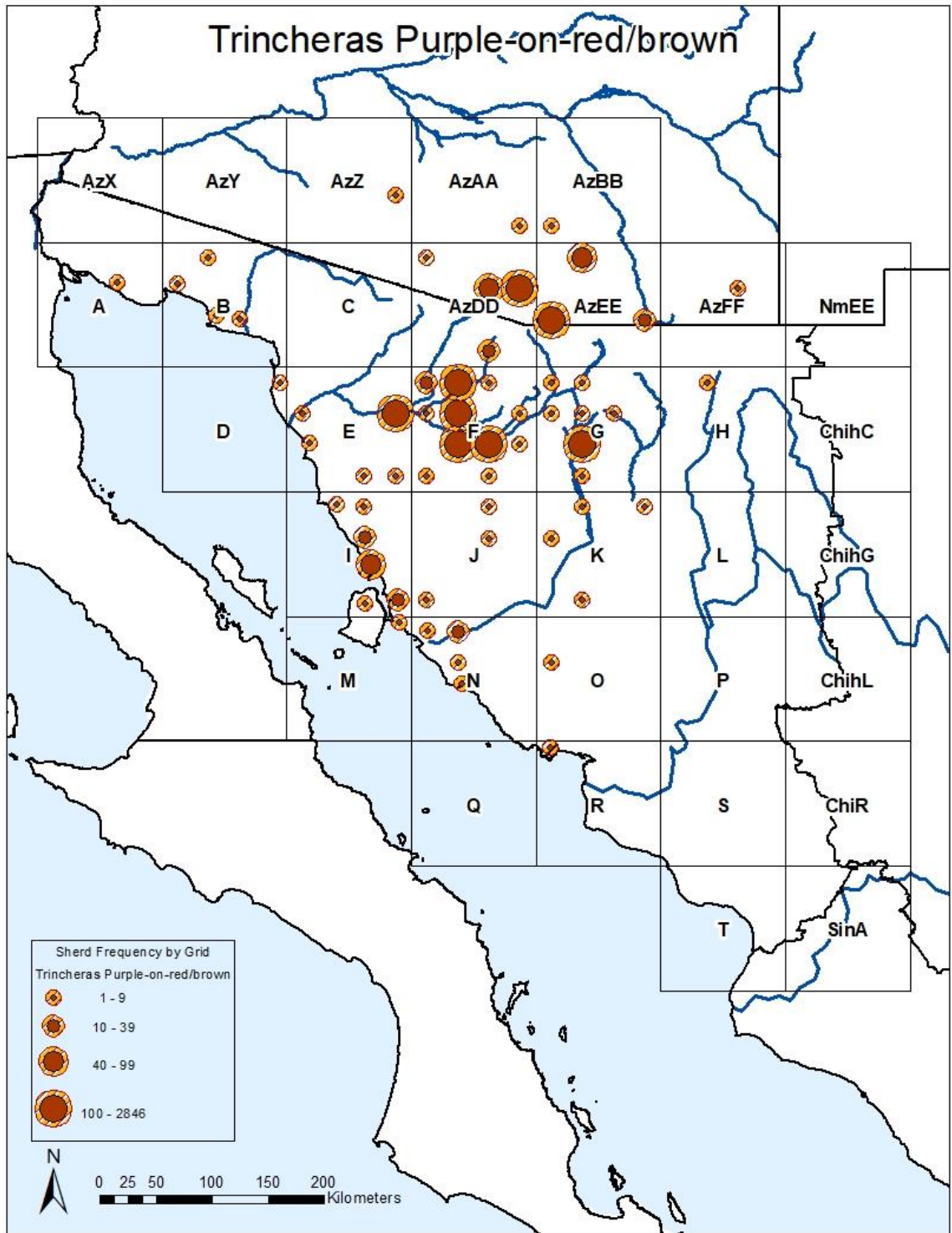
More surveys or excavations will continue to add valuable insights into prehistoric Sonoran archaeology. Surveys and excavations, however, are not a ‘magic bullet’ for Sonoran archaeology. Despite academic research flourishing in Sonora since the 1980s, there has been little attempt to synthesize the information that has already been collected. In this respect, I view Sonora’s ‘magic bullet’ as a combination ongoing collaborative fieldwork, synthesizing decades of research, and relating that data to large-scale research questions.

Throughout this thesis I have offered numerous suggestions for advancing our understanding of indigenous pottery from Sonora. In many cases, these suggestions involve more systematic studies of design analysis. Design analysis provides a useful tool for tracking changes within traditions, and for examining large scale connectivity between traditions. Perhaps, through such analysis, we can further elucidate connectivity between the Southwest/Northwest and Mesoamerica and follow the spread of the earliest decorated ceramics.

Appendix

This appendix includes mapped spatial distributions for eighteen ceramic types (or groups) found within Sonora. Not surprisingly, the best-defined types originated outside Sonora's boundaries (Hohokam, Salado, or Casas Grandes). Additionally, due to historical circumstances, some discrepancies exist within mapped types. For example, use of "Trincheras Polychrome" is obsolete; however, many early publications use the term ambiguously—making it impossible to determine if they are referring to Nogales Polychrome or Altar Polychrome. In this case, I mapped both of these types together.

Paula Hertfelder of Binghamton University aided in generated these maps using ArcGIS. Cristina García of Centro INAH Sonora provided the ASM grid coordinates for Sonora and their base maps. Given the macro-scale mapping for this project, we settled on mapping each type (or group) based on grid coordinates, rather than individual site coordinates. This enabled us to record large scale concentrations on a grid-by-grid basis. Maps are followed by individual site breakdown of sherd distributions. An "X" is listed when the exact sherd count is not known. "Auto Plot" indicates information taken from Beatriz Braniff's earlier distribution mapping but lacking specific site information. Braniff's landmark 1985 dissertation (republished 1992) provided basic distribution mapping for several of these types. Although ambitious, her maps lacked ceramic counts, or detailed site-by-site information for known occurrences. Additionally, a surge of work in the last thirty years has made her distribution maps obsolete.



Trincheras Purple-on-red/brown

Site Number	Grid Number	Sherd Count	Reference
AZ AA:16:49*	AZ AA:16	1	Craig 1988:12
AZ BB:13:5*	AZ BB:13	1	Wallace 1985:129
AZ BB:13:41*	AZ BB:13	1	Greenleaf 1975:73-74
AZ DD:01:11*	AZ DD:01	X	Withers 1941
AZ DD:07:22*	AZ DD:07	53	Wittlesey 1992:40
AZ DD:08:122*	AZ DD:08	58	Doyle 1977:28
AZ DD:08:1*	AZ DD:08	737	Di Peso 1956
AZ DD:15:10	AZ DD:15	10	McGuire and Villalpando 1991
AZ EE:02:76*	AZ EE:02	3	Deaver 1984:364
AZ EE:02:105*	AZ EE:02	9	Deaver 1984:364
AZ EE:02:113*	AZ EE:02	43	Deaver 1984:364
AZ EE:09:1*	AZ EE:09	11	Heidke et al. 2017:52
AZ EE:09:53*	AZ EE:09	X	Grebinger, II 1971:71
AZ EE:09:68*	AZ EE:09	11	Reinhard and Shipman 1978:241
AZ EE:09:93*	AZ EE:09	392	Jácome 1986:32
AZ EE:09:107*	AZ EE:09	229	Heckman 2001:76
AZ EE:09:117*	AZ EE:09	3	Heidke et al. 2000:25
AZ EE:09:129*	AZ EE:09	X	SWCA 1991:25
AZ EE:09:174*	AZ EE:09	9	Heidke 2005b:24
AZ EE:09:175*	AZ EE:09	102	Montgomery and Deaver 2000:139
AZ EE:12:60*	AZ EE:12	14	Lack 2011:204-205
AZ FF:07:10*	AZ FF:07	1	Douglas 1996:188
AZ Z:12:13*	AZ Z:12	5	Masse 1980:118-119
SON A:07:2	SON A:07	4	M. García 2006:237-251
Sierra Pinacate	SON B:02	X	Hayden 1967:339-340
SON B:05:2	SON B:05	8	M. García 2006:237-251
SON B:10:1/2	SON B:10	X	Gifford 1946:217-218
SON B:11:1	SON B:11	3	Gifford 1946:217-218
SON D:4:1	SON D:04	X	Braniff 1992:900
SON E:05:1	SON E:05	X	Braniff 1992:900
SON E:05:6A	SON E:05	X	Braniff 1992:900
SON E:05:6B	SON E:05	X	Braniff 1992:901
SON E:05:7	SON E:05	X	Braniff 1992:901
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON E:08:4	SON E:08	X	Braniff 1992:902
SON E:08:5	SON E:08	262	Braniff 1992; Villalobos 2003
SON E:09:1	SON E:09	X	Braniff 1992:902
SON E:09:2	SON E:09	X	Braniff 1992:902
SON E:15:3	SON E:15	X	Braniff 1992:902
SON E:15:6	SON E:15	X	Braniff 1992:903
SON E:15:7	SON E:15	X	Braniff 1992:903
SON E:16:1	SON E:16	X	Braniff 1992:903
SON F:01:7	SON F:01	6	McGuire and Villalpando 1991
SON F:01:8	SON F:01	32	McGuire and Villalpando 1991
SON F:02:1.1	SON F:02	41	McGuire and Villalpando 1991
SON F:02:2	SON F:02	X	Braniff 1992:903
SON F:02:4	SON F:02	33	McGuire and Villalpando 1991
SON F:02:5	SON F:02	X	Braniff 1992:903
SON F:02:13.1	SON F:02	67	McGuire and Villalpando 1991
SON F:02:14	SON F:02	1	McGuire and Villalpando 1991

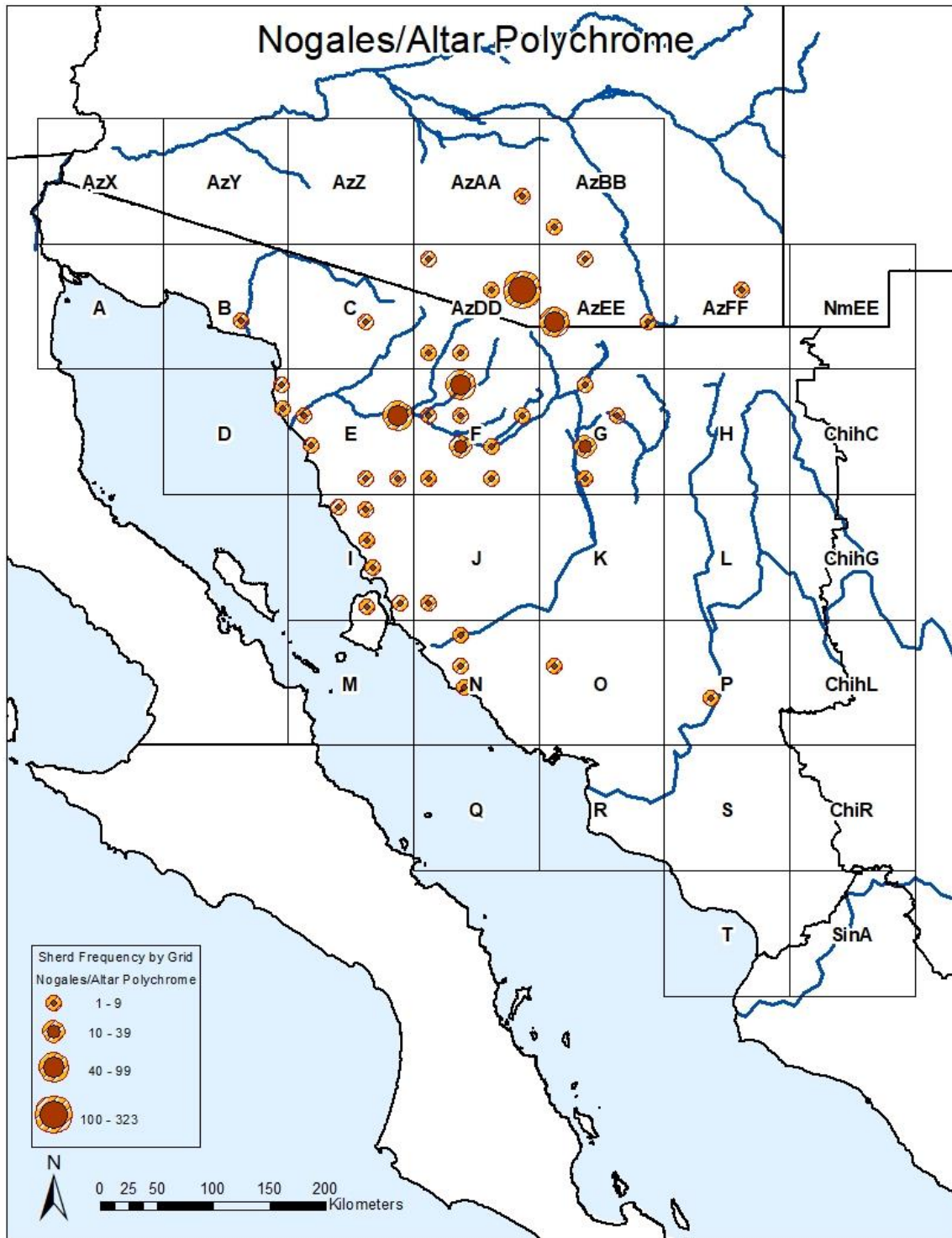
SON F:02:17	SON F:02	17	McGuire and Villalpando 1991
SON F:02:18	SON F:02	43	McGuire and Villalpando 1991
SON F:02:19	SON F:02	8	McGuire and Villalpando 1991
SON F:02:22	SON F:02	5	McGuire and Villalpando 1991
SON F:02:23	SON F:02	7	McGuire and Villalpando 1991
SON F:02:25	SON F:02	2	McGuire and Villalpando 1991
SON F:02:29	SON F:02	12	McGuire and Villalpando 1991
SON F:02:31	SON F:02	1	McGuire and Villalpando 1991
SON F:02:33	SON F:02	35	McGuire and Villalpando 1991
SON F:02:34	SON F:02	20	McGuire and Villalpando 1991
SON F:02:35	SON F:02	19	McGuire and Villalpando 1991
SON F:02:36	SON F:02	8	McGuire and Villalpando 1991
SON F:02:37	SON F:02	3	McGuire and Villalpando 1991
SON F:02:38	SON F:02	54	McGuire and Villalpando 1991
SON F:02:39	SON F:02	99	McGuire and Villalpando 1991
SON F:02:40	SON F:02	16	McGuire and Villalpando 1991
SON F:02:41	SON F:02	3	McGuire and Villalpando 1991
SON F:02:43	SON F:02	69	McGuire and Villalpando 1991
SON F:02:44	SON F:02	21	McGuire and Villalpando 1991
SON F:02:45	SON F:02	8	McGuire and Villalpando 1991
SON F:02:46	SON F:02	3	McGuire and Villalpando 1991
SON F:02:47	SON F:02	44	McGuire and Villalpando 1991
SON F:02:48	SON F:02	23	McGuire and Villalpando 1991
SON F:02:49	SON F:02	68	McGuire and Villalpando 1991
SON F:02:50	SON F:02	21	McGuire and Villalpando 1991
SON F:02:51	SON F:02	8	McGuire and Villalpando 1991
SON F:02:52	SON F:02	188	McGuire and Villalpando 1991
SON F:02:53	SON F:02	72	McGuire and Villalpando 1991
SON F:02:54	SON F:02	13	McGuire and Villalpando 1991
SON F:02:55	SON F:02	1	McGuire and Villalpando 1991
SON F:02:56	SON F:02	129	McGuire and Villalpando 1991
SON F:02:58	SON F:02	18	McGuire and Villalpando 1991
SON F:02:59	SON F:02	257	McGuire and Villalpando 1991
SON F:02:60	SON F:02	52	McGuire and Villalpando 1991
SON F:02:61	SON F:02	526	<i>Proyecto Tradición Trincheras 2017</i>
SON F:02:67	SON F:02	11	McGuire and Villalpando 1991
SON F:02:68	SON F:02	1	McGuire and Villalpando 1991
SON F:02:69	SON F:02	96	McGuire and Villalpando 1991
SON F:02:70	SON F:02	12	McGuire and Villalpando 1991
SON F:02:73	SON F:02	1	McGuire and Villalpando 1991
SON F:02:76	SON F:02	1	McGuire and Villalpando 1991
SON F:02:77	SON F:02	16	McGuire and Villalpando 1991
SON F:02:78	SON F:02	2	McGuire and Villalpando 1991
SON F:02:82	SON F:02	42	McGuire and Villalpando 1991
Auto Plot**	SON F:03	X	Braniff 1992:596
SON F:05:5	SON F:05	8	McGuire and Villalpando 1991
SON F:05:15	SON F:05	1	McGuire and Villalpando 1991
SON F:06:3	SON F:06	1	McGuire and Villalpando 1991
SON F:06:5	SON F:06	26	McGuire and Villalpando 1991
SON F:06:6	SON F:06	29	McGuire and Villalpando 1991
SON F:06:10	SON F:06	5	McGuire and Villalpando 1991
SON F:06:12	SON F:06	15	McGuire and Villalpando 1991
SON F:06:14	SON F:06	10	McGuire and Villalpando 1991

SON F:06:15	SON F:06	26	McGuire and Villalpando 1991
SON F:06:16	SON F:06	9	McGuire and Villalpando 1991
SON F:06:17	SON F:06	13	McGuire and Villalpando 1991
SON F:06:19	SON F:06	1	McGuire and Villalpando 1991
SON F:06:20	SON F:06	22	McGuire and Villalpando 1991
SON F:06:21	SON F:06	2	McGuire and Villalpando 1991
SON F:08:1	SON F:08	X	Braniff 1992:904
SON F:10:1	SON F:10	4	Pastrana n.d.
SON F:10:2	SON F:10	92	Villalpando and McGuire 2009:234
SON F:10:3	SON F:10	1338	Johnson 1960; Gómez et al. 2016:124
SON F:10:6	SON F:10	71	Pastrana n.d.
SON F:10:9	SON F:10	1	Pastrana n.d.
SON F:10:15	SON F:10	13	Pastrana n.d.
SON F:10:16	SON F:10	3	Pastrana n.d.
SON F:10:17	SON F:10	1	Pastrana n.d.
SON F:10:22	SON F:10	2	Pastrana n.d.
SON F:10:23	SON F:10	1	Pastrana n.d.
SON F:10:24	SON F:10	1	Pastrana n.d.
SON F:10:25	SON F:10	13	Pastrana n.d.
SON F:10:26	SON F:10	1	Pastrana n.d.
SON F:10:27	SON F:10	1	Pastrana n.d.
SON F:10:28	SON F:10	2	Pastrana n.d.
SON F:10:33	SON F:10	2	Pastrana n.d.
SON F:10:41	SON F:10	1	Pastrana n.d.
SON F:10:45	SON F:10	2	Pastrana n.d.
SON F:10:47	SON F:10	3	Pastrana n.d.
SON F:10:52	SON F:10	8	Pastrana n.d.
SON F:10:53	SON F:10	34	Pastrana n.d.
SON F:10:54	SON F:10	1	Pastrana n.d.
SON F:10:56	SON F:10	1	Pastrana n.d.
SON F:10:58	SON F:10	31	Pastrana n.d.
SON F:10:60	SON F:10	12	Pastrana n.d.
SON F:10:64	SON F:10	3	Pastrana n.d.
SON F:10:66	SON F:10	8	Pastrana n.d.
SON F:10:68	SON F:10	15	Pastrana n.d.
SON F:10:69	SON F:10	8	Pastrana n.d.
SON F:10:71	SON F:10	10	Pastrana n.d.
SON F:10:73	SON F:10	18	Pastrana n.d.
SON F:10:74	SON F:10	21	Pastrana n.d.
SON F:10:75	SON F:10	5	Pastrana n.d.
SON F:10:76	SON F:10	3	Pastrana n.d.
SON F:10:78	SON F:10	8	Pastrana n.d.
SON F:10:79	SON F:10	5	Pastrana n.d.
SON F:10:81	SON F:10	4	Pastrana n.d.
SON F:10:82	SON F:10	4	Pastrana n.d.
SON F:10:83	SON F:10	41	Pastrana n.d.
SON F:10:84	SON F:10	1	Pastrana n.d.
SON F:10:85	SON F:10	214	Pastrana n.d.
SON F:10:90	SON F:10	3	Pastrana n.d.
SON F:10:91	SON F:10	20	Pastrana n.d.
SON F:10:94	SON F:10	5	Pastrana n.d.
SON F:10:110	SON F:10	7	Pastrana n.d.
SON F:10:114	SON F:10	38	Pastrana n.d.

SON F:10:132	SON F:10	10	Pastrana n.d.
SON F:10:133	SON F:10	1	Pastrana n.d.
SON F:10:135	SON F:10	1	Pastrana n.d.
SON F:10:139	SON F:10	51	Pastrana n.d.
SON F:10:141	SON F:10	10	Pastrana n.d.
SON F:10:142	SON F:10	8	Pastrana n.d.
SON F:10:148	SON F:10	3	Pastrana n.d.
SON F:10:149	SON F:10	2	Pastrana n.d.
SON F:10:151	SON F:10	680	Cruz and Nava 2013:68-69
SON F:11:5	SON F:11	10	Pastrana n.d.
SON F:11:13	SON F:11	4	Pastrana n.d.
SON F:11:16	SON F:11	6	Pastrana n.d.
SON F:11:18	SON F:11	5	Pastrana n.d.
SON F:11:19	SON F:11	2	Pastrana n.d.
SON F:11:25	SON F:11	7	Pastrana n.d.
SON F:11:26	SON F:11	2	Pastrana n.d.
SON F:11:27	SON F:11	23	Pastrana n.d.
SON F:11:29	SON F:11	12	Pastrana n.d.
SON F:11:31	SON F:11	3	Pastrana n.d.
SON F:11:32	SON F:11	2	Pastrana n.d.
SON F:11:34	SON F:11	1	Pastrana n.d.
SON F:11:35	SON F:11	6	Pastrana n.d.
SON F:11:36	SON F:11	4	Pastrana n.d.
SON F:11:37	SON F:11	22	Pastrana n.d.
SON F:11:42	SON F:11	12	Pastrana n.d.
SON F:11:43	SON F:11	1	Pastrana n.d.
SON F:11:44	SON F:11	4	Pastrana n.d.
SON F:11:45	SON F:11	20	Pastrana n.d.
SON F:11:49	SON F:11	3	Pastrana n.d.
SON F:11:52	SON F:11	1	Pastrana n.d.
SON F:11:54	SON F:11	1	Pastrana n.d.
SON F:11:55	SON F:11	3	Pastrana n.d.
SON F:11:71	SON F:11	2	Pastrana n.d.
SON F:11:74	SON F:11	2	Pastrana n.d.
SON F:11:82	SON F:11	3	Pastrana n.d.
SON F:11:84	SON F:11	1	Pastrana n.d.
SON F:11:88	SON F:11	2	Pastrana n.d.
SON F:11:89	SON F:11	6	Pastrana n.d.
SON F:11:92	SON F:11	33	Pastrana n.d.
Auto Plot**	SON F:12	X	Braniff 1992:596
SON F:13:2	SON F:13	X	Braniff 1992:904
SON F:13:3	SON F:13	X	Braniff 1992:904
SON F:15:3	SON F:15	X	Braniff 1992:904
Auto Plot**	SON G:01	X	Braniff 1992:596
SON G:02:1	SON G:02	X	Braniff 1992:905
SON G:02:6	SON G:02	X	Gallaga 1997:96
SON G:02:11	SON G:02	X	Braniff 1992:834
SON G:02:12	SON G:02	X	Braniff 1992:834
Auto Plot**	SON G:05	X	Braniff 1992:596
SON G:06:1	SON G:06	X	Braniff 1992:784
SON G:06:3	SON G:06	X	Braniff 1992:834
SON G:06:4	SON G:06	X	Braniff 1992:834
SON G:06:5	SON G:06	X	Braniff 1992:834

SON G:07:1	SON G:07	X	Braniff 1992:905
SON G:10:2	SON G:10	649	Braniff 1992:751-752
SON G:10:7	SON G:10	1	Braniff 1992:830
SON G:10:16	SON G:10	1	Braniff 1992:830
SON G:10:17	SON G:10	X	Braniff 1992:830
SON G:10:18	SON G:10	X	Braniff 1992:830
SON G:10:20	SON G:10	2	Braniff 1992:830
SON G:10:25	SON G:10	8	Braniff 1992:830
SON G:10:26	SON G:10	X	Braniff 1992:830
SON G:14:06	SON G:14	X	Braniff 1992:831
SON G:14:09	SON G:14	X	Braniff 1992:784
SON G:14:10	SON G:14	X	Braniff 1992:831
SON G:14:11	SON G:14	X	Braniff 1992:906
SON G:14:14	SON G:14	X	Braniff 1992:906
SON G:14:15	SON G:14	X	Braniff 1992:906
SON G:14:20	SON G:14	X	Braniff 1992:831
SON H:02:6	SON H:02	1	Gallaga 1997:105-106
SON I:02:1	SON I:02	X	Braniff 1992:909
SON I:02:2	SON I:02	X	Braniff 1992:909
SON I:02:6	SON I:02	X	Braniff 1992:909
SON I:02:7	SON I:02	X	Braniff 1992:909
SON I:03:1	SON I:03	X	Braniff 1992:909
SON I:07:3	SON I:07	4	Bowen 1976:65-67
SON I:07:7	SON I:07	1	Bowen 1976:65-67
SON I:07:8	SON I:07	1	Bowen 1976:65-67
SON I:07:9	SON I:07	2	Bowen 1976:65-67
SON I:07:10	SON I:07	5	Bowen 1976:65
SON I:11:5A	SON I:11	73	Bowen 1976:65-67
SON I:11:6	SON I:11	4	Bowen 1976:65-67
SON I:11:11	SON I:11	4	Bowen 1976:65-67
SON I:15:1	SON I:15	9	Bowen 1976:65-67
SON I:16:2	SON I:16	5	Bowen 1976:65-67
SON I:16:4	SON I:16	3	Bowen 1976:65-67
SON I:16:5	SON I:16	13	Bowen 1976:65-67
Auto Plot**	SON J:03	X	Braniff 1992:596
Auto Plot**	SON J:07	X	Braniff 1992:596
SON J:13:1	SON J:13	2	Bowen 1976:65-67
SON J:13:11	SON J:13	X	Braniff 1992:912
SON K:02:11	SON K:02	X	Braniff 1992:832
SON K:04:34	SON K:04	X	Dirst 1979:120-121
SON K:05:1	SON K:05	X	Braniff 1992:913
Auto Plot**	SON K:14	X	Braniff 1992:596
SON M:04:6	SON M:04	1	Bowen 1976:65-67
Auto Plot**	SON N:01	X	Braniff 1992:596
SON N:02:2	SON N:02	21	Bowen 1976:65-67
Auto Plot**	SON N:06	X	Braniff 1992:596
SON N:10:13	SON N:10	1	Bowen 1976:65-67
SON O:05:2	SON O:05	X	Braniff 1992:918
Near Guaymas	SON R:01	3	Bowen 1965:30

*Site in Arizona. **No site info known. Auto plotted from "Mapa 44" (Braniff 1992:596).



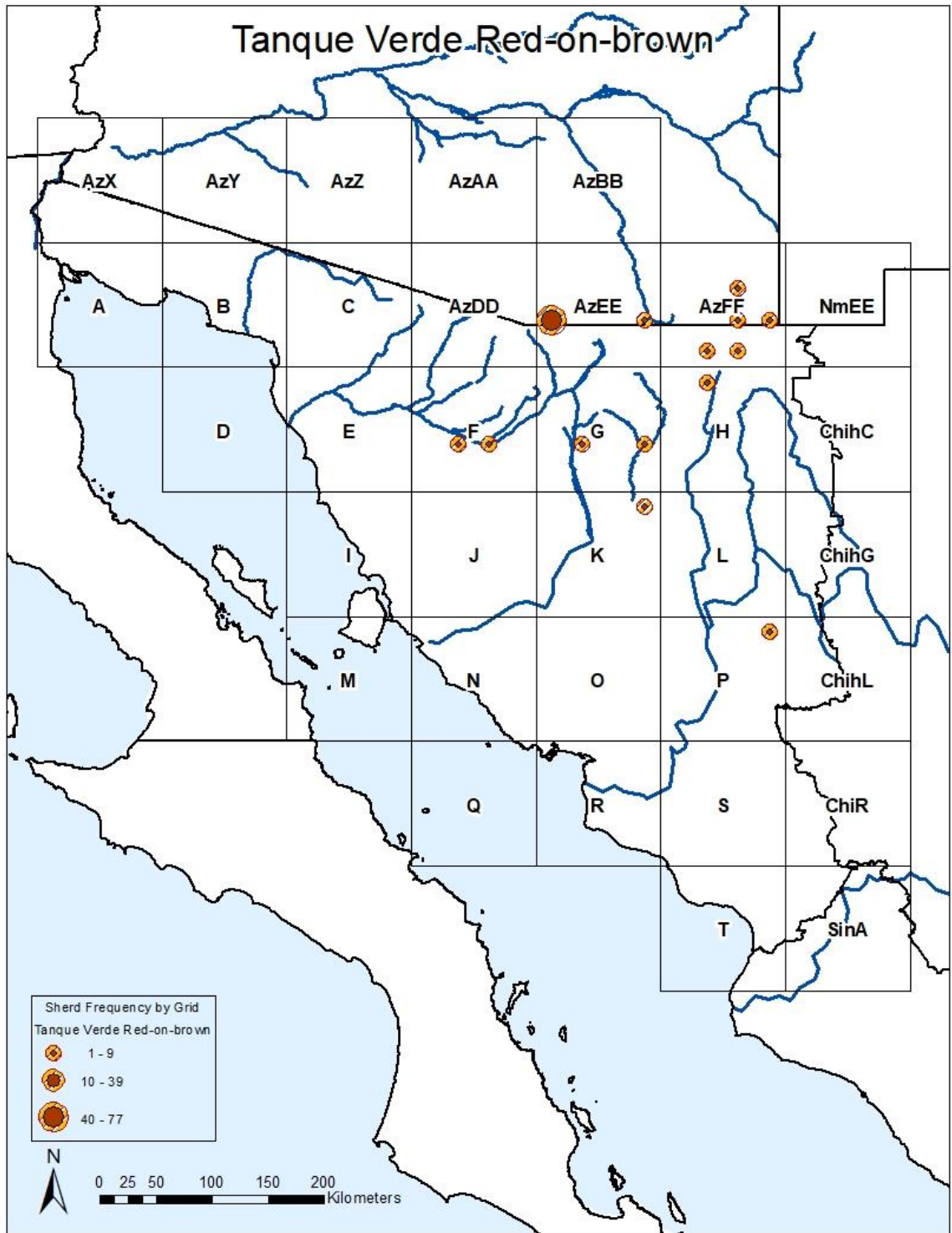
*This map also includes distributions for “Trincheras Polychrome.”

Nogales/Altar Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ AA:12:18*	AZ AA:12	5	Kelly 1978:77
AZ AA:12:384*	AZ AA:12	1	Deaver 1988:139
AZ BB:13:41*	AZ BB:13	1	Greenleaf 1975:73-74
AZ DD:01:11*	AZ DD:01	X	Withers 1941
AZ DD:07:22*	AZ DD:07	4	Wittlesey 1992:40
AZ DD:08:1*	AZ DD:08	313	Di Peso 1956
AZ DD:08:122*	AZ DD:08	10	Doyle 1977:28
Auto Plot**	AZ DD:13	X	Braniff 1992:596
Auto Plot**	AZ DD:14	X	Braniff 1992:596
AZ EE:02:76*	AZ EE:02	8	Deaver 1984:364
AZ EE:02:113*	AZ EE:02	1	Deaver 1984:364
AZ EE:09:1*	AZ EE:09	5	Heidke et al. 2017:52
AZ EE:09:53*	AZ EE:09	X	Grebinger 1971:71
AZ EE:09:68*	AZ EE:09	2	Reinhard and Shipman 1978:241
AZ EE:09:93*	AZ EE:09	5	Jácome 1986:32
AZ EE:09:107*	AZ EE:09	31	Heckman 2001:76
AZ EE:09:117*	AZ EE:09	1	Heidke et al. 2000:25
AZ EE:09:175*	AZ EE:09	17	Montgomery and Deaver 2000:139
AZ EE:12:60*	AZ EE:12	2	Lack 2011:204-205
AZ FF:07:10*	AZ FF:07	3	Douglas 1996:188
SON B:11:1	SON B:11	X	Braniff 1992:900
Auto Plot**	SON C:11	X	Braniff 1992:596
SON D:04:1	SON D:04	X	Braniff 1992:900
SON D:04:2	SON D:04	X	Braniff 1992:900
Auto Plot**	SON D:08	X	Braniff 1992:596
SON E:05:1	SON E:05	X	Braniff 1992:900
SON E:05:2	SON E:05	X	Braniff 1992:900
SON E:05:6A	SON E:05	X	Braniff 1992:900
SON E:05:6B	SON E:05	X	Braniff 1992:901
SON E:05:7	SON E:05	X	Braniff 1992:901
SON E:08:5	SON E:08	44	Villalobos 2003
Auto Plot**	SON E:09	X	Braniff 1992:596
Auto Plot**	SON E:15	X	Braniff 1992:596
Auto Plot**	SON E:16	X	Braniff 1992:596
SON F:02:2	SON F:02	X	Braniff 1992:903
SON F:02:4	SON F:04	X	Braniff 1992:903
SON F:02:17	SON F:02	1	McGuire and Villalpando 1991
SON F:02:38	SON F:02	3	McGuire and Villalpando 1991
SON F:02:39	SON F:02	4	McGuire and Villalpando 1991
SON F:02:43	SON F:02	1	McGuire and Villalpando 1991
SON F:02:49	SON F:02	1	McGuire and Villalpando 1991
SON F:02:52	SON F:02	2	McGuire and Villalpando 1991
SON F:02:54	SON F:02	1	McGuire and Villalpando 1991
SON F:02:56	SON F:02	9	McGuire and Villalpando 1991
SON F:02:59	SON F:02	1	McGuire and Villalpando 1991
SON F:02:60	SON F:02	4	McGuire and Villalpando 1991
SON F:02:61	SON F:02	31	<i>Proyecto Tradición Trincheras 2017</i>
SON F:02:67	SON F:02	2	McGuire and Villalpando 1991
SON F:02:69	SON F:02	1	McGuire and Villalpando 1991
SON F:02:70	SON F:02	1	McGuire and Villalpando 1991

SON F:05:14	SON F:05	2	McGuire and Villalpando 1991
SON F:06:14	SON F:06	1	McGuire and Villalpando 1991
Auto Plot**	SON F:08	X	Braniff 1992:596
SON F:10:02	SON F:10	3	Villalpando and McGuire 2009:235
SON F:10:03	SON F:10	6	Johnson 1960:63-71
SON F:10:06	SON F:10	2	Pastrana n.d.
SON F:10:75	SON F:10	1	Pastrana n.d.
SON F:10:85	SON F:10	3	Pastrana n.d.
SON F:10:94	SON F:10	6	Pastrana n.d.
SON F:10:151	SON F:10	4	Cruz and Nava 2013:68-68
SON F:11:92	SON F:11	2	Pastrana n.d.
Auto Plot**	SON F:13	X	Braniff 1992:596
Auto Plot**	SON F:15	X	Braniff 1992:596
SON G:02:10	SON G:02	X	Braniff 1992:834
SON G:02:11	SON G:02	X	Braniff 1992:834
SON G:02:12	SON G:02	X	Braniff 1992:834
Auto Plot**	SON G:07	X	Braniff 1992:596
Auto Plot**	SON G:14	X	Braniff 1992:596
SON G:10:2	SON G:10	30	Braniff 1992:751-752
SON I:02:1	SON I:02	X	Braniff 1992:909
SON I:02:7	SON I:02	X	Braniff 1992:909
Auto Plot**	SON I:03	X	Braniff 1992:596
Auto Plot**	SON I:07	X	Braniff 1992:596
SON I:11:5A	SON I:11	X	Bowen 1976:65-67
SON I:11:5B	SON I:11	X	Bowen 1976:65-67
Auto Plot**	SON I:15	X	Braniff 1992:596
Auto Plot**	SON I:16	X	Braniff 1992:596
Auto Plot**	SON J:13	X	Braniff 1992:596
Auto Plot**	SON N:02	X	Braniff 1992:596
Auto Plot**	SON N:06	X	Braniff 1992:596
Auto Plot**	SON N:10	X	Braniff 1992:596
Auto Plot**	SON O:05	X	Braniff 1992:596
SON P:10:8	SON P:10	1	Gallaga 2006:349-351

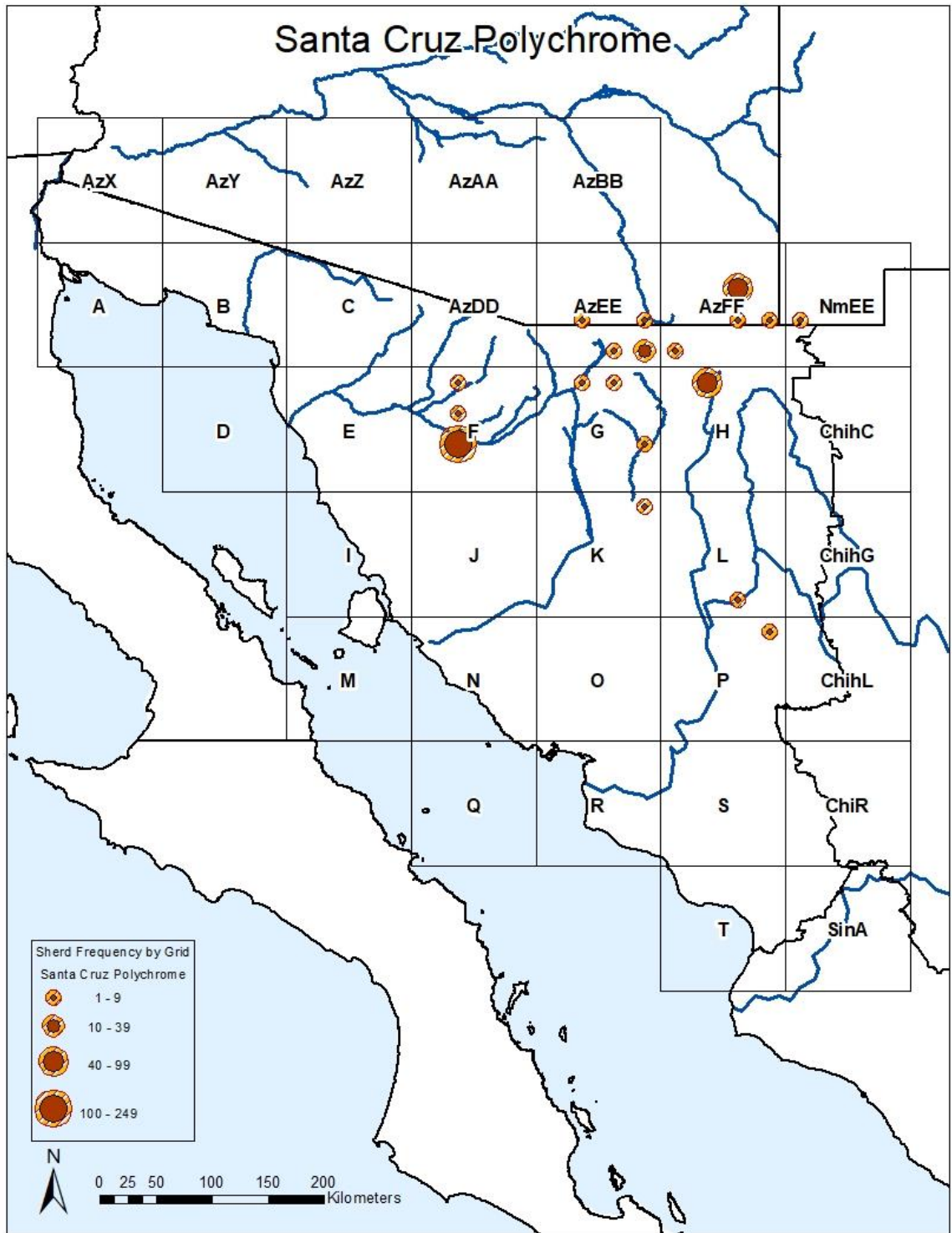
*Site in Arizona. **No site info known. Auto plotted from "Mapa 44" (Braniff 1992:596).



Tanque Verde Red-on-brown

Site Number	Grid Number	Sherd Count	Reference
AZ EE:09:93*	AZ EE:09	12	Heckman 2001:76
AZ EE:09:107*	AZ EE:09	75	Jácome 1986:32
AZ EE:12:1	AZ EE:12	X	Braniff 1992
AZ EE:12:3	AZ EE:12	X	Braniff 1992
AZ FF:07:10*	AZ FF:07	4	Douglas 1997:188
AZ FF:11:1	AZ FF:11	X	Braniff 1992
AZ FF:11:3	AZ FF:11	X	Braniff 1992
AZ FF:12:2	AZ FF:12	X	Braniff 1992
AZ FF:14:1	AZ FF:14	X	Braniff 1992
AZ FF:15:1	AZ FF:15	X	Braniff 1992
SON F:10:3	SON F:10	2	Gómez et al. 2016:124
SON F:10:80	SON F:10	1	Pastrana n.d.
SON F:11:7	SON F:11	1	Pastrana n.d.
SON F:11:16	SON F:11	7	Pastrana n.d.
SON G:10:26	SON G:10	X	Braniff 1992:830
SON G:12:3	SON G:12	X	Braniff 1992
SON H:02:2	SON H:02	8	Gallaga 1997:103-105
Auto Plot**	SON K:04	X	Braniff 1992:417
SON P:04:2	SON P:04	X	Braniff 1992:919

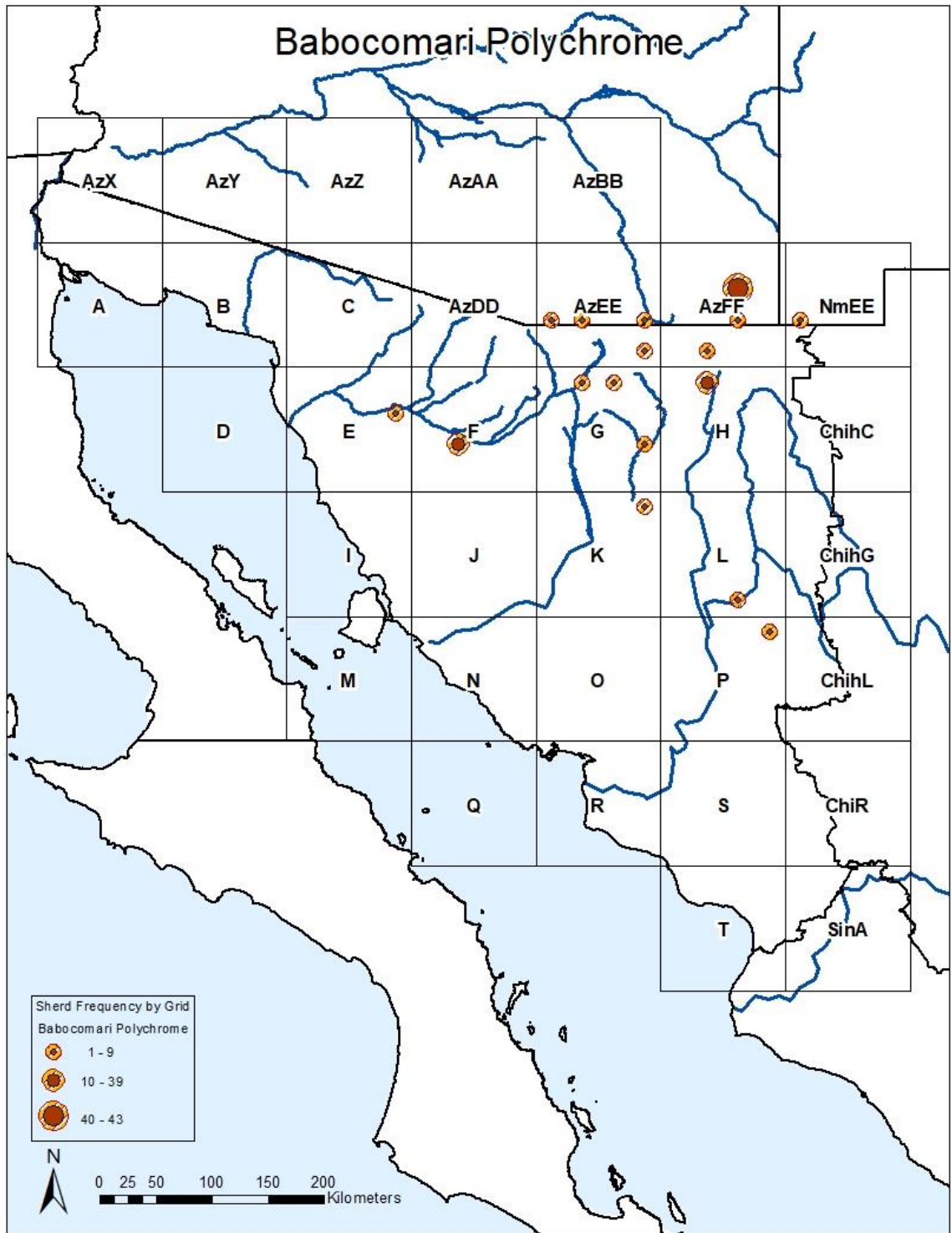
*Arizona sites. **No site info known. Auto plotted from “Mapa 38” (Braniff 1992:417).



Santa Cruz Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ EE:10:2	AZ EE:10	X	Braniff 1992
AZ EE:10:3	AZ EE:10	X	Braniff 1992
AZ EE:10:4	AZ EE:10	X	Braniff 1992
AZ EE:12:1	AZ EE:12	X	Braniff 1992
AZ EE:12:2	AZ EE:12	X	Braniff 1992
AZ EE:12:3	AZ EE:12	X	Braniff 1992
AZ EE:15:1	AZ EE:15	X	Braniff 1992:846
AZ EE:16:1	AZ EE:16	11	Gallaga 1997:93-94
AZ EE:16:2	AZ EE:16	X	Braniff 1992:846
AZ EE:16:3	AZ EE:16	9	Braniff 1997:94-95
AZ EE:16:32	AZ EE:16	2	Gallaga 1997:94
AZ FF:07:10*	AZ FF:07	57	Douglas 1996:188
AZ FF:11:1	AZ FF:11	X	Braniff 1992
AZ FF:11:3	AZ FF:11	X	Braniff 1992
AZ FF:11:21*	AZ FF:11	1	Mills and Mills 1971
AZ FF:12:2	AZ FF:12	X	Braniff 1992
AZ FF:13:1	AZ FF:13	X	Braniff 1992:846
AZ FF:13:3	AZ FF:13	X	Braniff 1992:846
LA 1369**	NM EE:09	1	Douglas 2004:430
SON F:02:23	SON F:02	2	McGuire and Villalpando 1991
SON F:02:61	SON F:02	7	<i>Proyecto Tradición Trincheras 2017</i>
SON F:06:16	SON F:06	1	McGuire and Villalpando 1991
SON F:10:2	SON F:10	248	Villalpando and McGuire 2009:234-235
SON F:10:3	SON F:10	1	Johnson 1960
SON G:02:6	SON G:02	1	Gallaga 1997:96
SON G:03:1	SON G:03	4	Gallaga 1997:96-97
SON G:03:4	SON G:03	2	Gallaga 1997:98
SON G:12:3	SON G:12	X	Braniff 1992
SON G:12:8	SON G:12	X	Braniff 1992
SON H:02:1	SON H:02	X	Braniff 1992
SON H:02:2	SON H:02	36	Gallaga 1997:103-105
SON H:02:6	SON H:02	3	Gallaga 1997:105-106
SON K:04:24	SON K:04	3	Gallaga 1997:99-100
Auto Plot***	SON L:15	X	Braniff 1992:417
SON P:04:2	SON P:04	X	Braniff 1992:919

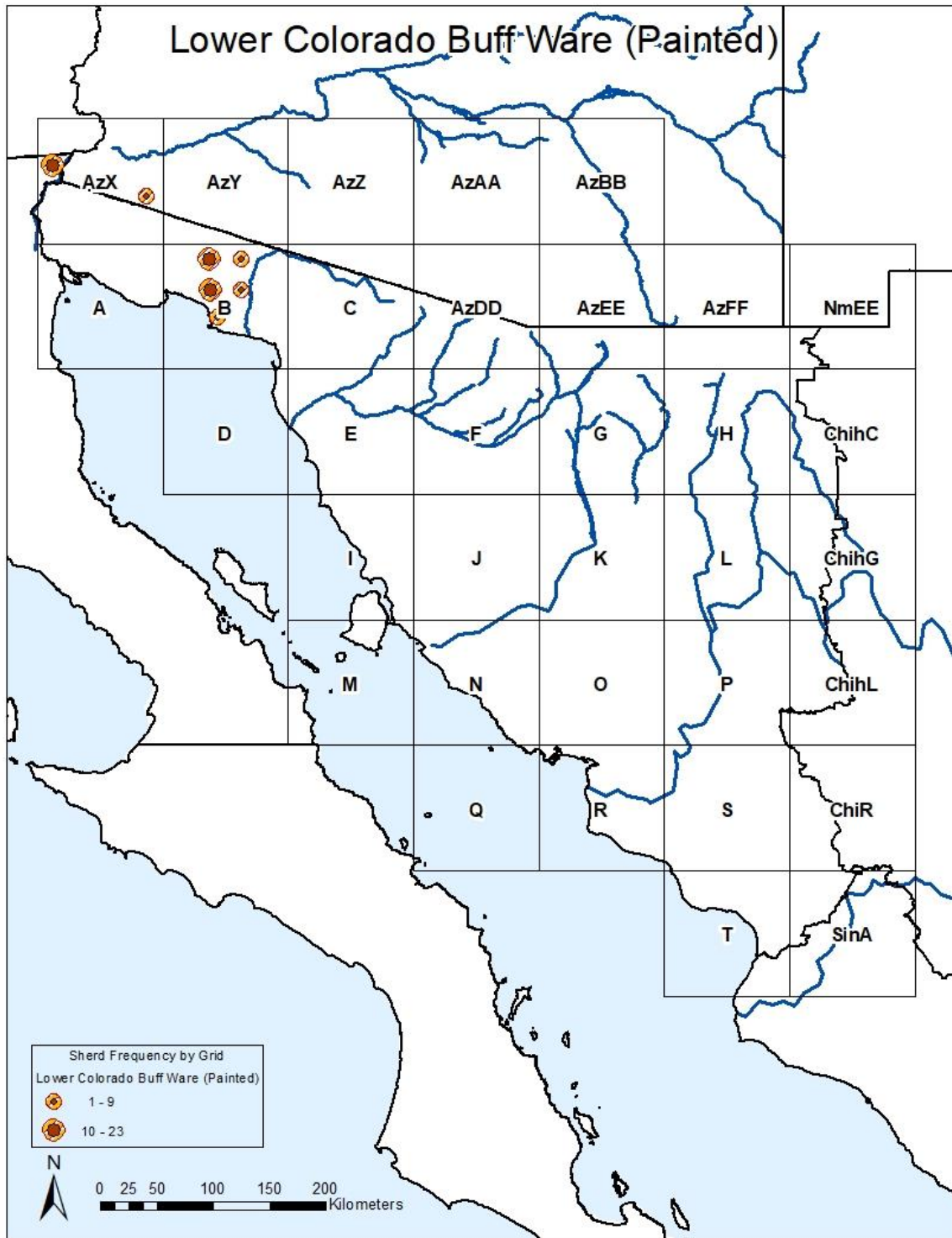
*Site in Arizona. **Site in New Mexico. ***No site info known. Auto plotted from "Mapa 38" (Braniff 1992:417).



Babocomari Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ EE:09:93*	AZ EE:09	1	Jácome 1986:32
AZ EE:10:2	AZ EE:10	X	Braniff 1992
AZ EE:10:3	AZ EE:10	X	Braniff 1992
AZ EE:10:4	AZ EE:10	X	Braniff 1992
AZ EE:12:1	AZ EE:12	X	Braniff 1992
AZ EE:12:2	AZ EE:12	X	Braniff 1992
AZ EE:12:3	AZ EE:12	X	Braniff 1992
AZ EE:16:1	AZ EE:16	6	Gallaga 1997:93-94
AZ EE:16:3	AZ EE:16	2	Gallaga 1997:94-95
AZ EE:16:32	AZ EE:16	2	Gallaga 1997:94
AZ FF:07:10*	AZ FF:07	43	Douglas 1996:188
AZ FF:11:21*	AZ FF:11	1	Mills and Mills 1971
AZ FF:14:4	AZ FF:14	X	Braniff 1992
LA 1369**	NM EE:09	2	Douglas 2004:430
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON F:10:2	SON F:10	24	Villalpando and McGuire 2009:234-235
SON G:02:6	SON G:02	4	Gallaga 1997:96
SON G:02:11	SON G:02	X	Braniff 1992:834
SON G:03:4	SON G:03	1	Gallaga 1997:98
Auto Plot***	SON G:12	X	Braniff 1992:417
SON H:02:1	SON H:02	X	Braniff 1992:846
SON H:02:2	SON H:02	37	Gallaga 1993:103-105
SON H:02:6	SON H:02	X	Braniff 1992:846
Auto Plot***	SON K:04	X	Braniff 1992:417
Auto Plot***	SON L:15	X	Braniff 1992:417
SON P:04:2	SON P:04	X	Braniff 1992:919

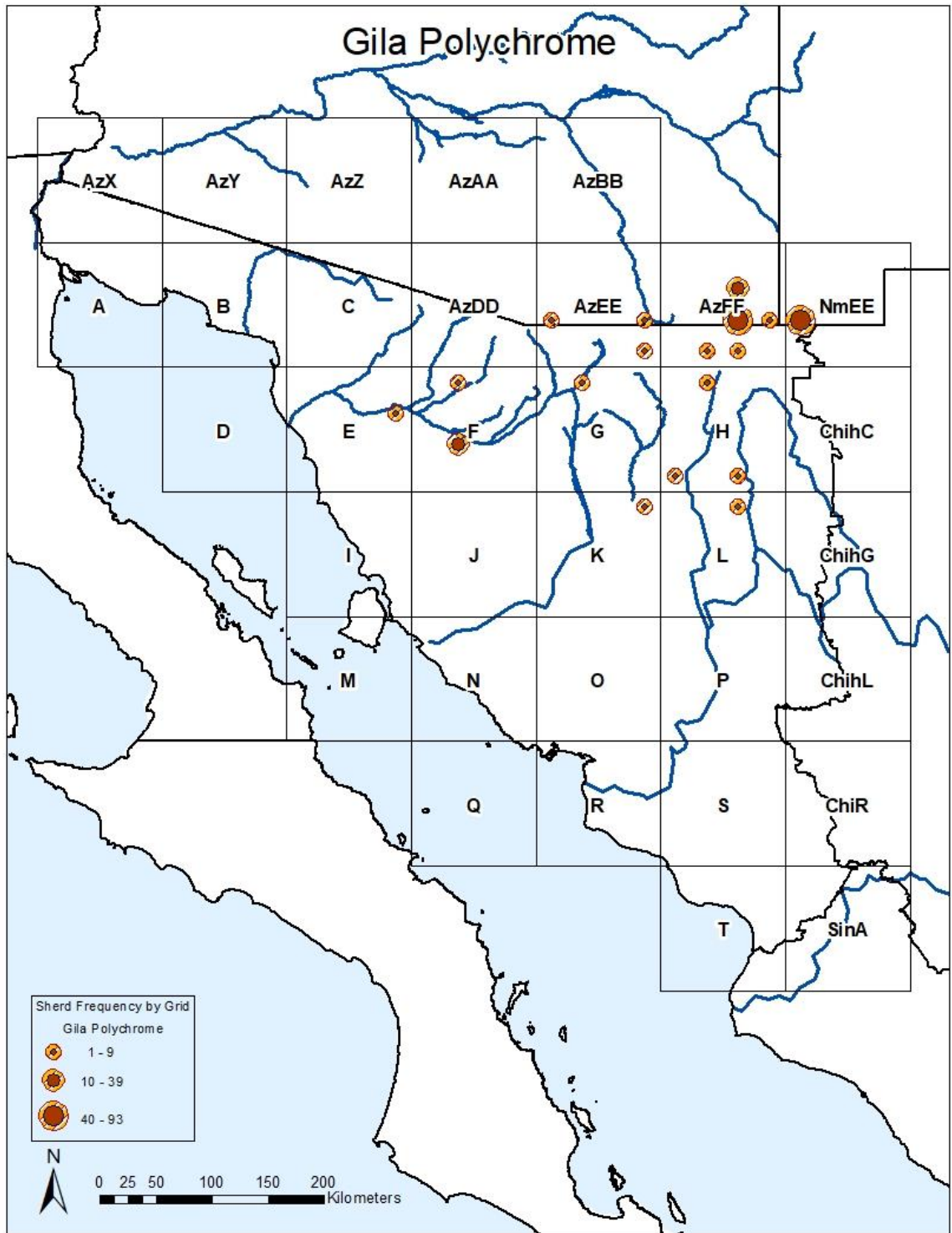
*Site in Arizona. **Site in New Mexico. ***No site info known. Auto plotted from "Mapa 38" (Braniff 1992:417).



Lower Colorado Buff Ware (Painted)

Site Number	Grid Number	Sherd Count	Reference
ANE 10-62*	AZ X:05	7	Porcayo 2012:59-63
ANE 10-68*	AZ X:05	1	Porcayo 2012:59-63
ANE 10-69*	AZ X:05	1	Porcayo 2012:59-63
ANE 10-75*	AZ X:05	1	Porcayo 2012:59-63
ANE 10-79*	AZ X:05	1	Porcayo 2012:59-63
ANE 10-125*	AZ X:05	3	Porcayo 2012:59-63
ANE 10-130*	AZ X:05	1	Porcayo 2012:59-63
“A-56”**	AZ X:12	4	Waters 1982c:578
SON B:02:1	SON B:02	1	Waters 1982c:580
SON B:02:2	SON B:02	4	Waters 1982c:580
SON B:02:3	SON B:02	6	Waters 1982c:580
SON B:02:4	SON B:02	2	Waters 1982c:580
SON B:02:13	SON B:02	2	Waters 1982c:580
SON B:02:16	SON B:02	6	Waters 1982c:580
SON B:02:18	SON B:02	1	Waters 1982c:580
SON B:02:24	SON B:02	1	Waters 1982c:580
SON B:03:5	SON B:03	3	Waters 1982c:580
SON B:03:6	SON B:03	5	Waters 1982c:580
SON B:03:18	SON B:03	1	Waters 1982c:580
SON B:06:1	SON B:06	2	Waters 1982c:580
SON B:06:2	SON B:06	7	Waters 1982c:580
SON B:06:3	SON B:06	3	Waters 1982c:580
SON B:06:5	SON B:06	3	Waters 1982c:580
SON B:07:1	SON B:07	2	Waters 1982c:580
SON B:07:2	SON B:07	1	Waters 1982c:580
SON B:10:1/2	SON B:10	1	Gifford 1946:217-218

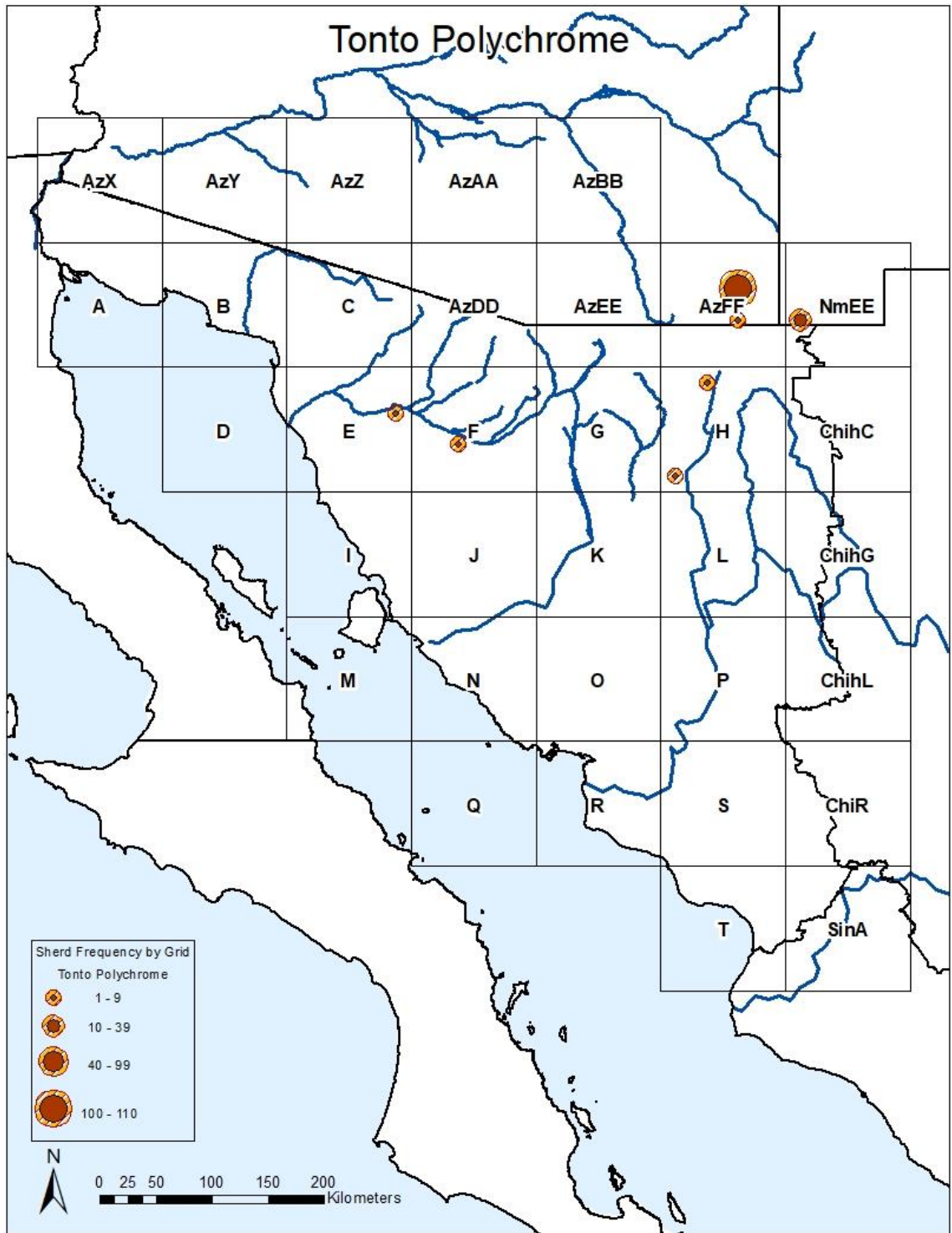
*Site in Baja California. **Site in Arizona.



Gila Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ EE:09:93*	AZ EE:09	1	Jácome 1986:32
AZ EE:12:3	AZ EE:12	X	Braniff 1992
AZ EE:16:1	AZ EE:16	3	Gallaga 1997:93-94
AZ EE:16:3	AZ EE:16	1	Gallaga 1997:94-95
AZ FF:07:10*	AZ FF:07	16	Douglas 1996:188
AZ FF:11:1	AZ FF:11	X	Braniff 1992
AZ FF:11:3	AZ FF:11	X	Braniff 1992
AZ FF:11:21*	AZ FF:11	91	Mills and Mills 1971
AZ FF:12:2	AZ FF:12	X	Braniff 1992
AZ FF:14:2	AZ FF:14	X	Braniff 1992
AZ FF:14:3	AZ FF:14	X	Braniff 1992
AZ FF:15:1	AZ FF:15	X	Braniff 1992
LA 1369**	NM EE:09	64	Douglas 2004:430
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON F:02:61	SON F:02	2	<i>Proyecto Tradición Trincheras 2017</i>
SON F:10:2	SON F:10	18	Villalpando and McGuire 2009:234-235
SON G:02:1	SON G:02	X	Braniff 1992:905
SON H:02:2	SON H:02	3	Gallaga 1997:103-105
SON H:13:1	SON H:13	X	Braniff 1992:907
Auto Plot***	SON H:15	X	Braniff 1992:417
Auto Plot***	SON K:04	X	Braniff 1992:417
SON L:03:10	SON L:03	1	Gallaga 1997:101

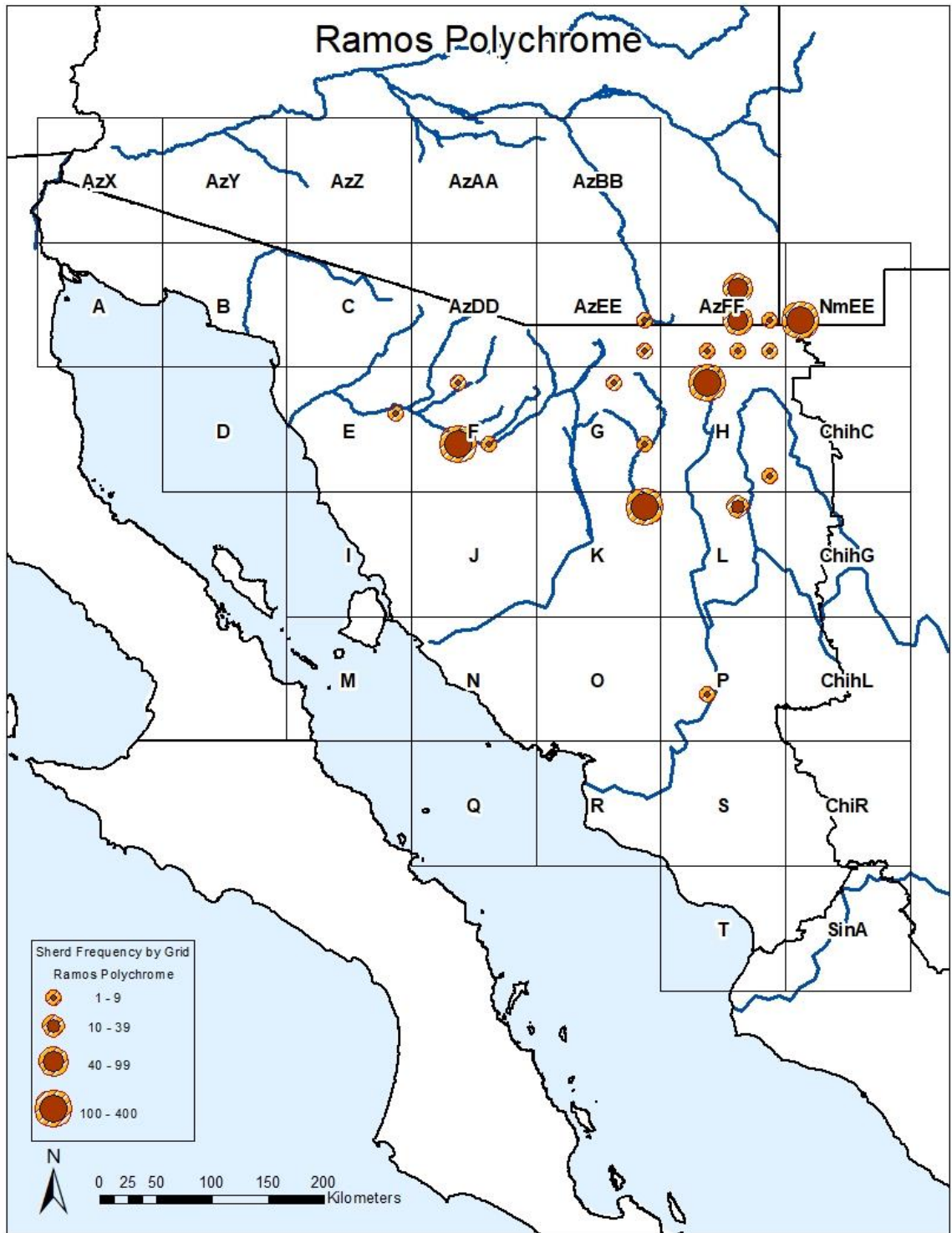
*Site in Arizona. **Site in New Mexico. ***No site info known. Auto plotted from “Mapa 38” (Braniff 1992:417).



Tonto Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ FF:07:10*	AZ FF:07	110	Douglas 1996:188
AZ FF:11:21*	AZ FF:11	1	Mills and Mills 1971
LA 1369**	NM EE:09	10	Douglas 2004:430
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON F:10:2	SON F:10	7	Villalpando and McGuire 2009:234-235
SON F:10:151	SON F:10	1	Cruz and Nava 2013:68-69
SON H:02:1	SON H:02	1	Gallaga 1997:103
SON H:02:2	SON H:02	4	Gallaga 1997:103-105
SON H:13:1	SON H:13	X	Braniff 1992:907

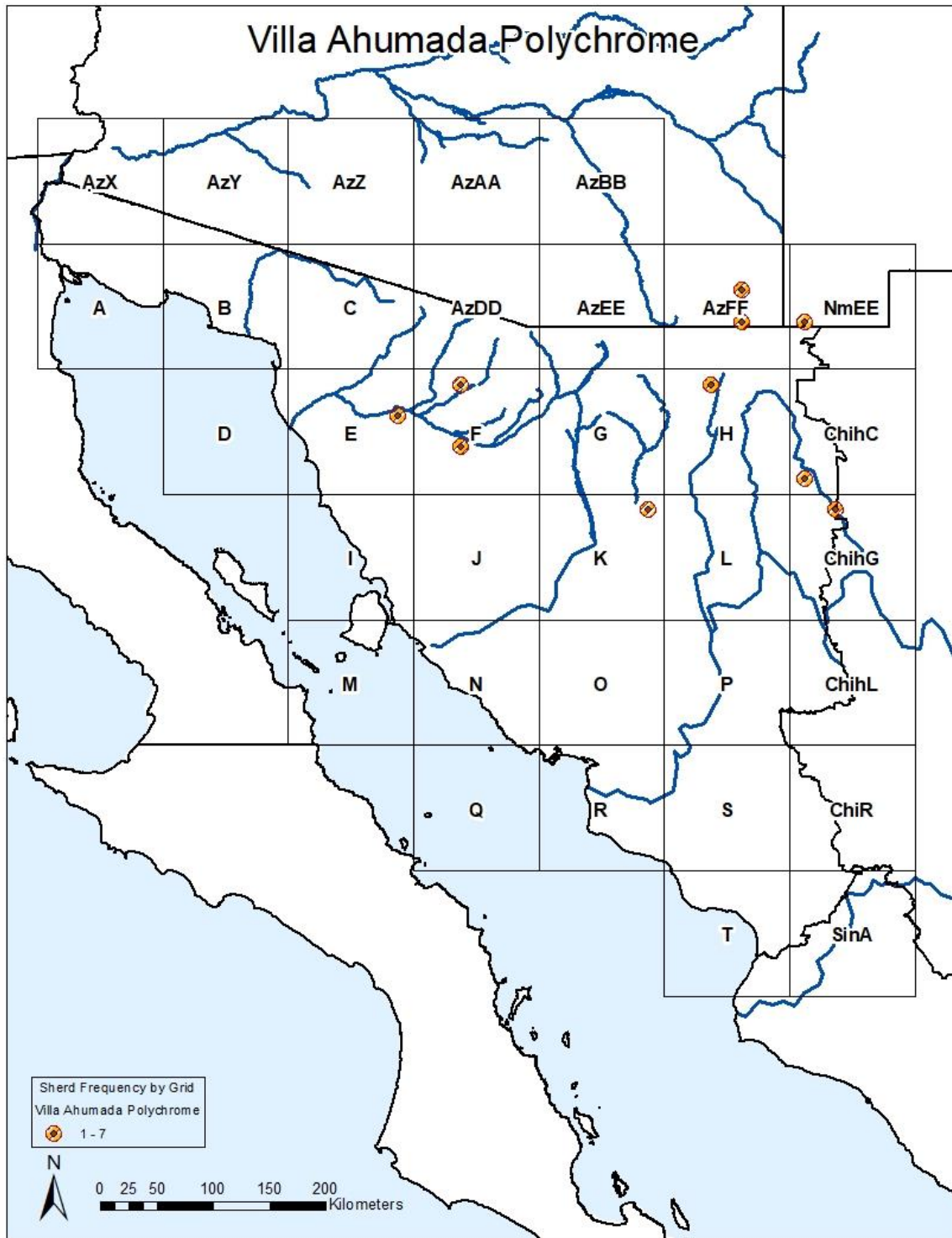
*Site in Arizona. **Site in New Mexico.



Ramos Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ EE:12:1	AZ EE:12	X	Braniff 1992
AZ EE:16:3	AZ EE:16	1	Gallaga 1997:94-95
AZ FF:07:10*	AZ FF:07	88	Douglas 1996:188
AZ FF:11:1	AZ FF:11	X	Braniff 1992
AZ FF:11:3	AZ FF:11	X	Braniff 1992
AZ FF:11:4	AZ FF:11	X	Braniff 1992
AZ FF:11:21*	AZ FF:11	67	Mills and Mills 1971
AZ FF:12:2	AZ FF:12	X	Braniff 1992
AZ FF:14:4	AZ FF:14	X	Braniff 1992
AZ FF:15:1	AZ FF:15	X	Braniff 1992
AZ FF:16:1	AZ FF:16	X	Braniff 1992
LA 1369**	NM EE:09	103	Douglas 2002-2004:430
SON E:08:3	SON E:08	1	Bowen 1972:96
SON E:08:5	SON E:08	X	Villalobos 1993
SON F:02:4	SON F:02	4	Bowen 1972:96
SON F:10:2	SON F:10	397	Villalpando and McGuire 2009:234-235
SON F:10:151	SON F:10	3	Cruz and Nava 2013:68-69
SON F:11:1	SON F:11	1	Pastrana n.d.
SON G:03:4	SON G:03	2	Gallaga 1997:98
SON G:03:7	SON G:03	1	Gallaga 1997:98
SON G:12:3	SON G:12	X	Braniff 1992
SON H:02:1	SON H:02	3	Gallaga 1997:103
SON H:02:2	SON H:02	135	Gallaga 1997:103-105
SON H:02:3	SON H:02	3	Gallaga 1997:103-105
SON H:02:6	SON H:02	3	Gallaga 1997:103
SON H:16:1	SON H:16	X	Braniff 1992
SON K:04:24	SON K:04	373	Gallaga 1997:99-100
SON L:03:8	SON L:03	2	Gallaga 1997:100-101
SON L:03:10	SON L:03	5	Gallaga 1997:101
SON L:03:11	SON L:03	7	Gallaga 1997:102
SON P:10:8	SON P:10	5	Gallaga 2006:349-351
SON P:10:59	SON P:10	1	Gallaga 2006:349-351

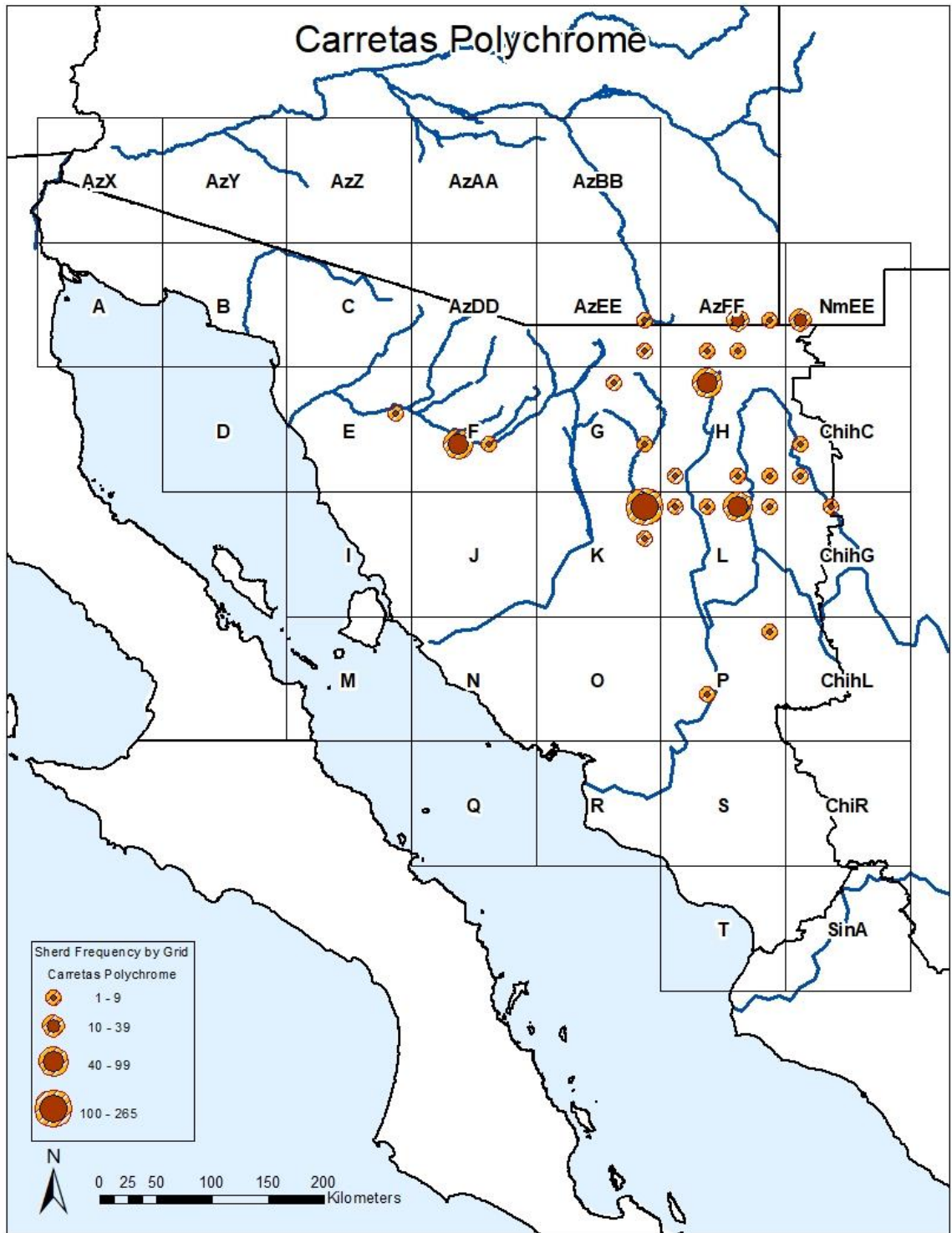
*Site in Arizona. **Site in New Mexico.



Villa Ahumada Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ FF:07:10*	AZ FF:07	7	Douglas 1996:188
AZ FF:11:21*	AZ FF:11	6	Mills and Mills 1971
CHIH C:13:1	CHIH C:13	X	Braniff 1992:908
Auto Plot***	CHIH G:02	X	Braniff 1992:401
LA 1369**	NM EE:09	6	Douglas 2004:430
SON E:08:3	SON E:08	5	Bowen 1972:96
SON F:02:4	SON F:02	1	Bowen 1972:96
SON F:02:61	SON F:02	3	<i>Proyecto Tradición Trincheras 2017</i>
SON F:10:151	SON F:10	4	Cruz and Nava 2013:68-69
SON H:02:2	SON H:02	1	Gallaga 1997:103-105
SON K:04:24	SON K:04	2	Gallaga 1997:99-100

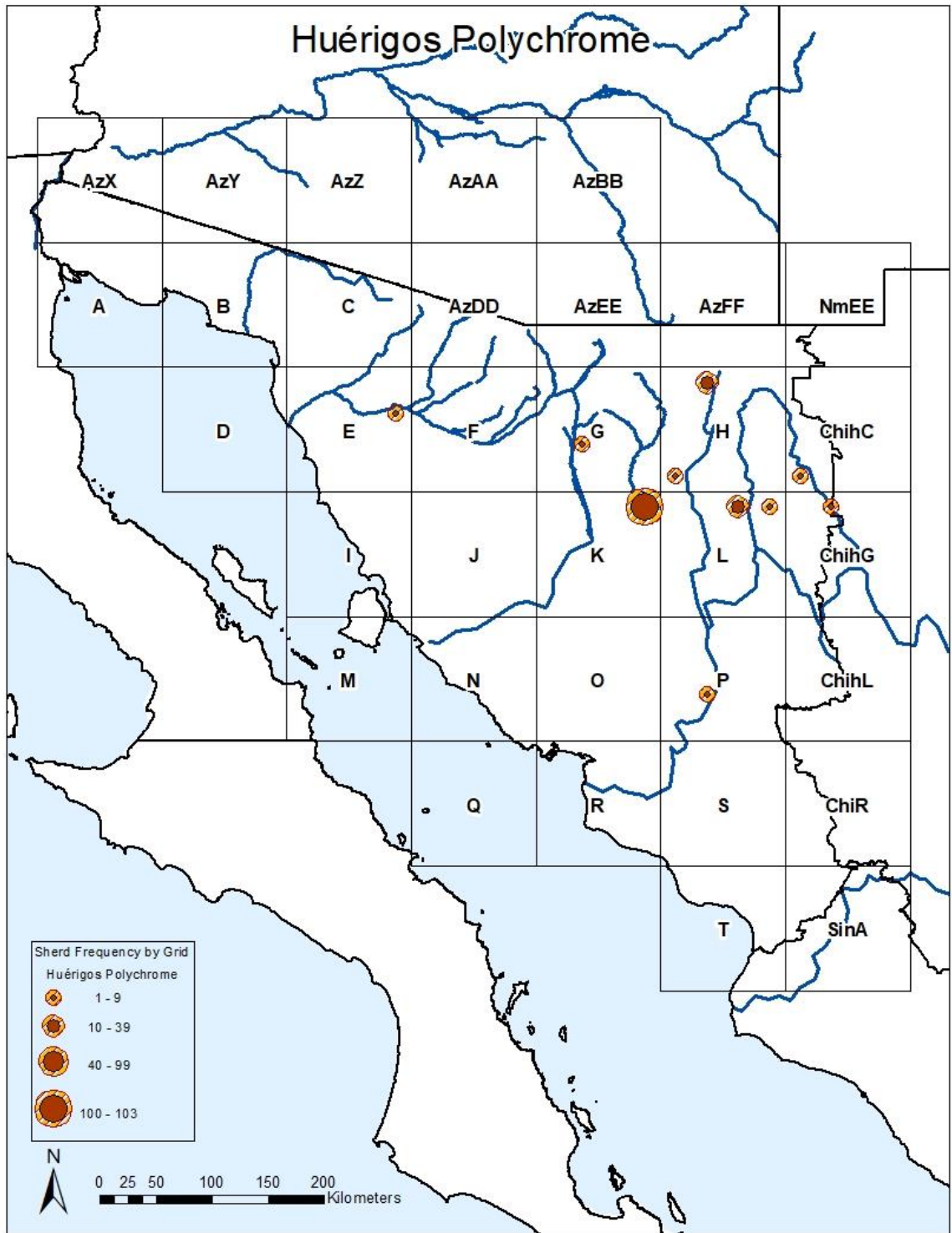
*Site in Arizona. **Site in New Mexico. ***No site info known. Auto plotted from “Mapa 36” (Braniff 1992:401).



Carretas Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ EE:12:1	AZ EE:12	X	Braniff 1992
AZ EE:16:3	AZ EE:16	3	Gallaga 1997:94-95
AZ FF:11:1	AZ FF:11	X	Braniff 1992
AZ FF:11:3	AZ FF:11	X	Braniff 1992
AZ FF:11:21*	AZ FF:11	21	Mills and Mills 1971
AZ FF:12:2	AZ FF:12	X	Braniff 1992
AZ FF:15:1	AZ FF:15	X	Braniff 1992
Auto Plot***	CHIH C:09	X	Braniff 1992:394
CHIH C:13:1	CHIH C:13	X	Braniff 1992:908
CHIH C:13:2	CHIH C:13	X	Braniff 1992:908
Auto Plot***	CHIH G:02	X	Braniff 1992:394
LA 1369**	NM EE:09	30	Douglas 2004:430
SON E:08:3	SON E:08	3	Bowen 1972:96
SON F:10:2	SON F:10	68	Villalpando and McGuire 2009:234-235
SON F:10:151	SON F:10	6	Cruz and Nava 2013:68-69
Auto Plot***	SON F:11	X	Braniff 1992:394
SON G:03:7	SON G:03	2	Gallaga 1997:98
SON G:12:3	SON G:12	X	Braniff 1992
SON H:02:1	SON H:02	1	Gallaga 1997:103
SON H:02:2	SON H:02	91	Gallaga 1997:103-105
SON H:02:3	SON H:02	2	Gallaga 1997:105
SON H:02:6	SON H:02	1	Gallaga 1997:105-106
SON H:13:2	SON H:13	X	Braniff 1992:907
SON H:15:1	SON H:15	X	Braniff 1992:907
SON H:15:2	SON H:15	X	Braniff 1992:908
SON H:16:1	SON H:16	X	Braniff 1992
SON K:04:24	SON K:04	265	Gallaga 1997:99-100
SON K:08:48	SON K:08	X	Braniff 1992
SON L:01:3	SON L:01	X	Braniff 1992
SON L:02:1	SON L:02	X	Braniff 1992:913
SON L:03:3	SON L:03	X	Braniff 1992:915
SON L:03:8	SON L:03	34	Gallaga 1997:100-101
SON L:03:11	SON L:03	44	Gallaga 1997:102
SON L:04:3	SON L:04	X	Braniff 1992:916
SON P:04:2	SON P:04	X	Braniff 1992:919
SON P:10:8	SON P:10	1	Gallaga 2006:349-351

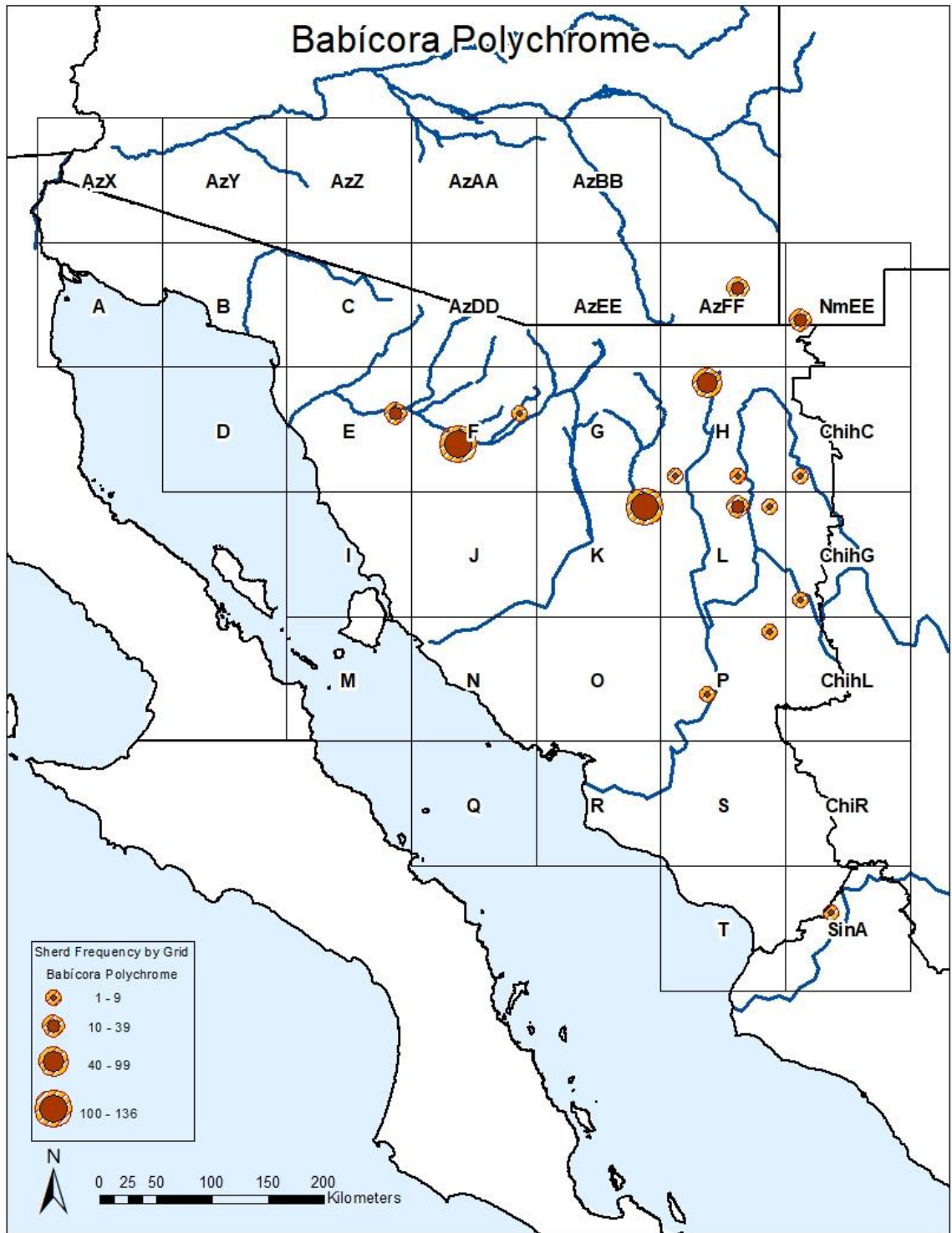
*Site in Arizona. **Site in New Mexico. ***No site info known. Auto plotted from "Mapa 33" (Braniff 1992:394).



Huérigos Polychrome

Site Number	Grid Number	Sherd Count	Reference
CHIH C:13:1	CHIH C:13	X	Braniff 1992:908
CHIH C:13:2	CHIH C:13	X	Braniff 1992:908
Auto Plot*	CHIH G:02	X	Braniff 1992:396
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON G:10:16	SON G:10	1	Braniff 1992:830
SON H:02:2	SON H:02	18	Gallaga 1997:103-105
SON H:15:1	SON H:15	X	Braniff 1992:907
SON K:04:24	SON K:04	103	Gallaga 1997:99-100
SON L:03:3	SON L:03	X	Braniff 1992:915
SON L:03:8	SON L:03	3	Gallaga 1997:100-101
SON L:03:10	SON L:03	8	Gallaga 1997:101
SON L:03:11	SON L:03	3	Gallaga 1997:102
SON L:04:5	SON L:04	X	Braniff 1992:916
SON P:10:8	SON P:10	2	Gallaga 2006:349-351

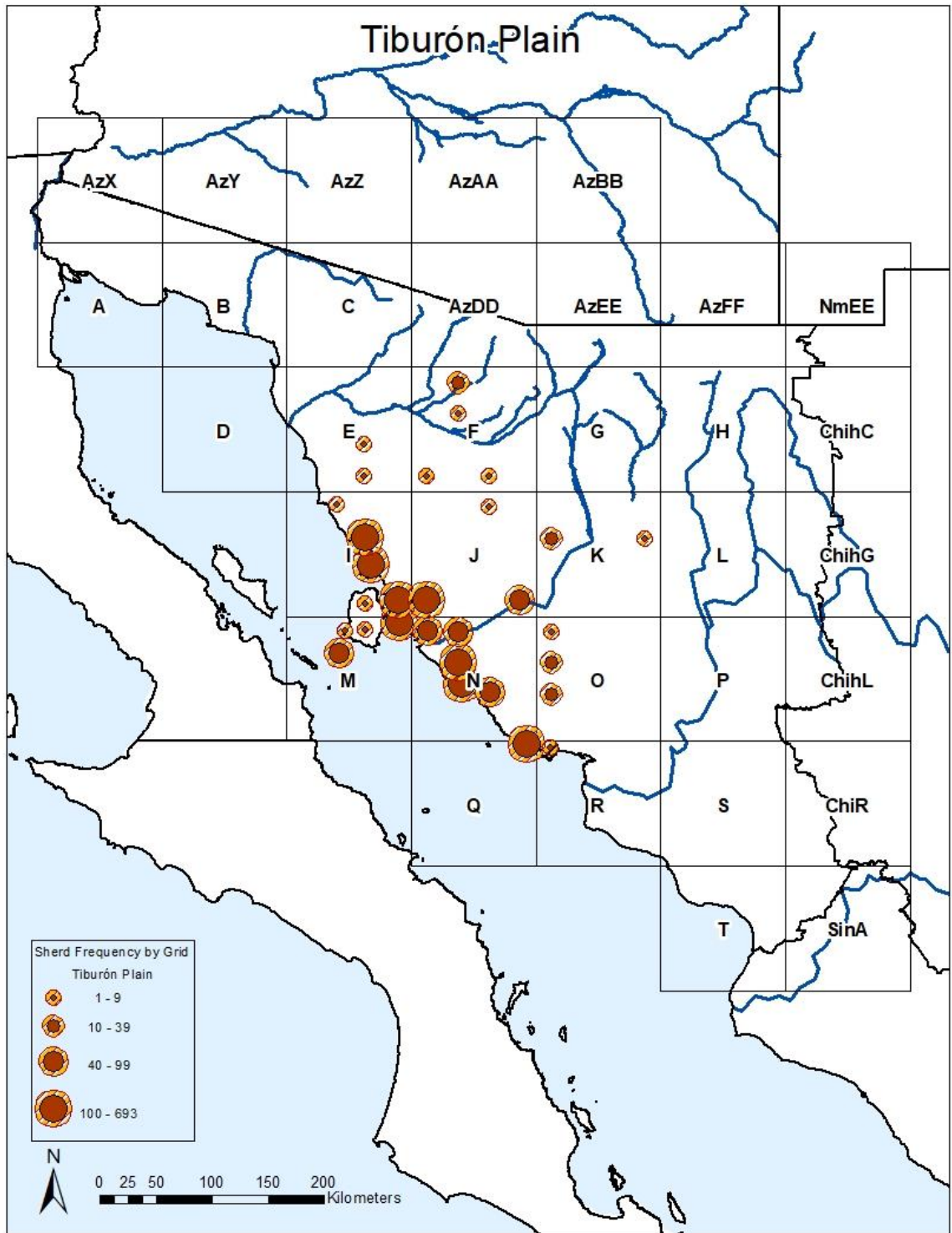
*No site info known. Auto plotted from "Mapa 34" (Braniff 1992:396).



Babícora Polychrome

Site Number	Grid Number	Sherd Count	Reference
AZ FF:07:10*	AZ FF:07	20	Douglas 1996:188
CHIH C:13:1	CHIH C:13	X	Braniff 1992:908
CHIH C:13:2	CHIH C:13	X	Braniff 1992:908
Auto Plot****	CHIH G:13	X	Braniff 1992:390
LA 1369***	NM EE:09	39	Douglas 2002-2004:430
SIN A:06:18**	SIN A:06	1	Carpenter and Sánchez 2014b
SON E:08:3	SON E:08	17	Bowen 1972:96
SON F:08:1	SON F:08	1	Bowen 1972:96
SON F:10:2	SON F:10	136	Villalpando and McGuire 2009:234-235
SON H:02:2	SON H:02	49	Gallaga 1997:103-105
SON H:13:2	SON H:13	X	Braniff 1992:907
SON H:15:2	SON H:15	X	Braniff 1992:908
SON K:04:24	SON H:04	135	Gallaga 1997:99-100
SON L:03:3	SON L:03	X	Braniff 1992:915
SON L:03:10	SON L:03	38	Gallaga 1997:99-100
SON L:04:5	SON L:04	X	Braniff 1992:916
SON P:04:2	SON P:04	X	Braniff 1992:919
SON P:10:8	SON P:10	6	Gallaga 2006:349-351

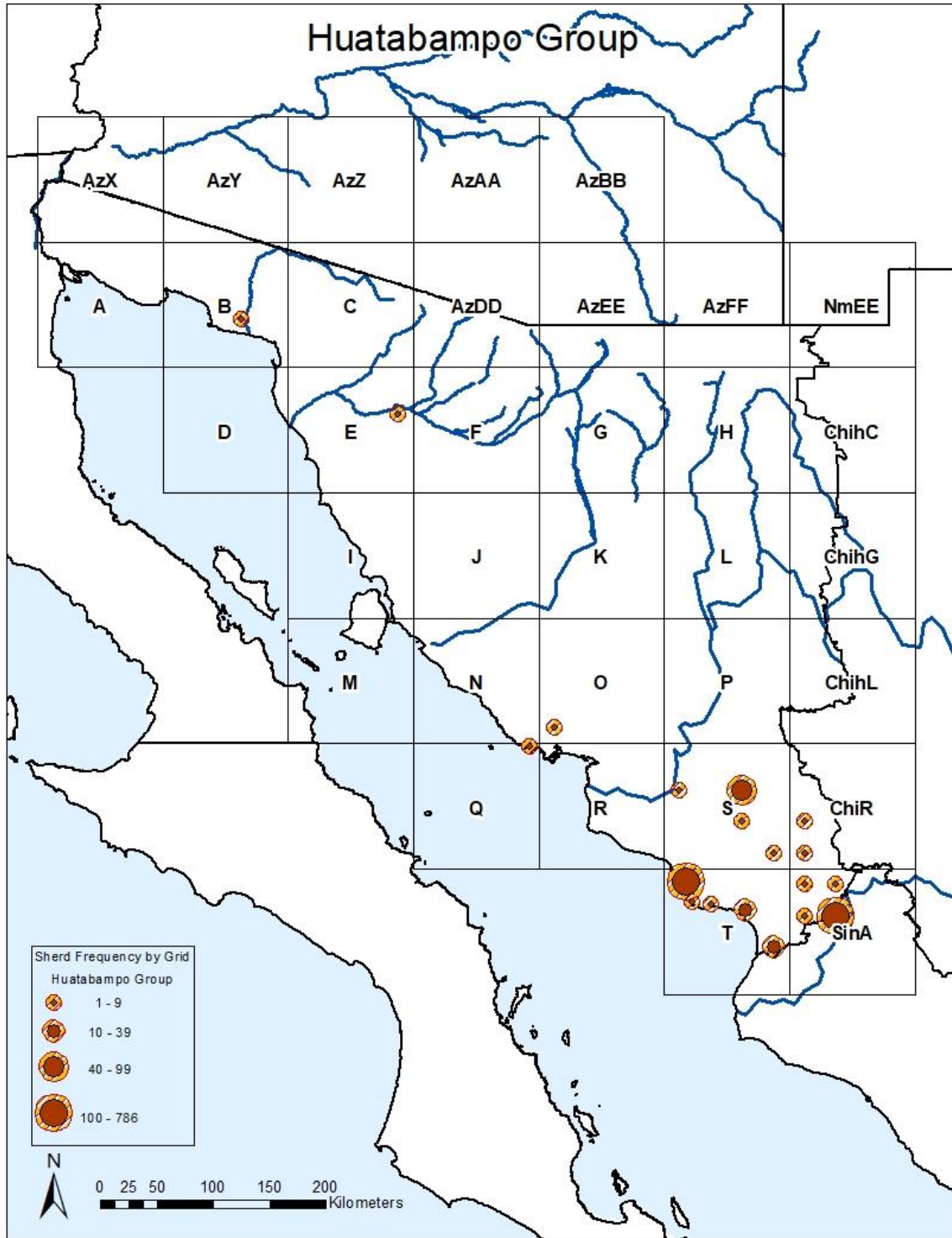
*Site in Arizona. **Site in Sinaloa. ***Site in New Mexico. ****No site info known. Auto plotted from “Mapa 32” (Braniff 1992:390).



Tiburón Plain

Site Number	Grid Number	Sherd Count	Reference
SON E:11:1	SON E:11	1	Bowen 1976
SON E:15:3	SON E:15	X	Braniff 1992:902
SON F:02:4	SON F:02	2	Bowen 1972:96
SON F:02:59	SON F:02	6	McGuire and Villalpando 1991:301-348
SON F:02:69	SON F:02	3	McGuire and Villalpando 1991:301-348
SON F:06:5	SON F:06	2	McGuire and Villalpando 1991:301-348
SON F:13:3	SON F:13	1	Bowen 1976
SON F:15:3	SON F:15	X	Braniff 1992:904
SON I:02:2	SON I:02	1	Bowen 1976:65
SON I:02:6	SON I:02	1	Bowen 1976:65
SON I:07:3	SON I:07	93	Bowen 1976:65-67
SON I:07:4	SON I:07	8	Bowen 1976:67
SON I:07:5	SON I:07	16	Bowen 1976:67
SON I:07:6	SON I:07	2	Bowen 1976:67
SON I:07:7	SON I:07	16	Bowen 1976:65-67
SON I:07:8	SON I:07	4	Bowen 1976:65-67
SON I:07:9	SON I:07	18	Bowen 1976:65-67
SON I:07:10	SON I:07	80	Bowen 1976:67
SON I:11:1	SON I:11	105	Bowen 1976:67
SON I:11:2	SON I:11	25	Bowen 1976:67
SON I:11:3	SON I:11	19	Bowen 1976:67
SON I:11:4	SON I:11	128	Bowen 1976:67
SON I:11:5A	SON I:11	223	Bowen 1976:65-67
SON I:11:5B	SON I:11	42	Bowen 1976:65-67
SON I:11:6	SON I:11	50	Bowen 1976:65-67
SON I:11:8	SON I:11	6	Bowen 1976:67
SON I:11:11	SON I:11	68	Bowen 1976:65-67
SON I:11:12	SON I:11	27	Bowen 1976:67
SON I:15:1	SON I:15	3	Bowen 1976:65-67
SON I:16:2	SON I:16	30	Bowen 1976:65-67
SON I:16:3	SON I:16	10	Bowen 1976:67
SON I:16:4	SON I:16	322	Bowen 1976:65-67
SON I:16:5	SON I:16	137	Bowen 1976:65-67
SON I:16:6	SON I:16	28	Bowen 1976:67
SON J:03:2	SON J:03	4	Bowen 1976:65
SON J:13:1	SON J:13	42	Bowen 1976:65-67
SON J:13:2	SON J:13	36	Bowen 1976:67
SON J:13:3	SON J:13	54	Bowen 1976:67
SON J:16:1	SON J:16	X	Braniff 1992:912
SON J:16:2	SON J:16	9	Bowen 1976:66
SON J:16:3	SON J:16	32	Bowen 1976:66
SON J:16:4	SON J:16	4	Bowen 1976:66
SON K:05:1	SON K:05	20	Bowen 1976:66
SON K:08:51	SON K:08	X	Braniff 1992:913
Punta Tordilla	SON M:02	X	Bowen 1983
Arroyo Sauial	SON M:03	X	Bowen 1983
SON M:04:4	SON M:04	77	Bowen 1976:67
SON M:04:5	SON M:04	131	Bowen 1976:67
SON M:04:6	SON M:04	66	Bowen 1976:65-67
SON M:04:7	SON M:04	76	Bowen 1976:67

SON M:06:1	SON M:06	78	Bowen 1976:67
SON N:01:12	SON N:01	45	Bowen 1976:67
SON N:02:2	SON N:02	45	Bowen 1976:65-67
SON N:06:1	SON N:06	50	Bowen 1976:67
SON N:06:2	SON N:06	45	Bowen 1976:65-67
SON N:06:3	SON N:06	274	Bowen 1976:67
SON N:06:4	SON N:06	58	Bowen 1976:67
SON N:06:5	SON N:06	26	Bowen 1976:67
SON N:10:1	SON N:10	64	Bowen 1976:67
SON N:10:2	SON N:10	79	Bowen 1976:67
SON N:10:3	SON N:10	31	Bowen 1976:67
SON N:10:4	SON N:10	17	Bowen 1976:67
SON N:10:5	SON N:10	28	Bowen 1976:67
SON N:10:6	SON N:10	16	Bowen 1976:67
SON N:10:7	SON N:10	14	Bowen 1976:67
SON N:10:8	SON N:10	21	Bowen 1976:67
SON N:10:9	SON N:10	18	Bowen 1976:67
SON N:10:10	SON N:10	29	Bowen 1976:67
SON N:10:11	SON N:10	13	Bowen 1976:67
SON N:10:12	SON N:10	15	Bowen 1976:67
SON N:10:13	SON N:10	62	Bowen 1976:65-67
SON N:11:7	SON N:11	75	Bowen 1976:67
SON O:01:1	SON O:01	1	Bowen 1976:66
SON O:05:2	SON O:05	17	Bowen 1976:66
SON O:09:2	SON O:09	15	Bowen 1976:66
SON Q:04:3	SON Q:04	142	Bowen 1976:67
SON Q:04:4	SON Q:04	44	Bowen 1976:67
SON R:01:7	SON R:01	X	Braniff 1992:920
SON R:01:16	SON R:01	X	Braniff 1992:920
SON R:01:17	SON R:01	X	Braniff 1992:920

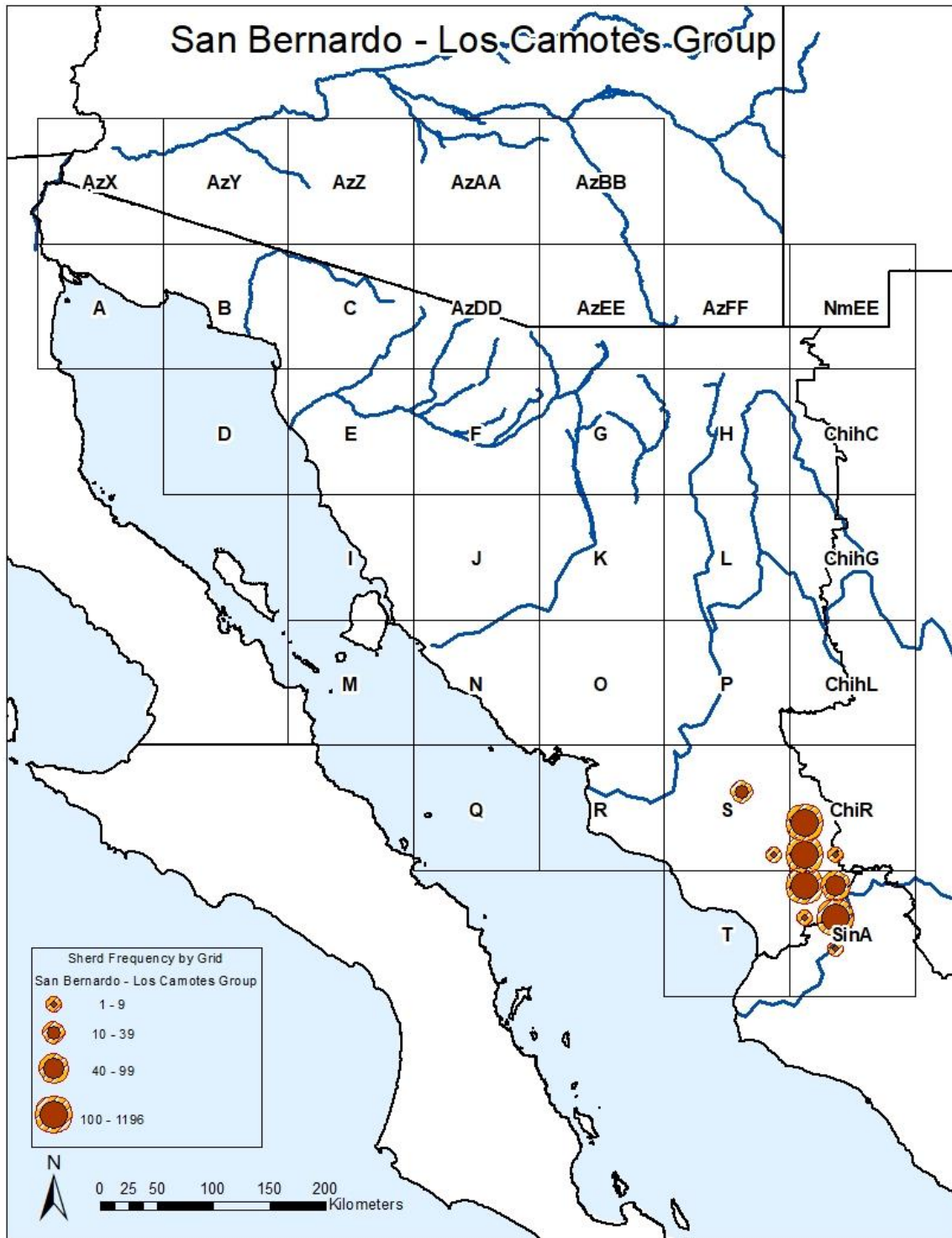


*This distribution encompasses all variants of Huatabampo Red/Brown and Janalacahui.

Huatabampo Group

Site Number	Grid Number	Sherd Count	Reference
CHIH R:09:5	CHIH R:09	1	Pailes 1973:60-63
CHIH R:09:10	CHIH R:09	1	Pailes 1973:60-63
CHIH R:13:24	CHIH R:13	1	Pailes 1973:60-63
SIN A:01:11	SIN A:01	1	Pailes 1973:60-63
SIN A:01:16	SIN A:01	5	Pailes 1973:60-63
SIN A:01:18	SIN A:01	1	Pailes 1973:60-63
SIN A:01:19	SIN A:01	2	Pailes 1973:60-63
SIN A:02:4	SIN A:02	1	Pailes 1973:60-63
SIN A:05:7	SIN A:05	1	Pailes 1973:60-63
SIN A:06:5	SIN A:06	1	Pailes 1973
SIN A:06:16*	SIN A:06	1	Carpenter and Sánchez 2006
SIN A:06:17*	SIN A:06	645	Carpenter and Sánchez 2006
SIN A:06:18*	SIN A:06	4	Carpenter and Sánchez 2006
SON B:11:1	SON B:11	X	Braniff 1992:900
SON E:08:3	SON E:08	X	Braniff 1992:901-902
SON O:13:3	SON O:13	2	Domínguez et al. 2009:168
SON Q:04:2	SON Q:04	X	Braniff 1992:920
SON S:05:7	SON S:05	1	Domínguez et al. 2009:154-168
SON S:07:2	SON S:07	43	Domínguez et al. 2009:154-168
SON S:11:2	SON S:11	3	Domínguez et al. 2009:154-168
SON S:16:2	SON S:16	4	Pailes 1973:60-63
SON T:01:1	SON T:01	X	Braniff 1992:921
SON T:01:5	SON T:01	662	Gasamans 2016
SON T:01:6	SON T:01	1	Castillo and Rodríguez 2013:87
SON T:01:11	SON T:01	33	Gasamans 2016
SON T:01:23	SON T:01	4	Castillo and Rodríguez 2013:87
SON T:01:24	SON T:01	4	Castillo and Rodríguez 2013:87
SON T:01:26	SON T:01	66	Gasamans 2016
SON T:01:27	SON T:01	15	Gasamans 2016
SON T:05:1	SON T:05	1	Castillo and Rodríguez 2013:87
SON T:05:2	SON T:05	7	Castillo and Rodríguez 2013:87
SON T:06:1	SON T:06	X	Braniff 1992:921
SON T:06:3	SON T:06	3	Castillo and Rodríguez 2013:87
SON T:07:1	SON T:07	18	Pailes 1973:60-63
SON T:07:5	SON T:07	2	Castillo and Rodríguez 2013:87
SON T:12:1	SON T:12	3	Castillo and Rodríguez 2013:87
SON T:12:4	SON T:12	1	Castillo and Rodríguez 2013:87
SON T:12:7	SON T:12	4	Castillo and Rodríguez 2013:87
SON T:12:14	SON T:12	2	Castillo and Rodríguez 2013:87
SON T:12:15	SON T:12	1	Castillo and Rodríguez 2013:87

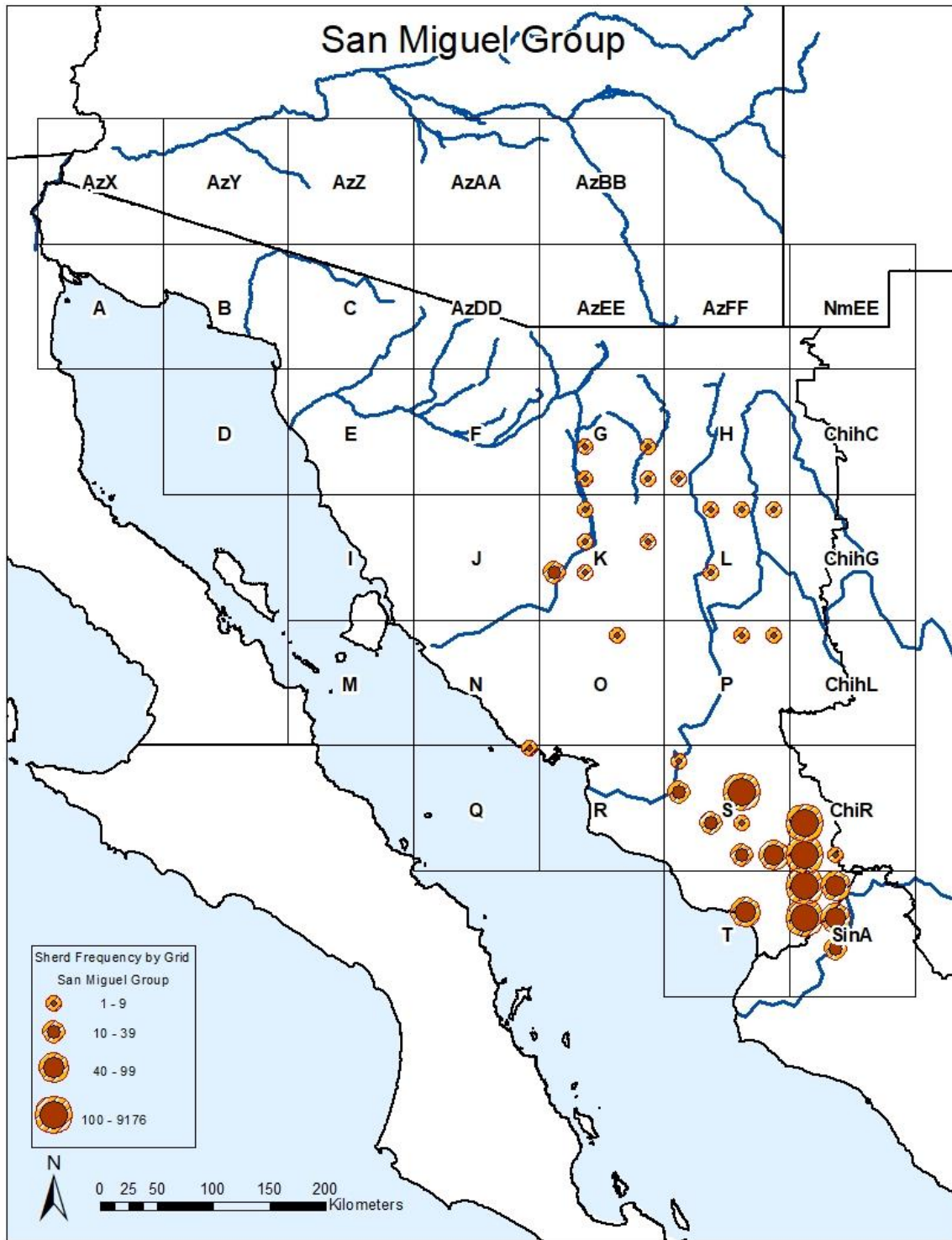
*Site in Sinaloa.



*This map includes Los Camotes Incised, San Bernardo Incised (and/or Punctate), and Techobampo Red.

San Bernardo-Los Camotes Group

Site Number	Grid Number	Sherd Count	Reference
CHIH R:09:1	CHIH R:09	48	Pailes 1973:60-63
CHIH R:09:3	CHIH R:09	11	Pailes 1973:60-63
CHIH R:09:4	CHIH R:09	80	Pailes 1973:60-63
CHIH R:09:5	CHIH R:09	152	Pailes 1973:60-63
CHIH R:09:8	CHIH R:09	2	Pailes 1973:60-63
CHIH R:09:9	CHIH R:09	10	Pailes 1973:60-63
CHIH R:09:10	CHIH R:09	77	Pailes 1973:60-63
CHIH R:09:11	CHIH R:09	2	Pailes 1973:60-63
CHIH R:09:14	CHIH R:09	676	Pailes 1973:60-63
CHIH R:09:19	CHIH R:09	136	Pailes 1973:60-63
CHIH R:09:20	CHIH R:09	2	Pailes 1973:60-63
CHIH R:13:2	CHIH R:13	85	Pailes 1973:60-63
CHIH R:13:3	CHIH R:13	3	Pailes 1973:60-63
CHIH R:13:12	CHIH R:13	41	Pailes 1973:60-63
CHIH R:13:19	CHIH R:13	136	Pailes 1973:60-63
CHIH R:13:24	CHIH R:13	7	Pailes 1973:60-63
CHIH R:13:27	CHIH R:13	2	Pailes 1973:60-63
CHIH R:13:35	CHIH R:13	4	Pailes 1973:60-63
CHIH R:14:2	CHIH R:14	2	Pailes 1973:60-63
CHIH R:14:4	CHIH R:14	3	Pailes 1973:60-63
SIN A:01:4	SIN A:01	2	Pailes 1973:60-63
SIN A:01:7	SIN A:01	36	Pailes 1973:60-63
SIN A:01:11	SIN A:01	5	Pailes 1973:60-63
SIN A:01:13	SIN A:01	2	Pailes 1973:60-63
SIN A:01:14	SIN A:01	38	Pailes 1973:60-63
SIN A:01:17	SIN A:01	4	Pailes 1973:60-63
SIN A:01:19	SIN A:01	33	Pailes 1973:60-63
SIN A:02:1	SIN A:02	23	Pailes 1973:60-63
SIN A:02:3	SIN A:02	37	Pailes 1973:60-63
SIN A:02:4	SIN A:02	5	Pailes 1973:60-63
SIN A:05:1	SIN A:05	1	Pailes 1973:60-63
SIN A:05:7	SIN A:05	1	Pailes 1973:60-63
SIN A:05:11	SIN A:05	1	Pailes 1973:60-63
SIN A:05:16	SIN A:05	1	Pailes 1973:60-63
SIN A:05:22	SIN A:05	5	Castillo and Vicente 2008
SIN A:06:16	SIN A:06	51	Carpenter and Sánchez 2006:279
SIN A:06:17	SIN A:06	21	Carpenter and Sánchez 2006:279
SIN A:06:19	SIN A:06	1	Carpenter and Sánchez 2006:320
SIN A:06:20	SIN A:06	3	Carpenter and Sánchez 2006:320
SIN A:06:21	SIN A:06	154	Carpenter and Sánchez 2006:320
SIN A:06:22	SIN A:06	21	Carpenter and Sánchez 2006:320-321
SIN A:06:23	SIN A:06	9	Carpenter and Sánchez 2006:321
SIN A:10:1	SIN A:10	1	Pailes 1973:60-63
SON S:07:2	SON S:07	16	Domínguez et al. 2009:154-168
SON S:16:2	SON S:16	1	Pailes 1973:60-63
SON S:16:4	SON S:16	2	Pailes 1973:60-63



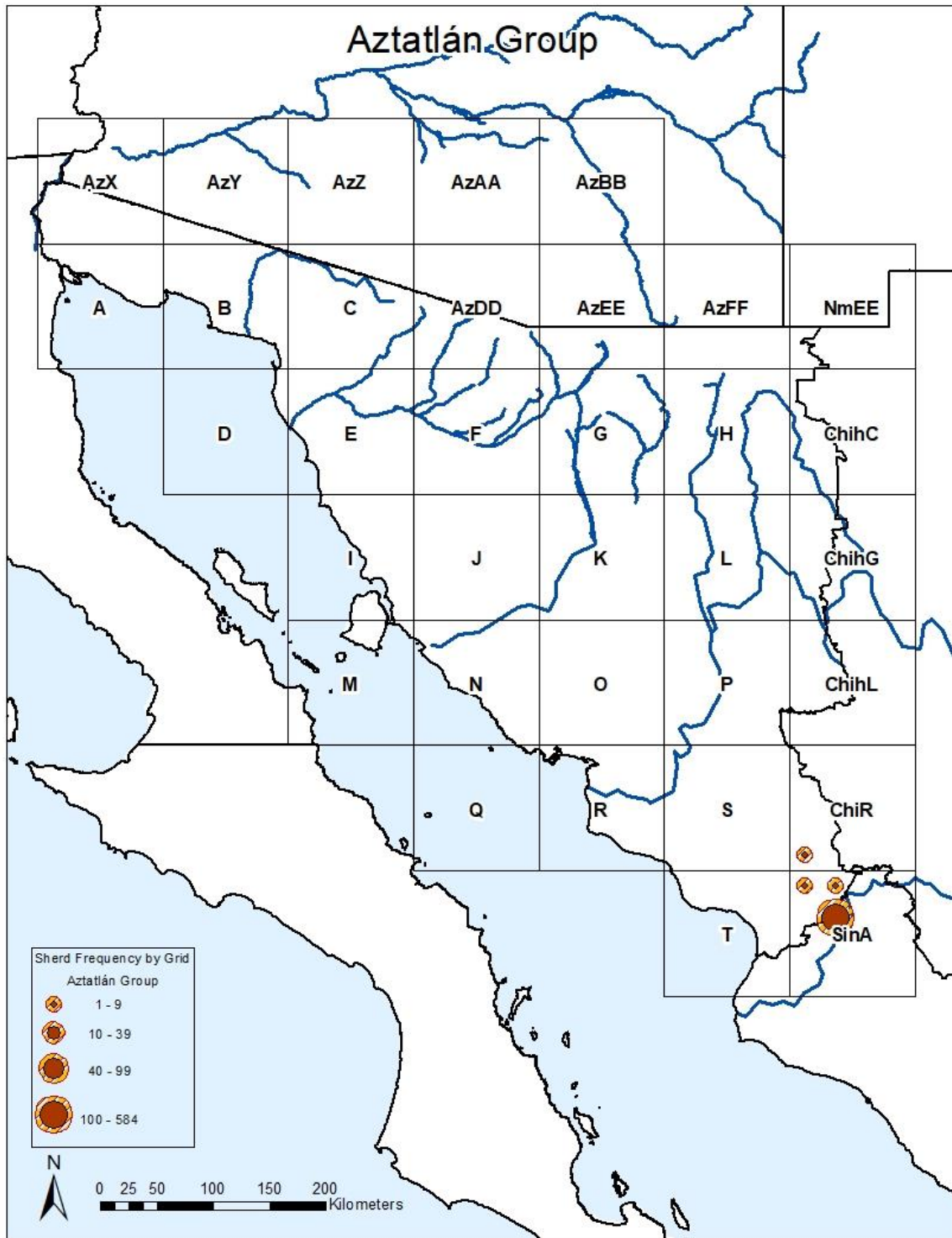
*This map includes San Miguel Red/Brown and all painted varieties.

San Miguel Group

Site Number	Grid Number	Sherd Count	Reference
CHIH R:09:2	CHIH R:09	2	Pailes 1973:60-63
CHIH R:09:3	CHIH R:09	13	Pailes 1973:60-63
CHIH R:09:4	CHIH R:09	21	Pailes 1973:60-63
CHIH R:09:5	CHIH R:09	96	Pailes 1973:60-63
CHIH R:09:6	CHIH R:09	50	Pailes 1973:60-63
CHIH R:09:7	CHIH R:09	103	Pailes 1973:60-63
CHIH R:09:8	CHIH R:09	175	Pailes 1973:60-63
CHIH R:09:9	CHIH R:09	43	Pailes 1973:60-63
CHIH R:09:10	CHIH R:09	63	Pailes 1973:60-63
CHIH R:09:11	CHIH R:09	227	Pailes 1973:60-63
CHIH R:09:14	CHIH R:09	3	Pailes 1973:60-63
CHIH R:09:15	CHIH R:09	9	Pailes 1973:60-63
CHIH R:09:16	CHIH R:09	4	Pailes 1973:60-63
CHIH R:09:17	CHIH R:09	2	Pailes 1973:60-63
CHIH R:09:19	CHIH R:09	5	Pailes 1973:60-63
CHIH R:13:3	CHIH R:13	5	Pailes 1973:60-63
CHIH R:13:4	CHIH R:13	57	Pailes 1973:60-63
CHIH R:13:6	CHIH R:13	11	Pailes 1973:60-63
CHIH R:13:7	CHIH R:13	162	Pailes 1973:60-63
CHIH R:13:9	CHIH R:13	236	Pailes 1973:60-63
CHIH R:13:10	CHIH R:13	210	Pailes 1973:60-63
CHIH R:13:11	CHIH R:13	4	Pailes 1973:60-63
CHIH R:13:12	CHIH R:13	14	Pailes 1973:60-63
CHIH R:13:13	CHIH R:13	1	Pailes 1973:60-63
CHIH R:13:14	CHIH R:13	33	Pailes 1973:60-63
CHIH R:13:15	CHIH R:13	3	Pailes 1973:60-63
CHIH R:13:16	CHIH R:13	105	Pailes 1973:60-63
CHIH R:13:19	CHIH R:13	5	Pailes 1973:60-63
CHIH R:13:21	CHIH R:13	31	Pailes 1973:60-63
CHIH R:13:22	CHIH R:13	142	Pailes 1973:60-63
CHIH R:13:23	CHIH R:13	40	Pailes 1973:60-63
CHIH R:13:24	CHIH R:13	5	Pailes 1973:60-63
CHIH R:13:25	CHIH R:13	9	Pailes 1973:60-63
CHIH R:13:26	CHIH R:13	52	Pailes 1973:60-63
CHIH R:13:28	CHIH R:13	13	Pailes 1973:60-63
CHIH R:13:29	CHIH R:13	41	Pailes 1973:60-63
CHIH R:13:30	CHIH R:13	29	Pailes 1973:60-63
CHIH R:13:31	CHIH R:13	4	Pailes 1973:60-63
CHIH R:13:33	CHIH R:13	1	Pailes 1973:60-63
CHIH R:13:34	CHIH R:13	100	Pailes 1973:60-63
CHIH R:14:4	CHIH R:14	1	Pailes 1973:60-63
SIN A:01:1	SIN A:01	208	Pailes 1973:60-63
SIN A:01:2	SIN A:01	3	Pailes 1973:60-63
SIN A:01:3	SIN A:01	42	Pailes 1973:60-63
SIN A:01:7	SIN A:01	2	Pailes 1973:60-63
SIN A:01:8	SIN A:01	5	Pailes 1973:60-63
SIN A:01:9	SIN A:01	6	Pailes 1973:60-63
SIN A:01:10	SIN A:01	5	Pailes 1973:60-63
SIN A:01:12	SIN A:01	50	Pailes 1973:60-63
SIN A:01:14	SIN A:01	65	Pailes 1973:60-63

SIN A:01:16	SIN A:01	19	Pailes 1973:60-63
SIN A:01:17	SIN A:01	19	Pailes 1973:60-63
SIN A:01:18	SIN A:01	14	Pailes 1973:60-63
SIN A:01:19	SIN A:01	77	Pailes 1973:60-63
SIN A:02:1	SIN A:02	8	Pailes 1973:60-63
SIN A:02:3	SIN A:02	61	Pailes 1973:60-63
SIN A:02:4	SIN A:02	7	Pailes 1973:60-63
SIN A:05:1	SIN A:05	33	Pailes 1973:60-63
SIN A:05:2	SIN A:05	119	Pailes 1973:60-63
SIN A:05:4	SIN A:05	137	Pailes 1973:60-63
SIN A:05:6	SIN A:05	1	Pailes 1973:60-63
SIN A:05:8	SIN A:05	6	Pailes 1973:60-63
SIN A:05:9	SIN A:05	1	Pailes 1973:60-63
SIN A:05:11	SIN A:05	5	Pailes 1973:60-63
SIN A:05:12	SIN A:05	92	Pailes 1973:60-63
SIN A:05:13	SIN A:05	16	Pailes 1973:60-63
SIN A:05:16	SIN A:05	21	Pailes 1973:60-63
SIN A:05:21	SIN A:05	22	Castillo and Vicente 2008
SIN A:05:22	SIN A:05	4873	Castillo and Vicente 2008
SIN A:05:23	SIN A:05	14	Castillo and Vicente 2008
SIN A:05:25	SIN A:05	3834	Castillo and Vicente 2008
SIN A:06:1	SIN A:06	4	Pailes 1973:60-63
SIN A:06:2	SIN A:06	3	Pailes 1973:60-63
SIN A:06:3	SIN A:06	1	Pailes 1973:60-63
SIN A:06:4	SIN A:06	3	Pailes 1973:60-63
SIN A:06:5	SIN A:06	83	Pailes 1973:60-63
SIN A:06:6	SIN A:06	1	Pailes 1973:60-63
SIN A:10:1	SIN A:10	4	Pailes 1973:60-63
SIN A:10:4	SIN A:10	1	Pailes 1973:60-63
SIN A:10:5	SIN A:10	6	Pailes 1973:60-63
SON G:10:2	SON G:10	X	Braniff 1992
SON G:12:2	SON G:12	X	Braniff 1992:905
SON G:12:3	SON G:12	X	Braniff 1992
SON G:14:2	SON G:14	X	Braniff 1992:906
SON G:14:5	SON G:14	X	Braniff 1992:906
SON G:14:7	SON G:14	X	Braniff 1992:907
SON G:16:3	SON G:16	X	Braniff 1992:907
SON H:15:1	SON H:15	X	Braniff 1992:907
SON K:02:1	SON K:02	X	Braniff 1992:912
SON K:02:4	SON K:02	X	Braniff 1992:785
SON K:02:12	SON K:02	X	Braniff 1992:785
SON K:06:2	SON K:06	X	Braniff 1992:785
SON K:06:3	SON K:06	X	Braniff 1992:785
SON K:06:4	SON K:06	X	Braniff 1992:785
SON K:06:6	SON K:06	X	Braniff 1992:785
SON K:06:10	SON K:06	X	Braniff 1992:785
SON K:06:13	SON K:06	X	Braniff 1992:785
SON K:08:1	SON K:08	X	Braniff 1992:913
SON K:08:2	SON K:08	X	Braniff 1992:913
SON K:08:3	SON K:08	X	Braniff 1992:913
SON K:08:4	SON K:08	X	Braniff 1992:913
SON K:09:3	SON K:09	X	Braniff 1992:913
SON K:09:4	SON K:09	X	Braniff 1992:913

SON K:09:5	SON K:09	15	Braniff 1992:913
SON K:09:6	SON K:09	X	Braniff 1992:913
SON K:09:7	SON K:09	X	Braniff 1992:913
SON K:10:1	SON K:10	X	Braniff 1992:913
SON K:10:2	SON K:10	X	Braniff 1992:913
SON K:10:3	SON K:10	X	Braniff 1992:913
SON K:10:5	SON K:10	X	Braniff 1992:913
SON K:10:10	SON K:10	X	Braniff 1992:913
SON L:02:2	SON L:02	X	Braniff 1992:914
SON L:02:3	SON L:02	X	Braniff 1992:914
SON L:02:5	SON L:02	X	Braniff 1992:914
SON L:02:6	SON L:02	X	Braniff 1992:914
SON L:03:1	SON L:03	X	Braniff 1992:914
SON L:03:4	SON L:03	X	Braniff 1992:915
SON L:03:5A	SON L:03	X	Braniff 1992:915
SON L:03:5B	SON L:03	X	Braniff 1992:915
SON L:04:1	SON L:04	X	Braniff 1992:915
SON L:04:3	SON L:04	X	Braniff 1992:916
SON L:10:1	SON L:10	X	Braniff 1992:916
SON O:03:1	SON O:03	X	Braniff 1992:918
SON P:03:1	SON P:03	X	Braniff 1992:919
SON P:04:1	SON P:04	X	Braniff 1992:919
SON P:04:3	SON P:04	X	Braniff 1992:919
SON P:04:4	SON P:04	X	Braniff 1992:919
SON P:04:6	SON P:04	X	Braniff 1992:919
SON P:04:7	SON P:04	X	Braniff 1992:920
SON Q:04:2	SON Q:04	X	Braniff 1992:920
SON S:01:1	SON S:01	3	Domínguez et al. 2009:154-168
SON S:05:4	SON S:05	11	Domínguez et al. 2009:154-168
SON S:05:7	SON S:05	7	Domínguez et al. 2009:154-168
SON S:07:1	SON S:07	81	Domínguez et al. 2009:154-168
SON S:07:2	SON S:07	36	Domínguez et al. 2009:154-168
SON S:10:2	SON S:10	16	Domínguez et al. 2009:154-168
SON S:10:3	SON S:10	4	Domínguez et al. 2009:154-168
SON S:10:4	SON S:10	5	Domínguez et al. 2009:154-168
SON S:11:2	SON S:11	6	Domínguez et al. 2009:154-168
SON S:15:5	SON S:15	4	Domínguez et al. 2009:154-168
SON S:15:6	SON S:15	14	Domínguez et al. 2009:154-168
SON S:15:7	SON S:15	1	Domínguez et al. 2009:154-168
SON S:15:8	SON S:15	1	Domínguez et al. 2009:154-168
SON S:16:3	SON S:16	10	Pailes 1973:60-63
SON S:16:4	SON S:16	20	Pailes 1973:60-63
SON S:16:5	SON S:16	16	Pailes 1973:60-63
SON T:07:1	SON T:07	57	Pailes 1973:60-63



*This distribution does not include the Guasave group.

Aztatlán Group

Site Number	Grid Number	Sherd Count	Reference
CHIH R:13:24	CHIH R:13	1	Pailes 1973:245
SIN A:01:7	SIN A:01	1	Pailes 1973:245
SIN A:02:2	SIN A:02	3	Pailes 1973:245
SIN A:02:4	SIN A:02	1	Pailes 1973:245
SIN A:06:6	SIN A:06	1	Pailes 1973:245
SIN A:06:17*	SIN A:06	562	Carpenter and Sánchez 2006
SIN A:06:17*	SIN A:06	21	Carpenter and Sánchez 2006

*Site in Sinaloa

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