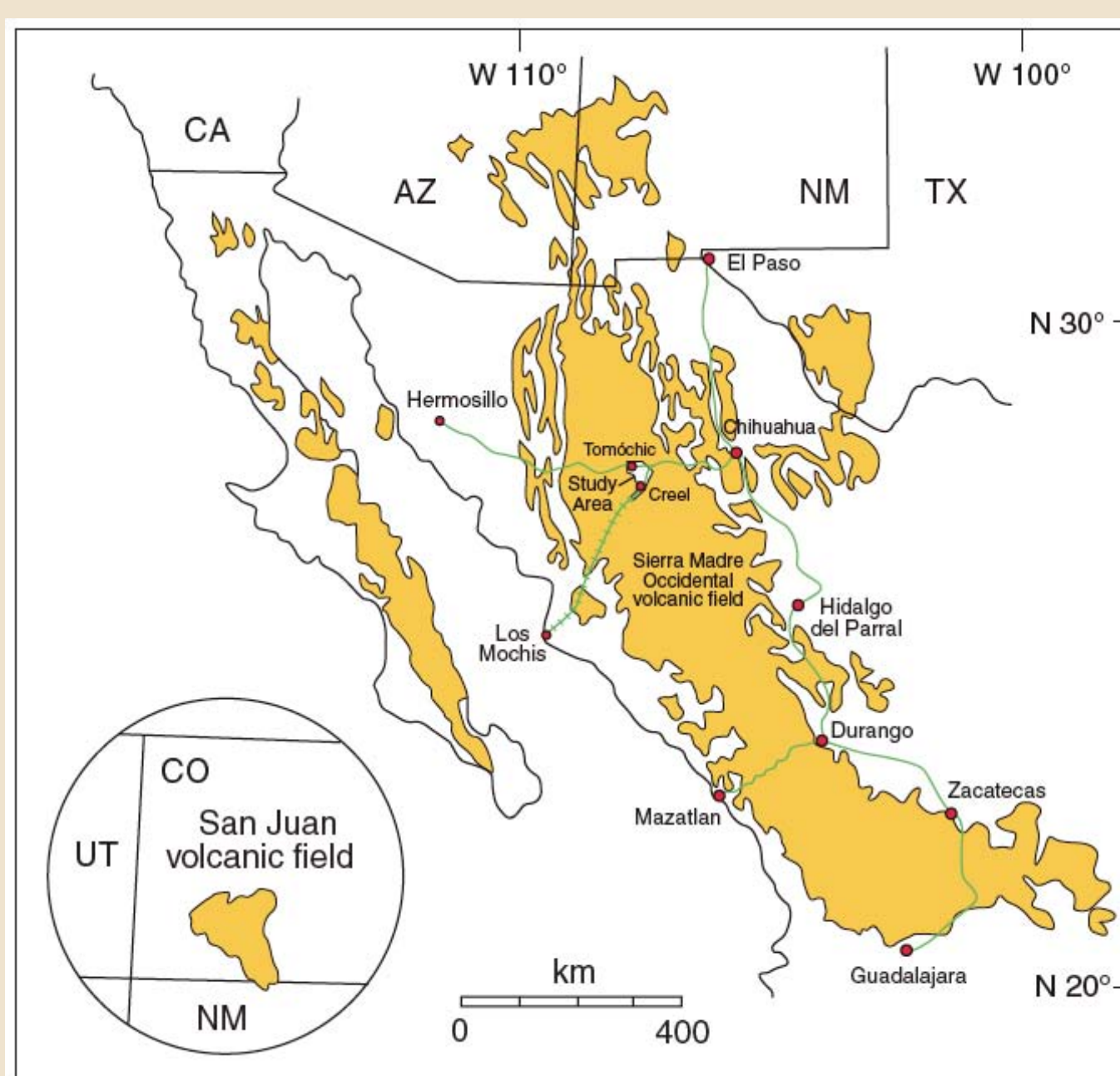
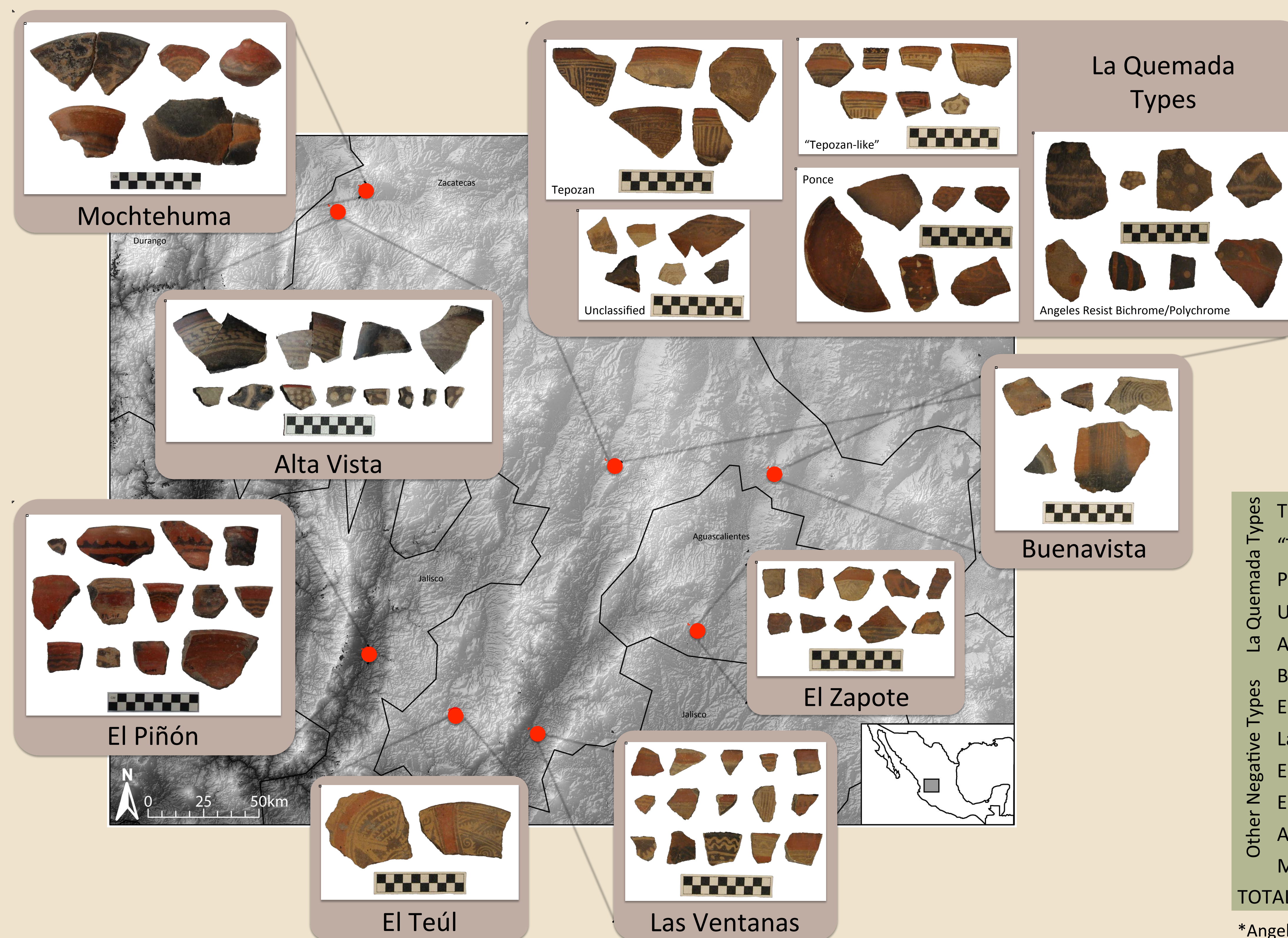


Were La Quemada decorated ceramics produced locally?

The hilltop center of La Quemada in the Malpaso Valley of Zacatecas, Mexico, was the focal point of one of several polities that developed along the northern frontier of Mesoamerica during the Epiclassic period (A.D. 500-900). Northern frontier polities are known to have interacted due to their shared material culture (i.e., patio-banquette complexes, colonnaded halls, and the exchange of obsidian and shell products), but the mechanism(s) of this interaction are not fully understood. Ceramic wares, such as red-on-buff, incised-engraved, and resist, are also widely distributed across the region and provide a means of analyzing past social networks. What remains unknown is whether northern frontier wares are distinct types produced and consumed locally or if they were produced in one polity and consumed in another. Answering this question using methods of ceramic characterization will determine if regional ceramic traditions were the result of exchange networks or the development of a shared ideology that was materialized in ceramic style.



The study area is located in the Sierra Madre Occidental (SMO) geologic province (Figure 1), which includes one of the largest ignimbrite deposits in the world, measuring approximately 400,000 km³ (Aguirre-Díaz et al. 2008). Due to the geologic homogeneity of the region, it is likely that petrographic analysis will not be sufficient for establishing the provenance of ceramic types recovered from La Quemada and other northern frontier centers. This conclusion is supported by previous petrographic analyses conducted by Strazich (1995) and Wells (2000), in addition to the pilot study of resist ceramics presented here.



Paste descriptions were written using quantitative data collected for 22 La Quemada resist sherds, then a “quick sort” was completed for the remaining 164 resist sherds sampled from La Quemada and other frontier centers.

	Fabrics						Total Sampled
	Fine Tuff	Dense Fine Tuff	Coarse Tuff	Granophytic	Volcanic	Unassigned	
La Quemada Types							
Tepezan Resist	9	0	6	0	0	0	15
“Tepezan-like”	8	0	7	0	0	1	16
Ponce Resist	3	5	2	3	2	0	15
Unclassified Resist	1	3	6	4	0	1	15
La Quemada Types							
Angeles Resist*	0	0	2	8	0	20	30
Other Negative Types							
Buenavista	3	1	6	0	0	5	15
El Zapote	3	0	4	2	1	0	10
Las Ventanas	6	0	3	3	2	1	15
El Teúl	0	0	2	0	0	0	2
El Piñón	0	0	0	5	9	0	14
Alta Vista	0	4	0	0	0	8	12
Mochtehuma	0	0	0	0	0	5	5
TOTAL	33	13	38	25	14	41	164

*Angeles Resist includes both the bichrome and polychrome types

Identification and Description of Petrographic Fabrics

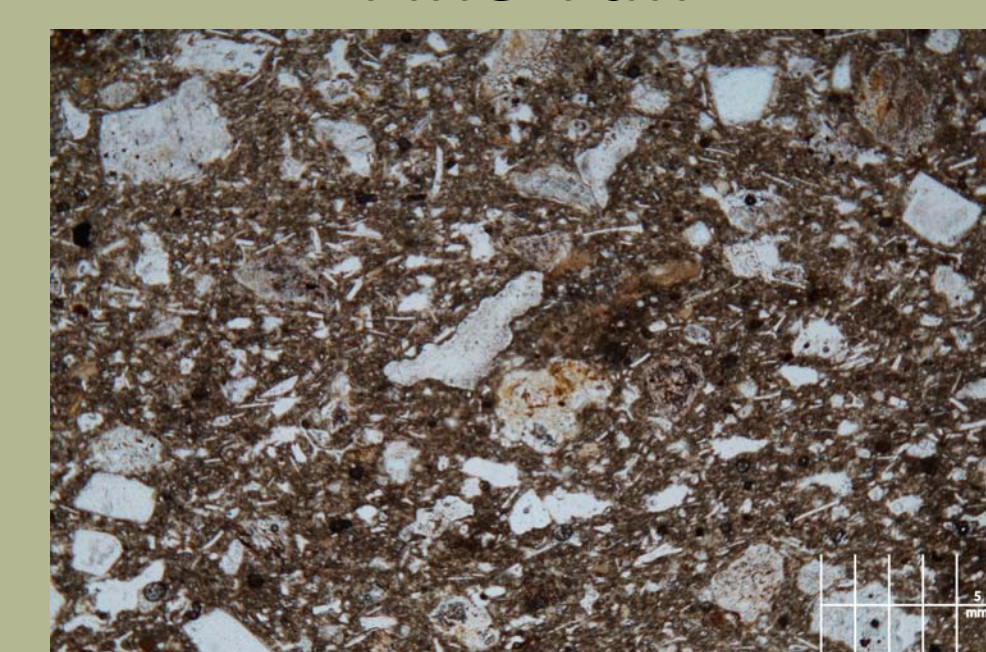
Of the more than 800 ceramics sampled from seven frontier subareas, the resist ware is the only one present in each of the ceramic assemblages. The analysis began with the recording of quantitative data for Tepezan Resist (n=13) and Ponce Resist (n=9) sherds, two resist types previously assigned to volcanic glass fabric classes by both Strazich (1995) and Wells (2000). Unsurprisingly, the volcanic glass fabric was easy to recognize and is referred to here as a series of tuff fabrics that vary based on the size and density of the glass shards observed in thin section (see box to right). Detailed paste descriptions were written for the tuff fabrics using the modified Whitbread (C:F:V) method outlined by Quinn (2013).

The description process was followed by a “quick sort” analysis of the resist sherds sampled (n=164). The results of the quick sort are provided in Table 1. Some of the observations to note are:

- 51% of the resist sherds sampled have been assigned to one of the tuff fabrics
- El Piñón and Mochtehuma are the only sites without tuff fabric sherds
- All of the Tepezan and “Tepezan-like” sherds were assigned to the Fine or Coarse Tuff Fabrics, suggesting a more restricted paste recipe (i.e., potter community)
- The Angeles Resist types differ most from the rest of the La Quemada resist types with many of them remaining currently unassigned or having granophytic texture
- The four sherds from Alta Vista assigned to the Dense Tuff Fabric (top row of photo) share the “lazy S” motif with the Ponce sherds from La Quemada, also assigned to the Duff Tense Fabric
- The only “Tepezan-like” sherd that could not be assigned to the tuff fabrics (bottom right in photo) is stylistically similar to the Las Ventanas resist sherds

Preliminary Petrographic Fabrics

Fine Tuff



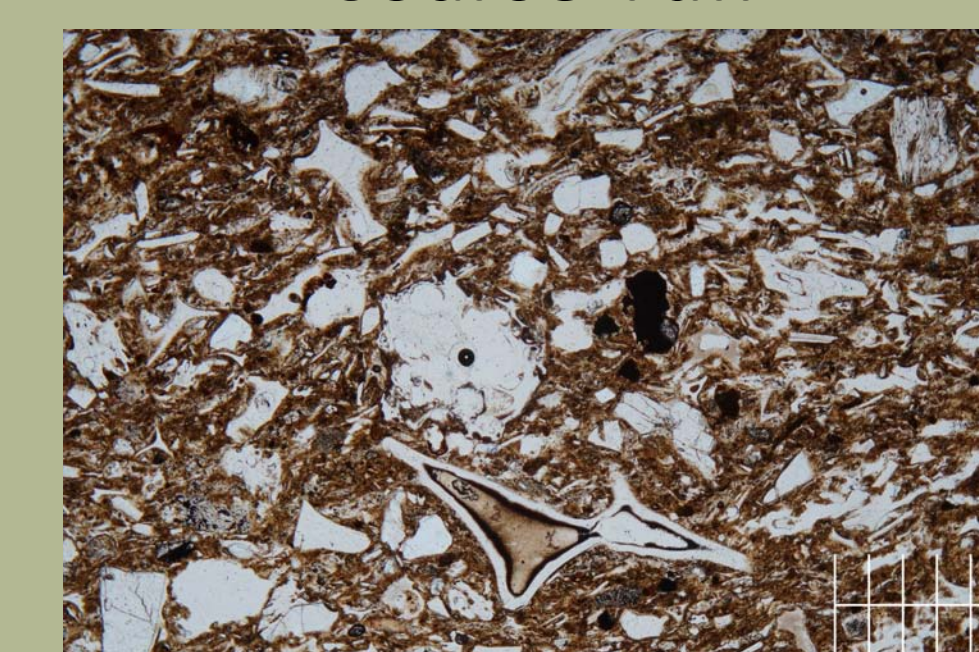
Characterized by fine-grained volcanic glass, plagioclase feldspar, and pumice fragments

Dense Fine Tuff



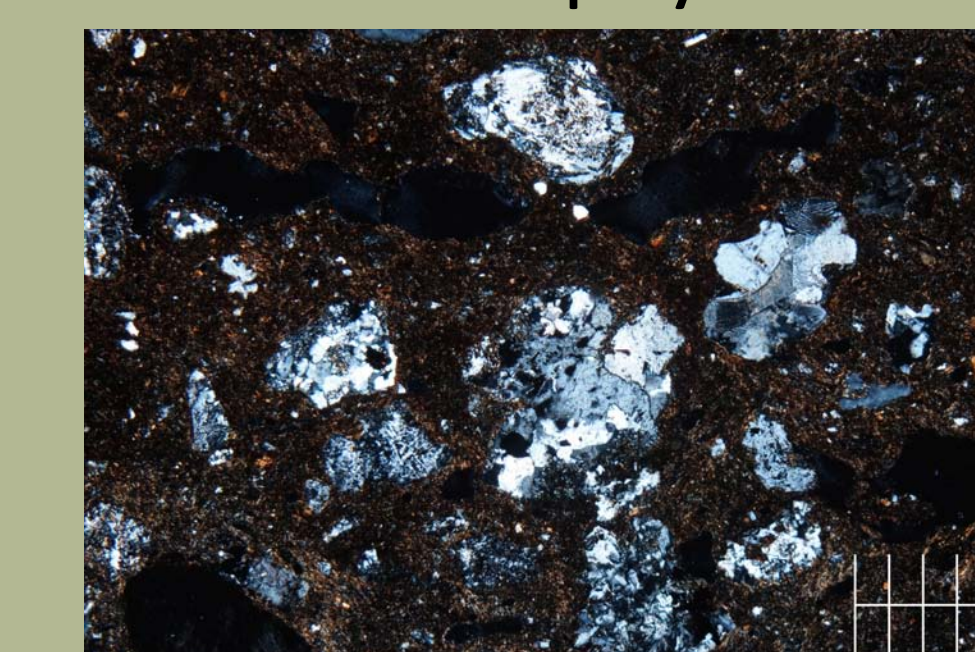
Fabric is same as fine tuff but with higher density and smaller glass shards and plagioclase

Coarse Tuff



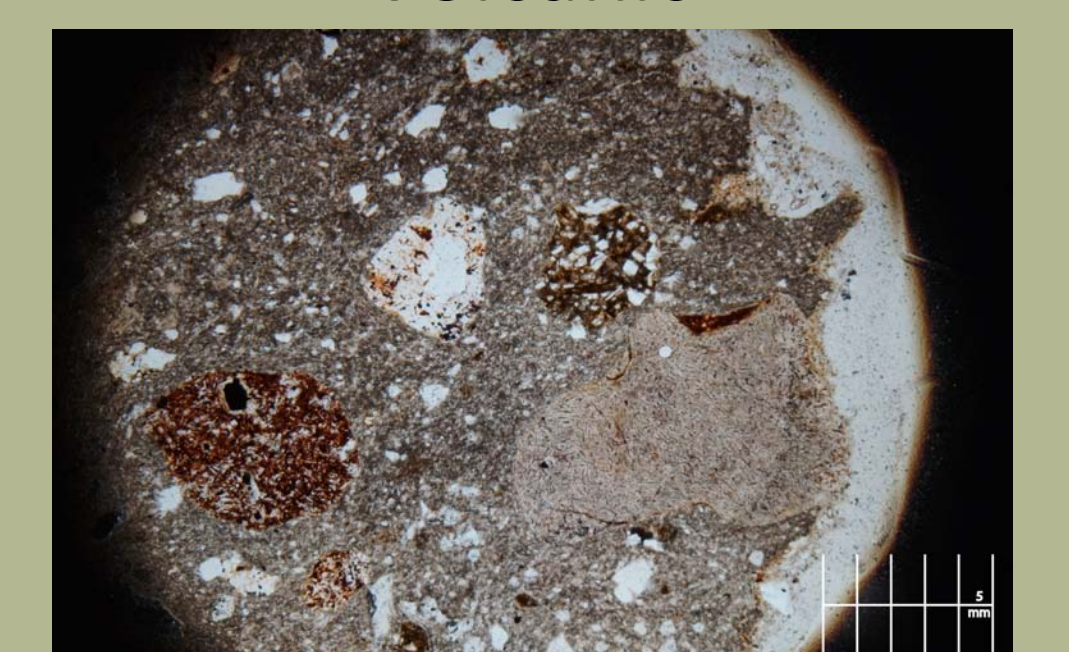
Inclusions are coarse-grained fragments of volcanic glass and pumice

Granophytic



Distinguished by rock fragments with granophytic texture (i.e., intergrowths of quartz and feldspar)

Volcanic



High occurrence of igneous (both volcanic and plutonic origin) rock fragments

Conclusions and Future Research

- The wide distribution of resist ceramics across the northern frontier that share petrographic fabrics suggests that either: (1) the paste recipe and operation sequence used to produce resist pottery are **shared regionally**; or (2) resist vessels were **produced in one frontier polity and consumed by others**.
- Additional characterization techniques (SEM or ICP-MS) will be implemented to collect data on the elemental or chemical composition of the clay matrix or temper inclusions to **finalize the provenance assignments for decorated ceramic types**.
- Ultimately, this project will **determine which, if any, ceramic types were brought to La Quemada** from areas outside of the Malpaso Valley.
- **Ceramic characterization data will be expanded in the future** to determine where nonlocal ceramics found at La Quemada originated, as well as **explore the structure of social networks** that can be traced among northern frontier polities using ceramics.

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