Introduction
The Upper Gila region of Southwestern New Mexico was home to a substantial population during the 14th and 15th centuries but has seen comparatively little archaeological research. Archaeology Southwest (formerly the Center for Desert Archaeology) began work in this region in 2008, focusing on Mule Creek, New Mexico, with the goal of shedding light on late precontact migration and the large 14th-15th century Salado site. Four seasons of fieldwork and collections-based research have expanded our understanding of the Salado or Cliff Phase (c. AD 1300 - 1450) occupation and of the complex social dynamics in Mule Creek immediately prior to the Cliff Phase.

The Fornholt Site
The final component of Mule Creek’s Fornholt site consists of two 13th to early 14th century room blocks, together totaling about 60 rooms, including an earlier Mimbres Classic and pit-house component. The larger, southern room block surrounds a depression that appears to be a plaza, while the northern room block stands two stories in height. We carried out limited testing and extensive mapping in 2009 and 2010. More extensive excavations in 2011 exposed sections of four rooms and portions of two great kivas. One of these rooms was a broad storage room in the two-story portion of the pueblo, containing a substantial quantity of unburned carbonized maize cobs. Excavations in the great kiva uncovered the corner of an interior wall, suggesting the presence of a wide bench or a nested interior structure. Additional excavations planned for 2012 will clarify the internal layout and features of this somewhat unusual structure.

Fornholt’s closest affiliation is with contemporary Tularosa Phase sites to the north and west. The masonry and features at the site, as well as the shape and orientation of the great kiva, all resemble those at sites in the Franciscan and Blue River valleys. While the site and Tularosa Phase occupations at the Gila Cliff Dwellings (Anderson et al. 1986) and at WS Ranch in Alma, NM (Robinson 1992), Mule Creek is certainly near the southern edge of the distribution of Tularosa Phase sites.

Mule Creek Obsidian in Regional Context
The Mule Creek drainage has multiple draws, including a high water table and easy access to nearby ecotones. It is most distinguished, however, by the Mule Creek obsidian, found in local tuff deposits and adjacent drainages. The Mule Creek drainage has been made up of three chemical groups: the Mule Mountains, Antelope Springs, and the North Central Antelope Springs Creek groups. Of the three, the Mule Creek has been most often circulated, though all three sources produce tool-grade stone. Previous research has shown a dramatic increase in the circulation of Mule Creek obsidian in the 13th and 14th centuries.

A project currently underway at Archaeology Southwest compares archaeological Mule Creek obsidian frequencies during this time period over a wide geographic area. Preliminary results indicate that Mule Creek obsidian, especially the Antelope Springs group, occurs in frequencies greater than what one would expect from a distance decay model. For example, Gila Pueblo (AZ V:9:52) contains roughly equal proportions of Mule Creek/Antelope Springs and Salado obsidian, though the Salado site is significantly closer. Sites such as Davis Ranch (AZB:11:36) and Reavey Ruin (AZB:11:26) in the San Pedro River valley and University Indian Ruin (AZB:11:33) in the Tucson Basin contain higher percentages of Mule Creek obsidian than predicted by distance from available sources. The distribution of La Mimbres obsidian is quite small, they too likely had multiple production locales. Further analysis of the NAA and petrographic data should allow us to tie groups of samples to particular production areas and trace exchange within the study area.

Conclusion: Social Dynamics in Mule Creek and the Upper Gila
The work described here provides new insight into the late precontact Upper Gila region. Maverick Mountain series ceramics and a perforated plate, hallmarks of Kayenta-Tusayan migration, were both present at the 3-Up Site and were produced locally throughout the Upper Gila. Ongoing obsidian sourcing research will clarify the ways in which Mule Creek obsidian may have been exchanged among migrant communities throughout the Southwest. Research at the Fornholt and 3-Up sites also provides information about the social context in Mule Creek immediately prior to migration. Although both sites have the same types of 14th to 15th century ceramics, they offer different architectural signatures, suggesting connections to or affinities with separate regional traditions. Ongoing research will further explore this 13th century social boundary. If Fornholt was still occupied when migrants arrived at 3-Up in the late 13th or early 14th century, its residents do not seem to have interacted with the Cliff Phase occupants. Forman suggests that the site may have been abandoned by the early 14th century, while 3-Up remained occupied until the depopulation of the region, sometime in the 15th century.

Acknowledgements
This project would have been impossible without the support of the community of Mule Creek, New Mexico. We would also like to thank the 2008, 2009, 2010 and 2011 field school students and volunteers for their work and enthusiasm. This research was funded in part by a grant from the National Science Foundation (NSF Project No. 0859157) and supported by generous donors to Archaeology Southwest (formerly the Center for Desert Archaeology), Hendrix College, and the University of Arizona.

Us and Them?: Late Precontact Social Dynamics in Mule Creek, New Mexico
Katherine Duncan, Robert Jones, Deborah Huntley, Jeffery Clark

Ceramic Assemblage Comparisons
Both 3-Up and Fornholt have Mogollon and Mimbres ceramics that indicate pithouse and Classic Mimbres occupations. Both also have non-local Cibola White Ware and White Mountain Red Ware, as well as more southerly types like El Paso Polychrome and Playas Red Incised, which are common on 13th century sites in southern New Mexico. However, Fornholt has no Maverick Mountain Series or Salado Polychrome sherds, wares that are common at 3-Up.

Maverick Mountain Series ceramics are locally made vessels produced within the vicinity of Kayenta-Tusayan ceramic tradition. Locus B at 3-Up has a large proportion of Maverick Mountain Series sherds and is the most likely location for a Kayenta-Tusayan immigrant enclave. Locus C has Salado Polychromes and is probably the latest occupation at the site. In addition, a reconstructible perforated plate, a distinctive Kayenta-Tusayan pottery making tool (Lyons 2003; Lyons and Lindsay 2006), was recovered from 3-Up Locus B. While Fornholt may have been abandoned before the production of Salado polychromes at 3-Up, the presence of Pinedale Black-on-white on-river wares at Fornholt suggests that the site may have been occupied when Kayenta-Tusayan immigrants arrived at 3-Up in the late 13th or early 14th century.

Ceramic Sourcing
Our compositional studies focus on sites in the greater Upper Gila region with Cliff Phase component. This includes 3-Up in Mule Creek and nine other sites in the Cliff, Redrock, and Mimbres valleys. We supplemented the Upper Gila and Mimbres samples with a smaller sample of sherds from the Stafford Basin, Sulphur Springs Valley, and Gila Pueblo.

We submitted a subset of nearly 500 sherds, plus several clay samples, to the NAA at the Archaeometry Lab at the University of Missouri Research Reactor. The compositional data point to widespread local production of Maverick Mountain series and Salado Polychrome vessels. Each of these sites probably made at least some of these decorated wares using locally available clays and tempers that potters also used for utility wares. While some of our sampled plates is quite small, they too likely had multiple production locales. Further analysis of the NAA and petrographic data should allow us to tie groups of samples to particular production areas and trace exchange within the study area.