Projectile Point and Biface Production at the Dinwiddie Site, Southwestern New Mexico

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Introduction

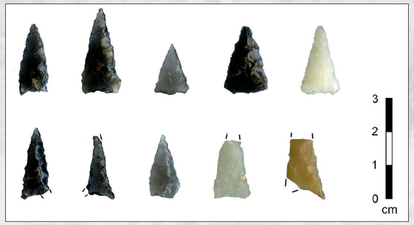
In the past two years, Archaeology Southwest and the University of Arizona have managed a field school that seeks to understand the native inhabitants of the Dinwiddie site, a Cliff phase (A.D. 1300-1450) Salado site. The site is located in the Upper Gila region of New Mexico, approximately 30 km from the Mule Creek obsidian source. Data collected from the site include numerous bifaces and projectile points, and various types and raw materials are represented.

Research Questions

- What projectile point types are represented at the Dinwiddie site?
- Were points made at the site or acquired through exchange?
- What do the raw materials and obsidian sources imply about procurement patterns?
- How do point styles and materials compare with other Cliff phase sites in the Upper Gila region?

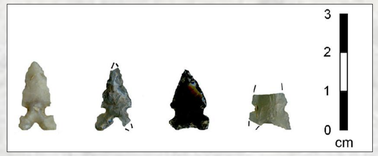
Projectile Points

Thirty-seven points were recovered during the 2013 and 2014 field school seasons at Dinwiddie.



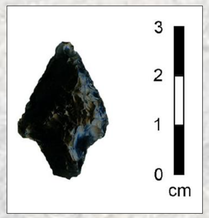
Southwest Triangular points are by far the most common, accounting for 60 percent of the point collection. These unnotched points are rather small, with complete specimens ranging in size from 1.42 cm to 2.55 cm. Points of this type are seen throughout the Southwest and occur often at sites dating to A.D. 1150-1350 (Sliva 2006).

Small side-notched points are the next most frequently occurring. Two points exhibit basal notches, a trait that is seen throughout Arizona and in southwestern New Mexico after A.D. 1150 (Moore 1999, Sliva 2006).



The single corner-notched arrow point from the site is unique in form and material type. Made from Cow Canyon obsidian, the point is similar to those found in east-central Arizona that were introduced during the Basketmaker III period (ca. A.D. 500-800) and in use through the Pueblo period (ca. 1275) (Tagg 1994). The style and material of this point suggest it was imported from the west.

Archaic dart points were occasionally curated by the people at Dinwiddie. This Gypsum point (ca. 3500-1500 B.C) made of local obsidian was found between two floors in a Cliff phase room.



Evidence of On-Site Production

Early-stage (top) and late-stage (bottom) bifaces.

Drills and bifacial knives from Dinwiddie.

Bifaces and projectile points represent two-thirds of the tools from Dinwiddie, and the recovered artifacts indicate that tool production was an important activity at the site. Core reduction flakes were shaped through pressure flaking, and several early-stage and late-stage bifaces and preforms in the assemblage reflect the progression of manufacturing stages. Other bifaces include knives and drills. Bifacial thinning flakes occur in low but consistent numbers, and varying degrees of tool production are evident among features and roomblocks.

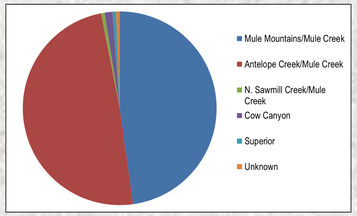
Proportions of retouched tools (*n* = 150).

Raw Materials

	Mule Mountains/Mule Creek obsidian	Antelope Creek/Mule Creek obsidian	N. Sawmill Creek/Mule Creek obsidian	Cow Canyon obsidian	Unspecified obsidian	Chalcedony	Chert	Total
Projectile points	14%	35%	-	3%	-	32%	16%	37
Bifaces	17%	38%	2%	-	5%	33%	5%	63

A variety of raw material is present in the projectile point and biface assemblages. Residents clearly preferred obsidian for formal tool production, followed by locally available chalcedony and chert.

Obsidian Sources

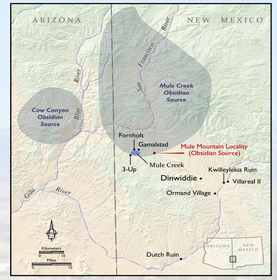


(*n* = 159)

Eleven percent of the entire Dinwiddie flaked stone collection is made up of obsidian, and 58 percent of all bifaces and points are of this material. Results of X-Ray Fluorescence analysis (XRF) show that almost all of the obsidian is from the Mule Creek source area, with even amounts from the Mule Mountains and Antelope Creek localities (Shackley 2014). The small number of other sources identified includes Cow Canyon and the distant Superior source, which is located over 200 km west of Dinwiddie.

Comparisons with other Sites

The frequency of Mule Mountain obsidian at Dinwiddie is not surprising due to its proximity to the site. However, a different pattern is seen at the nearby contemporaneous Ormand Village and Villareal II sites where Antelope Creek is the dominant material (Shackley 2012). Despite being farther from the Mule Creek source, a higher rate of obsidian is also represented at Ormand Village (Wallace 1998). One possible explanation for these differences is that the inhabitants of Ormand Village had stronger social ties with groups living near the Antelope Creek source during the Cliff phase.



Location of Upper Gila sites and the Mule Creek obsidian source (see Shackley 2005).

Projectile Point Material Types at Cliff Phase Sites in the Region

	Chert	Chalcedony	Igneous	Obsidian	Welded Tuff	Quartzite
3 Up				X		
Dinwiddie	X	X		X		
Dutch Ruins				X		
Villareal II	X			X		
Ormand Village	X	X	X	X	X	X

Different procurement patterns are seen at Cliff phase sites in the area. A variety of raw materials is represented in the projectile point assemblage at Ormand Village, while 3-Up and Dutch Ruins points are made only of obsidian. The ranges of projectile point styles, however, exhibit a similar pattern to that of Dinwiddie, with a preference for unnotched triangular points, followed by side-notched points, and a small number of corner-notched or stemmed points.

Discussion

The Dinwiddie projectile point assemblage is dominated by small unnotched triangular points that are common after A.D. 1150 throughout the region. The residents of Dinwiddie were manufacturing projectile points rather than relying on exchange, although at least one point was imported to the site. Obsidian was procured from the closest locality, the Mule Mountains, and from Antelope Creek, which is located several kilometers farther away. The differences in obsidian procurement patterns at nearby sites are of interest because they may reflect varying relationships with groups living close to the Mule Creek source area. Although procurement patterns may differ, similar projectile point types are seen at Cliff phase sites in the Upper Gila region.

Acknowledgements

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