Ancestral Pueblo Warfare and Migration in the Galisteo Basin, New Mexico:
Report of the Tano Origins Project, 2005 Season

James E. Snead
Dept. Of Sociology and Anthropology
George Mason University
Fairfax, VA 22030-4444

8 June 2006

NSF BCS #0352702

Burnt Corn Pueblo, LA 359, from the air. Photo: S. Schlanger

NMCRIS # 99578
# TABLE OF CONTENTS

1. Introduction ........................................... 1

2. Burnt Corn Pueblo: Fieldwork and Analysis, 2005 ........... 5  
   \hspace{1em} Mapping 
   \hspace{1em} Excavation  
   \hspace{1em} Laboratory Analysis 
   \hspace{1em} Preliminary Interpretations 


4. Lodestar: Fieldwork, 2005 ................................ 15  
   \hspace{1em} Background  
   \hspace{1em} Lodestar North  
   \hspace{1em} Lodestar South 

5. Discussion ............................................ 22

6. Acknowledgments ....................................... 24

7. Papers, Reports, and Publications to Date .................. 25

7. References Cited ....................................... 26

## Figures

1.1. Significant archaeological sites in the Galisteo Basin and adjoining areas.  \hspace{1em} 2
1.2. The Western Galisteo Basin. .................................. 4
2.1 GIS Map of Burnt Corn Pueblo .................................. 6
2.2 Burnt Corn Plaza Pueblo, Unit 6, Room A, ill. Floor .......... 8
2.3 Burnt Corn Plaza Pueblo, Unit 6, Room A, ill. sealed hearth .... 8
3.1 The Petroglyph Hill Survey Area  \hspace{1em} 13
4.1 The Lodestar Region ........................................ 16
4.2 Lodestar North .............................................. 17
4.3 Lodestar North, Feature 1 .................................... 19
4.4 Lodestar North, Unit 1 ....................................... 19

*Cover: Burnt Corn Pueblo, LA 359, from the air (Photo: S. Schlanger).*
1. INTRODUCTION

This report outlines a program of archaeological research in the Galisteo Basin of New Mexico, known as the Tano Origins Project, for the 2005 field season. This was the fourth TOP field season since 2000 (cf. Snead 2001; 2005), and the second under sponsorship of the National Science Foundation (BCS #0352702) (Snead 2005). The following is a general description of research conducted in 2005, complementing more detailed, preliminary reports of various aspects of the 2005 fieldwork (Allen 2006; Smith 2005).

The TOP is investigating the Ancestral Pueblo settlement of the Galisteo Basin, in the 13th century AD, with emphasis on questions of population movement, community organization, and conflict. In brief, this era (falling within the later Coalition Period as defined for the northern Rio Grande region) was one of considerable instability, marked by the rapid establishment of new villages and their equally rapid abandonment. Poorly understood and ill-defined, this era of turmoil falls within a roughly 75-year span between AD 1250 and 1325, during which the Galisteo was transformed from a relatively open social landscape into a major settlement “cluster” composed of eight major community centers. When documented during the Spanish entrada, these communities were largely populated by Towa-speaking “Tano” people, with some Keres inhabitants to the west. The opportunity to study sites spanning the Pre-Columbian - Colonial eras first brought archaeologists to the Galisteo (i.e. Adolph Bandelier [Lange and Riley 1966: 329] and Nels Nelson [Nelson 1912]). However - and with the exception of Bertha Dutton, who conducted considerable fieldwork in the region in the mid-20th century (summarized in Dutton 1980) - remarkably little research has focused on the beginnings of this remarkable development. Our poor grasp of Ancestral Pueblo origins in the Galisteo Basin hinders a detailed understanding of the region and its role in the greater Southwest, particularly relating to processes such as migration and political reorganization that dominate discussion of that era (for a more detailed analysis, see Snead 2005).

Our research addresses the issue of Tano origins through excavation, survey, and archival/collections analysis. The principal focus is Burnt Corn Pueblo, an Ancestral Pueblo community in the western Galisteo established at the end of the 13th century AD. Archaeological survey at Burnt Corn in 2000 was followed by excavation in 2002 designed to collect basic contextual and chronological information from the subsurface. The advent of NSF funding in 2004 allowed us to implement a survey program on the Adjacent Thornton Ranch/Petroglyph Hill tract as well as to conduct collections research on other Ancestral Pueblo sites that were contemporaneous with Burnt Corn and which have been excavated in the past - Pueblo Alamo (LA 8), Manzanares (LA 1104/10607), and Pueblo Largo (LA 183).

The 2005 season brought a significant intensification of fieldwork. Original plans to return to Burnt Corn to expose larger areas of the plaza pueblo were implemented, under the direction of Monica Smith (UCLA). Steven Post, of the office of Archaeological Studies, Museum of New Mexico (OAS) simultaneously conducted topographic mapping of the structure. The survey work at Petroglyph Hill continued and was largely brought to a conclusion by mid-Autumn. In addition, conversations with the Archaeological Conservancy over the winter opened the possibility of conducting research on property near the town of Cerrillos that the organization was in the process of acquiring. Several small roomblock structures were present,
Figure 1.1. Significant archaeological sites in the Galisteo Basin and adjoining areas of the northern Rio Grande. Site names in capital letters are those receiving particular emphasis by the Tano Origins Project.
and ceramic evidence from these “Lodestar sites” made it possible that they were occupied during the same era as Burnt Corn. In order to maximize the potential of this opportunity we brought in another collaborator, Mark Allen from California Polytechnic University - Pomona (Cal Poly), who directs an active undergraduate research program and agreed to direct excavations at this location. Allen’s team also contributed GIS expertise to the other field crews, adding consistency to the different archaeological endeavors.

As the 2005 fieldwork was underway laboratory analysis was also in progress. As excavated artifacts were processed, collections derived from the 2002 excavations received more detailed attention. Rikki Cohen continued her work on the Burnt Corn ceramics, and Mollie Toll, of the Office of Archaeological Studies, Museum of New Mexico, began a paleobotanical analysis of the wood and corn from excavation units 1-5. These and other analyses will be expanded to include the 2005 material so that the entire excavated collection can be considered from a unified perspective.

A high priority was also placed on management and policy considerations. As work toward implementation of the Galisteo Basin Archaeological Sites Protection Act continues, the work of the Tano Origins Project gains increasing significance as a model for collaboration between land owners/managers, researchers and diverse elements of the local public. Networking between our team and these different communities was a constant feature of the summer. This included discussions with representatives of Santa Fe County, in particular Open Space & Trails director Paul Olafson and Cherie Scheick of Southwest Archaeological Consultants, on behalf of the Design Workshop team preparing the management plan for Thornton Ranch/Petroglyph Hill; regular interaction with federal land managers such as Paul Williams and Sarah Schlanger of the Bureau of Land Management and Bob Powers of the National Park Service, which included providing tours to congressional staff members concerned with the implementation of the act; coordination with representatives of The Archaeological Conservancy (Steven Koczan, Tamara Jager Stewart, Jim Walker, Gordon Wilson and San Marcos site steward Bill Baxter); working with landowners such as Buck Dant (Burnt Corn) and Billie Russell (Lodestar); visiting archaeologists, such as Douglas Schwartz (School of American Research), Steven LeBlanc (Harvard-Peabody Museum), Robert Preucel (University of Pennsylvania), Tim Pauketat (University of Illinois), Andrew Darling (Gila River Pima), and Lisa Lucero (New Mexico State University); and tours of parties from archaeology interest groups such as the Friends of Archaeology of the Museum of New Mexico and the Annual Pecos Conference (held in White Rock, NM in August).

Collectively, the various components of the Tano Origins Project in 2005 represent a heretofore unique opportunity. Expansion of research opportunities is providing excellent conditions for addressing the research problems of conflict and population movement for which the grant was issued. Outline of this research and preliminary conclusions are presented in the following pages. At the same time, the increasing prominence of the project has brought heightened visibility brings with it increasingly responsibility. Even as the course of research is taking us in unexpected directions, we are also making progress toward developing a new public archaeology for the 21st century.
Figure 1.2. The Western Galisteo Basin, illustrating location of sites and areas that were the focus of the Tano Origins Project in 2005 in relation to modern features.
2. **BURNT CORN PUEBLO: FIELDWORK AND ANALYSIS, 2005**

Research at Burnt Corn Pueblo in 2005 emphasized detailed evaluation of the site itself and associated collections, a process that included excavation, mapping, and laboratory analysis. Our previous excavation season at Burnt Corn, 2002, had sampled different contexts at the site, looking for chronological and architectural information as well as data concerning site preservation. This year our intent was to better understand the destruction event itself, requiring a new approach. Our strategy was designed to achieve this goal in a way that minimized our impact on the site. Fieldwork took place on the portion of the Burnt Corn managed by the BLM.

**Mapping**

Prior to the 2005 work only two maps of Burnt Corn Pueblo were available. The first, executed by H. P. Mera when the site was initially recorded in the early 20th century, is reasonably accurate but rationalizes the eroded mounds on the site into neat rectangles. The second, made by an Elderhostel team under the direction of Jay Peck of the College of Santa Fe in 1999 (Peck 1999), was a more accurate representation of the site as it is at present but was otherwise incomplete. A brief effort to make an instrument map in 2002 indicated the considerable time and energy that would be required to document the entire site in this fashion, so we elected to take two approaches in 2005: a GPS map of the site as a whole, and a topographic map of the plaza pueblo that was the focus of our excavations.

The GIS map (figure 2.1) was made by Greg Greene of the Cal Poly team. Greg recorded six macro-level features at the site:

1. Limits of roomblock mounds
2. Limits of artifact scatters associated with roomblock mounds
3. Large/extensive features
4. On-site vegetation
5. Excavation units
6. Looter’s pits

The complementary topographic map of the plaza pueblo, made by Steven Post and L. Badner, represents the most detailed recording of the portion of the site under detailed excavation.

**Excavations**

Our previous work at the Burnt Corn plaza pueblo in 2005 had begun the documentation of a distinctive structure. Unit 5, excavated in the southeast corner of the site, had exposed a collapsed wall of coursed masonry atop a diffuse layer of burned roof material with associated deposits. At least one burned adobe cross wall was indicated but not clearly defined, and excavation ceased before the floor was reached. Tree-ring samples from roofing material dated provided cutting dates of AD 1301-1302.
Figure 2.1. GIS map of Burnt Corn Pueblo (LA359) (G. Greene).
Excavations at Burnt Corn in 2005 were designed to build on this picture by exposing a larger contiguous area in a different part of the structure. Two units, 6 and 7, were established. Associated evidence, summarized here, is presented in more detail in the preliminary excavation report (Smith 2005).

Unit 6

Unit 6 was placed atop the central rooms of the northern roomblock of the plaza pueblo close to the eastern corner. Local topography suggested that deposits in this area may have been covered by the collapse of higher architecture to the west, implying good preservation beneath them. To our surprise, adobe architecture was encountered almost immediately beneath the topsoil. Further horizontal exposure documented the presence of two single-story rooms, A (south) and B (north), along with articulated walls defining related rooms to the south, east, and west. The eroded character of the northernmost wall prevented detailed assessment, although it is possible that it marked the exterior wall of the pueblo. The walls of the two rooms were plastered adobe and unbonded, abutting masonry walls to the east and adobe walls to the south. A and B were not directly connected; no doors were evident in room A, which was apparently an inner room off the plaza, and the single doorway in room B entered from the west.

Room A was completely cleared in the course of the excavations. Fill consisted largely of adobe wall and roof fall, with occasional large stones that may have been incorporated into the adobe matrix. Only one example of burned wooden roof material was present. Artifact content in these layers was low, dominated by fragmentary ceramics and tertiary debitage. Debris from the collapsed walls rested directly on the prepared adobe floor, which otherwise had minimal cultural material in association (fig. 2.2). A single, slab-lined hearth filled with white ash was sealed beneath the floor along the southern wall (fig. 2.3), and indications for subfloor features such as a storage cist and plugged postholes were noted elsewhere. Excavations continued to sterile in the northwest corner of the room, exposing 40-50 cm of trashy fill below the floor and above a natural substrate into which a single posthole had been cut.

Excavation exposed ½ of room B, which contained fill of similar character but a significantly higher frequency of burned roof material. Some of these charred latillas rested directly on the floor, which was poorly preserved in comparison with that in room A. Despite this, some evidence for subfloor features was noted. Artifactual material was equally scarce in room B, although some small finds were recorded that had apparently been stored in the ceiling.

Unit 7

Unit 7 was placed in the western roomblock of the plaza pueblo, which runs along the highest part of the ridge. Rough estimation from actual ground surface to the east suggested that up to .5 m of deposit may be preserved in this area, making this a probable one-story feature. We intended unit 7 to provide some comparison for our discoveries in unit 6 and to serve as an alternate excavation locus in case it was necessary. Accordingly a 1 x 1 m test was opened up and excavated to a maximum 15 cm below surface. A complex matrix of adobe wall fall was exposed without obvious wall alignments, indicating the general character of architecture in this area. At this point a decision was concentrate our efforts on unit 6, and work at unit 7 ceased.
Figure 2.2. Burnt Corn Pueblo, Unit 6, Room A, illustrating floor and related features (Photo: M. Smith).

Figure 2.3. Burnt Corn Pueblo, Unit 6, Room A, illustrating ash-filled, sealed hearth (photo: M. Smith)
Analysis

Laboratory analysis in 2005 focused on the materials excavated in the 2002 season. Processing of the artifacts curated in the Laboratory of Anthropology was completed, and a strategy for further evaluation of these materials along with those derived from the 2005 excavations was developed. Rikki Cohen is making considerable progress on ceramic analysis. One area of continued importance was datable tree rings; several dozen samples were sent to the Laboratory of Tree-Ring Research in Tucson, with results expected in mid-2006.

One area of significant progress in collections analysis has been the participation of Molly Toll, of the Office of Archaeological Services, Museum of New Mexico, to study the archaeobotanical collections. An addition recruit for the project is Alex Benitez, of George Mason University, who will be analyzing the lithics. Plans for evaluating the faunal material are in progress.

Preliminary Interpretations

The 2005 work at Burnt Corn provides a new picture of the site, its’ history and its’ destruction. First, it’s clear that the occupational sequence at Burnt Corn is more complex than indicated by the 2002 excavations. The presence of 40-45 cm of cultural fill below the floor of unit 6, room A is good evidence for occupation of the area prior to construction of the northern roomblock of the plaza pueblo. Of the two other units where subfloor excavations were conducted, unit 2 indicated that the structure had been placed on virgin soil without renovation, while data were ambiguous for unit 1. The presence of an apparently substantial earlier occupation in the vicinity of the plaza pueblo is thus the first good evidence for longer-term use of the area.

A more complex site history is particularly important given the tight time-range, AD 1290-1302, indicated by the 2002 tree ring chronology. Datable wood was obtained from the sub-floor cultural fill, and as we await the results for these specimens we can speculate that they will extend the beginnings of Burnt Corn to an earlier decade of the 13th century. If so, they may corroborate a previously-anomalous tree-ring sample (LTTR RG-4566) collected by Bertha Dutton from the surface of the site in 1962 with an AD 1272 cutting date. The 2002 dates from the plaza pueblo, 1301-1302, came at the end of the sequence, so if the new dates support our existing site chronology, they will indicate a substantial remodeling of the plaza pueblo or perhaps reconstruction of that building at the end of the sequence.

The architecture of the excavated area also has interesting implications for site history. The masonry walls exposed elsewhere at the site and in unit 5 of the plaza pueblo illustrated heterogenous construction techniques, to which adobe must now be added. The fact that the walls of rooms A and B were apparently constructed sequentially is particularly important given that, as part of the central “spine” of the roomblock, they would be at the core of any larger, planned unit.

All of this information bears on the common perspective that plaza pueblos are distinct categories of architecture, representing either large groups of migrants traveling together, foci of social integration, or defensive features (see discussion in Van Zandt 1999: 375). My previous interpretations of the Burnt Corn plaza pueblo suggested that the layout had particular symbolic
meaning for the inhabitants. This hypothesis, and others, must now be evaluated in light of the fact that the plaza pueblo superceded earlier structures, and that it may have been built over a period of time.

The limited evidence from within rooms A and B makes it difficult to assess patterns of room use. The hearth in room A would indicate some sort of domestic function, and Room B’s location deep within the structure would have made it appropriate for storage. Groundstone artifacts found in the collapse layers suggest that some activity took place on the roofs.

In both cases the absence of artifacts within the rooms is interesting. The clean floors in unit 6 resemble those exposed in units 1 and 2. In this regard the sealing of hearth and vents in room A is provocative. Despite small sample size, we can hypothesize that these circumstances are representative of the site as a whole. Thus not only does Burnt Corn appear to have been empty, but even “cleaned up” prior to destruction - with the critical exception, of course, of the corn. There are some indications of associated ritual deposits in the fill, but further analysis of artifacts and deposition will be required before this impression can be formalized or rejected.

The 2006 excavation data also make it clear that the destruction event itself was more complex than previous data had indicated. When compared to units 1-5, burned material is more scarce in Unit 6, particularly in Room A, where evidence of burning is largely limited to charcoal scattered through the fill. We presume that the absence of primary vigas across the site indicates post-fire salvage, but even if this had been conducted more thoroughly at Room A than elsewhere the general absence of smaller burned roofing material is distinct.

I’ve considered two possible scenarios, the first being that there was no roof on room A when the pueblo was destroyed. At present, however, I find it more compelling to argue that room A was roofed but unburned. The absence of a roof for any length of time prior to destruction would have left at least some fill, but in this case the collapsed debris lay right on the floor. Post-fire salvage of a preserved roof would also have been more thorough. Any remaining materials would’ve been exposed to the elements and poorly preserved, particularly if they were largely unburned and thus decayed more rapidly than the carbonized wood in more heavily burned areas. One additional clue to this situation is the presence of an ephemeral ash stain at the center of the floor of room A. If the roof was been intact, this might be a signature of embers falling through an open hatch.

If this logic holds up, it’s evidence that the conflagration of Burnt Corn was incomplete. It’s thus interesting to note that, although it was ubiquitous elsewhere, no burned corn was found in units 5-7. Since we’ve interpreted the depositional context of corn found in units 1, 2, and 4 to indicate that it was drying on the roofs when the fire occurred, I’m left with the impression that it played a critical role in the burning event. This may mean that corn served as a literal accelerant for a more widespread conflagration, such that places where corn was absent didn’t burn as thoroughly. Other options include that the corn itself was the target of destruction, with the buildings impacted only secondarily. I’m less convinced of this, however, since the evidence from Unit 5, in the southeast corner of the plaza pueblo, indicates heavy burning in the absence of corn.

In any event, we now have a much more nuanced picture of the history of Burnt Corn pueblo from founding to destruction. Completion of analysis of the excavated materials will fill many gaps. This wealth of evidence is by itself vindication of our conservative excavation strategy and will provide guidance for continued archaeological research in the Galisteo region.
3. PETROGLYPH HILL: ARCHAEOLOGICAL SURVEY, 2005

2005 marked the completion of our systematic survey of Petroglyph Hill, an area of land owned by Santa Fe county also called the “Thornton Ranch Tract” that forms part of the Burnt Corn/Petroglyph Hill Archaeological District (see fig. 1.2). Our work at Petroglyph Hill is in collaboration with the Open Space & Trails Division of Santa Fe County and Design Workshop, which is developing a management plan for the property in association with Cherie Scheick of Southwest Archaeological Consultants. A third contributor to the Petroglyph Hill work is Marit Munson, of Trent University in Ontario, who has recorded the Petroglyph Hill site itself (LA 148959). Our fieldwork is thus designed both to support the land managers and to provide archaeological data that is comparable with that generated by other activities of the TOP.

The Petroglyph Hill tract contains an estimated 1438 acres in sections 28, 29, 31, and 32 of Township 14 N, Range 9 E, Santa Fe County. Survey of this area represented a unique opportunity for documenting an upland area of the Galisteo Basin away from known centers of Ancestral Pueblo population. Petroglyph Hill itself, clearly a focus of some sort of ritual/ceremonial activity, represented an additional attraction, offering the opportunity to better understand the context for such sacred locales. Following the methodology described in our 2004 report (Snead 2005), Field Director Genevieve Head, Crew Chief Adam Sullins, and a largely volunteer crew worked episodically throughout the summer and early Fall of 2005 before completing the effort in October. The survey itself was far more complex than originally anticipated, both due to higher site density and to the challenge of sorting out the complex surface scatters that represent the majority of cultural features in the area. Data and comments that appear below are thus only summary in nature pending completion of a final report.

Summary of Results

The survey team recorded 116 sites at Petroglyph Hill in 2006, bringing the total number of sites in the survey area to 182. There were also a total of 292 isolated occurrences (Fig. 3.1). As of the time of writing this represents the largest systematically-surveyed contiguous acreage in the Galisteo Basin.

Chronology

The general chronology of the sites recorded in 2006 is depicted in Table 3.1. As with all dating based on artifact chronology, this information is highly preliminary. This is particularly acute in the Galisteo case for sites dated on the basis of ceramics, given the questionable status of Galisteo B/w both as a type and as a chronological index. Since all dates between AD 1250 and AD 1350 are based on varying frequencies of Santa Fe B/w, Galisteo B/w, and Agua Fria G/r, considerable fine-tuning will be required to increase the accuracy of dating for sites in this period. It’s also important to note that a significant proportion of the sites, primarily lithic scatters, do not contain chronologically diagnostic materials and are listed as “unknown.”

In overall terms, early occupation of the surveyed area appears quite low. The very small number of sites that date to the Archaic period is perhaps skewed by the absence of diagnostic artifacts in lithic scatters, although in the Burnt Corn survey there were also a notably low percentage of Archaic sites. The low number of Basketmaker/Developmental sites is in keeping
Table 3.1 Summary chronological information for the 163 sites recorded at Petroglyph Hill dating to the 17th century AD and earlier. Site type categories (abstracted from a more comprehensive list) include (1) Structures w/scatters; (2) Structures w/o scatters; (4) Ceramic scatters (either pure ceramics or ceramics w/few lithics); (5) Lithic scatters (either pure lithics or lithics w/few ceramics); (6) Sherd & lithic scatters (indic. Probability of contemporary use); (8) Groundstone w/associated scatter; (10) Grinding slicks, (11) oblique grinding slicks, (13) petroglyphs w/scatters, and (15) other. In addition to the sites listed here, five sites were recorded that had post-AD 1600 dates with no further detail, and 14 sites dating to the post-AD 1800 period.

with other Galisteo survey data (Lang 1977: 22). These patterns may be the result of terrain bias, since the upland country around Petroglyph Hill would not necessarily have been a focus of subsistence strategies prior to the Puebloan period. However, the presence of Archaic petroglyphs at Petroglyph Hill itself does suggest some regular use of the vicinity in earlier times.

The overall impression derived from the chronological data for sites dating to the Puebloan period is that episodic use of the vicinity during the Tesuque and Pindi phases of the Coalition Period is followed by a dramatic expansion of settlement at the end of the 13th century. This trend continues into the early Classic, with significant frequencies of Glaze A ceramics present. There is reason to be skeptical of the details of this pattern at present - for instance, it’s hard to explain why half of the small structures recorded appear to be pre-1300 in date, while the vast majority of artifact scatters date to 1300 and after - but the overall trend seems clear. It is also worth noting that there is no distinguishable “hiatus” in settlement across the Coalition-Classic divide, despite the fact that this period is characterized by dramatic transformation of other elements of the settlement system.

The implications of intensive use of the landscape between AD 1250 and 1400 makes the subsequent falloff of activity particularly dramatic. The presence of post-Glaze A type ceramics is minimal across the survey area, a low frequency that extends right into the historic period. Further unpacking of the chronological data will, of course, clarify this pattern.
One interesting element of settlement chronology at Petroglyph Hill is the presence of an ephemeral occupation during the early colonial period. This evidence is associated with a single site, located along Arroyo Sin Nombre at the southwestern margin of the survey area, and includes soup-plate ceramic forms as well as square-headed nails. Sites of this era are quite rare, and the general evidence here suggests some pattern of short-term activity by Spanish colonists, probably based in the adjacent Galisteo lowlands, rather than Pueblo people (Dede Snow, personal communication, 2005).

Site Types

As evident in Table 3.1, artifact scatters were the dominant site type, accounting - in their various forms - for 92% of the total. The 118 sites of this type account for 65% of the total. As an aggregate this category subsumes considerable diversity, since it lumps extensive and low-density lithic scatters with localized and high-density ceramic scatters. This problem would be further exacerbated if isolated occurrence “pot drops” were also included. In general, artifact scatters reflect land use that ranges from raw material procurement activities to extensive agricultural practices to the remains of small field shelters used for the monitoring of crops.

As we look at these scatters in greater detail, more specific patterns should be identifiable. In our recorded strategy, for instance we factored out sites with associated groundstone artifacts or grinding slicks, which may provide better information for activity patterns. We’re interested in the possibility that some of the grinding evident at these locations was part of ritual practice associated with Petroglyph Hill.

The 14 structures recorded represent a good sample of residential patterning in the Petroglyph Hill area. Most of these appear to be small 2-4 room farmsteads, or in some cases larger field houses. The share many similarities with those present in association with the Burnt Corn community immediately west (cf. Snead 2001). The relatively low density artifact scatters associated with these sites will require further evaluation; at present they seem to represent fairly brief occupations. Their dates accord with the general pattern for all sites, in that they were occupied during the period of most significant activity in the survey area.

There is some clustering evident in the structure data. A group of these “farmsteads” was recorded adjacent to the SW boundary survey area along Arroyo Sin Nombre, which would have represented a good locale for dryland farming. This cluster - the first such unit identified away from the major pueblos in the area - is significant enough to suggest that it may represent a functional social unit of some sort, perhaps a hamlet, and has been provisionally designated the “Arroyo Sin Nombre community.” The surface chronology suggests that it was roughly contemporary with Burnt Corn, making it either a close neighbor or perhaps a specialized farming community used by residents of Burnt Corn itself.
4. **LODESTAR: FIELDWORK, 2005**

Archaeological research on the Lodestar Sites began in 2005, when I was contacted by the Archaeological Conservancy (TAC) regarding the Lodestar Ranch. Located south of the town of Cerrillos, the property contained numerous archaeological sites. Billie Russell, co-owner of the land, was interested in deeding two of these sites to TAC, and as one of the conditions of the transfer requested that archaeological research be conducted. The opportunity for fieldwork in an area close to Burnt Corn was welcome, and we submitted a proposal for mapping, surface analysis, and limited test excavation. Under my overall direction the work was to be conducted by Field Director Mark Allen, of California Polytechnic University - Pomona, with a staff of his trained undergraduate students.

Lodestar is located approximately eight km west of the Burnt Corn/Petroglyph Hill Archaeological District. Of the four structural sites known at Lodestar, two - Lodestar North and South - were the principal targets of investigation. Previous recording of archaeological sites in the vicinity consisted of general reconnaissance and mapping, first by Harry Mera and then by Bertha Dutton and others associated with the Galisteo Dam survey project in the early 1960s. This work documented an Ancestral Pueblo landscape of small structures - either farmsteads or field houses - with few of the larger aggregated settlements. Little additional information was collected, and no systematic survey conducted. More recently, several small sites of this type were documented by Jager (1995), who also noted a more general pattern of site clustering.

<table>
<thead>
<tr>
<th>Name</th>
<th>LA #</th>
<th>Other #</th>
<th>Description</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lodestar South</td>
<td>590</td>
<td>105759</td>
<td>Two small structures</td>
<td>Jager 1995, Allen 2005</td>
</tr>
<tr>
<td></td>
<td>9146</td>
<td></td>
<td>One small structure, “kiva.” Burned?</td>
<td>LA site files</td>
</tr>
<tr>
<td>Waldo Site</td>
<td>9147</td>
<td></td>
<td>One small structure, “pithouses.”</td>
<td>Hammack 1971</td>
</tr>
<tr>
<td></td>
<td>9148</td>
<td></td>
<td>One small structure, near LA 9147</td>
<td>LA site files</td>
</tr>
<tr>
<td>Lodestar “Center”</td>
<td>107127</td>
<td></td>
<td>One small structure</td>
<td>Jager 1995/Allen 2005</td>
</tr>
<tr>
<td>Lodestar North</td>
<td>na</td>
<td></td>
<td>One small structure, pit features</td>
<td>Allen 2005</td>
</tr>
<tr>
<td>Farrell Site</td>
<td>na</td>
<td></td>
<td>One small structure</td>
<td>Allen 2005</td>
</tr>
</tbody>
</table>

Table 4.1. Small structural sites previously recorded in the Cerrillos-Waldo area. All of these sites are of adobe/masonry construction, located on terraces above the Rio Galisteo or adjacent major tributaries, and are provisionally dated to the Coalition period on the basis of B/w ceramics.

Prior to 2005 only one of these sites had ever been excavated - LA 9147, also known as the “Waldo Site” - a linear adobe/masonry structure containing four rooms with one associated jadal room and two adjacent “pithouses” (Hammack 1971: 97). No datable wood was present, although the associated Santa Fe B/w ceramics suggest a Coalition-period date. The excavator interpreted the relatively low density artifact scatter as an indicator of seasonal occupation (Hammack 1971: 117). Our work at Lodestar thus represented an opportunity to collect information that was both unique in its local context and closely comparable to that derived from our work upriver at Burnt Corn. The following sections are derived from Allen (2005).
Figure 4.1. The Lodestar Region, illustrating the distribution of known sites in the Lodestar Cluster. Note that the “North Site” as listed here was subsequently renamed the Farrell Site (Map: G. Greene).
Mapping

GIS mapping was conducted at both Lodestar North and Lodestar South, with additional mapping conducted at Lodestar “center” and the Farrell site. In an effort to test the utility of this technique, recording was conducted at various scales. The mapping of Lodestar North, for instance, included point-plotting of surface artifacts (figure 4.2). Mapping of the other sites was less intensive. The overall impact of this approach has been to generate standardized information for all of the four sites in the Lodestar cluster.
Excavations

Lodestar North

As evident in Figure 4.2, five cultural features - one small masonry structure and four depressions - are evident at Lodestar North. Two subsurface tests were conducted: Unit 1, a 2 x 1 m excavation placed in the small structure (feature 1), and Unit 2, a 5 x 1 m excavation placed in the largest depression (feature 4).

Unit 1 was designed to investigate subsurface deposits within a room of feature 1. In particular, we were interested in the aspects of architecture, construction, and site history. The unit was placed along the inside face of the east wall of the structure and deposits cleared to a prepared clay floor at 60-65 cm below datum. A 30 x 30 cm test was made in the SE corner of the unit, encountering sterile soil at roughly 75 cm below datum; an additional auger test in this unit reached a depth of 102 cm, confirming the sterile nature of the deposit. The wall itself was made of coursed, unshaped fieldstones with adobe matrix (fig. 4.4); the fill above the Unit 1 floor was primarily compacted adobe, with some intermixed cultural material. The presence of artifacts and ecofacts increased directly above the floor, many of which showed evidence of burning.

Feature 4 was a shallow depression 15 m in diameter and roughly 20-30 cm in depth. This surface evidence suggested the possibility that the feature may have been a great kiva or some similar subterranean feature, a hypothesis that Unit 2 was designed to test. The trench was oriented from the center of the feature outward to bisect the “rim” and provide information regarding its’ construction. It quickly became apparent that no formal wall or deep cut was present; instead, a gradual downward slope excavated into the caliche led to a slightly steeper pit cut; the maximum depth of the feature appears to have been a level surface @ 42 cm below modern ground level. Material excavated from the center of the depression was cast outward, creating a deposit of discarded field stones and gravel. Very little cultural material was present in any deposits associated with Feature 4, although some possible ground stone artifacts were found in the fill. Although no datable material was present, the absence of pick marks or other signs of historic digging are strong indicators of Ancestral Pueblo construction.

Lodestar South

Lodestar South presented a somewhat more complex situation than Lodestar North, with two distinct masonry structures and six additional surface features associated with a diverse artifact scatter. Two excavation units were implemented, on in each structure; a 2 x 1 m unit in feature 2 (Unit 1), and a 3.5 x 2 unit in feature 1 that was designated units 2 and 3. Both units were designed to collect evidence complementary to that derived from unit 1 at Lodestar North and provide a good comparative sample from structures of this type.

Unit 1 was placed in the center of feature 2, a small structure measuring 22 x 12 m. Excavation exposed two parallel, N-S oriented walls of coursed masonry/adobe construction separated by @ 35 cm, one of which represented the east wall of an otherwise undefined interior room. The fill was compacted adobe matrix with architectural stone that showed considerable indications of burning. A low density of artifacts, charcoal, etc. were also associated with this layer. The floor was poorly defined, with sterile soil encountered at @ 80 cm below the surface.
Figure 4.3. Lodestar North, Feature 1, illustrating distribution of masonry rubble and the location of Unit 1 (M. Allen).

Figure 4.4. Lodestar North, Unit 1 profile (M. Allen).
Feature 2 is a small structure measuring 12 x 5-6 m. Excavations of units 2 and 3 in this feature exposed a complex series of coursed masonry/adobe walls that appear to have defined exterior space, perhaps representing footings for a ramada or similar perishable structure. No floors were defined, with sterile soil contacted at @ 46 cm below the surface. Artifact densities were relatively low, with some associated charcoal and a deposit of burned clay placed along the “inside” of one of the primary wall features.

Analysis

Artifacts and ecofacts collected in the Lodestar excavation were processed at the Laboratory of Anthropology. This material will be analyzed together with that derived from the Burnt Corn collections. The excavated collections from the Waldo Site are also curated there, which will provide another source of comparative material. Additional wood samples were also sent to the Laboratory of Tree Ring Research in Tucson (LTRR) in March 2006 for dating.

Preliminary Interpretations

Pending completion of additional plans and profiles from Lodestar, interpretive remarks are highly preliminary. One missing element is good chronology, since unless dates can be derived from the tree-ring samples we can only identify these sites as contemporary by ceramic phase, which masks considerable variability. However, the existing evidence points in several promising directions.

Overall, the location of the Lodestar sites - flat terraces overlooking alluvial bottomlands - is obviously appropriate for small-scale farming. This pattern is dominant throughout the vicinity. The small structures at Lodestar are also spatially related, with a certain degree of intervisibility between them, implying that they were built in relationship to each other. Their size - probably 3-4 interior rooms each, with associated ramadas and other external features - is appropriate for use by extended families. Thus even in the absence of a large number of tree-ring dates we’re assuming that the Lodestar sites represent a small “community” of perhaps several dozen people (cf. Jager 1995).

The spatial scale of this community isn’t known, and the construction of houses on likely spots to the east of Lodestar has probably erased some of the evidence. Further reconnaissance along likely terraces will clarify the picture. One key determination will be whether these were short-term or year-round occupations, since that bears on the nature of the “social unit” that the community represents. The Waldo site, for instance, is interpreted to have been used only seasonally (Hammack 1971: 117), perhaps serving as a field house for people based elsewhere in the region.

The density of the surface scatter at Lodestar North and South, however, exceeds that typically associated with seasonal occupations elsewhere in the region. Since neither of the structures appears to have been reconstructed - no evidence for multiple floors, for instance - this implies relatively intense use but perhaps over only a short period of time. Study of faunal materials may help in making this distinction. For the moment, however, I’m interpreting the structures at Lodestar as farmsteads - year-round residences for small family groups.

Our testing of one of the depressions at Lodestar North (feature 4) provides important insight into patterns of activity at farmsteads of the Coalition Period. Surface indications that
might have been interpreted as representing kivas or pithouses were instead revealed to be something entirely different - a constructed “pit” feature. Assuming that our association of these features with the Ancestral Puebloan occupation is sustained, they represent practices that have not been associated with the Coalition period population in this region.

Further research will be needed to clarify the function of these constructed depressions. They might represent borrow pits, for instance, providing adobe for construction, although the caliche deposits at Lodestar North would seem to have been a poor choice of building material. Cursory review of the literature also suggests a possible agricultural function; Richard Lang notes that “pits” were part of the Classic Period farming landscape at San Marcos, possibly to retain water or create a micro-environment for specific crops (1995: 55). It’s interesting to note that surface depressions have been noted at other, contemporary sites in the Lodestar area (see table 4.1). At a minimum, this suggests that cursory identification of “pithouses” and “kivas” at sites of this era must be reviewed.

Finally, if the Lodestar sites were farmsteads, then their relatively brief use and abandonment reflects an intriguing history. Two of the three structures excavated show signs of fire associated with their terminal occupations. Analysis of the domestic assemblages associated with the structures might provide further evidence for the nature of the destructive episode, but for the moment it’s likely that they were burned and left behind. No evidence for such destruction was reported for the Waldo site, but it’s interesting to note that the site record for LA 9146, a few km WNW of Lodestar, also notes surface signs of burning. Whether or not this pattern of burning is local or more regional, its’ presence is notable.
5. DISCUSSION

Brief remarks about the collective implications of the 2005 survey and excavation data for the broader goals of the project are in order. As stated in the original grant proposal, the critical requirement of a study focused on the relationship between migration and warfare in the Pre-Columbian Southwest was the establishment of better contexts and multiple scales. Our work in various Galisteo locales has moved us toward this goal, in the process providing important insights into the dynamics Ancestral Pueblo society in the region.

At the local scale, we not only have a better sense of Burnt Corn Pueblo, but in adding Lodestar to our sample have gained insight into a second “local” context. Despite initial impressions, there are considerable similarities between the two. The small structures in the Burnt Corn community resemble those at Lodestar, at least superficially, and the roomblocks were designed and built along similar lines. Even the brief occupational history of Lodestar echoes that of the smaller Burnt Corn roomblocks excavated in 2000, neither of which showed significant renovation. In fact, and taking terrain differences into consideration, the Lodestar community resembles the Burnt Corn community - a cluster of farmsteads associated with agricultural land - with the notable exception of Burnt Corn Pueblo itself. Lodestar is a community without an obvious center, while there is no doubt about the “center-ness” of Burnt Corn.

Lodestar and Burnt Corn also appear to have shared a similar fate. The fact that at least two of the excavated Lodestar farmsteads were burned is obviously significant when taken in the context of the destruction of Burnt Corn. These parallels, however, aren’t quite as clear as they might seem. The excavated contexts at Lodestar North and South represent a more “traditional” demise than that found at Burnt Corn; occupational surfaces topped by discontinuous, artifact-laden destruction layers and sealed by collapsed walls. This stands in contrast to the artificially clean rooms at Burnt Corn, the corn on some roofs and the systematic nature of the burning. Some of the scenarios that have been discarded for Burnt Corn - brush fires, for instance, or raiding - might be more plausible at Lodestar.

Chronology also complicates comparisons between the Lodestar and Burnt Corn communities. There are at present no calendric dates for small Coalition sites in the Galisteo Basin. We’re hopeful that some of the Lodestar tree ring samples will be productive, but they won’t compare with the detailed sequence now available for Burn Corn. Phase contemporaneity notwithstanding, we can’t determine whether Lodestar and Burnt Corn are sequential or contemporary. Even a difference of a generation would be crucial to understanding local settlement dynamics and the role that destruction played in them. I’m certain that the archaeological evidence to make these distinctions is available, but it’s not yet in hand.

In terms of the next scalar step, our evidence from Petroglyph Hill makes major strides in fleshing out the community landscape of the Western Galisteo. Petroglyph Hill was clearly a major shrine in the Burnt Corn era, and when analyzing more closely the survey data should reflect the role that this feature played in the lives of people living nearby. Information from the Sin Nombre community will be comparable to that from Burnt Corn and Lodestar, providing a third local settlement context. As of now I’m sticking to my argument that the highly clustered nature of the Burnt Corn community shows a concern for defense at the time the settlement was founded (Snead 2004), but the better we understand the broader landscape, the more this conclusion will be tested.
I’m particularly struck by the way the Petroglyph Hill data reflects changing patterns of land use before, during, and after the destruction of Burnt Corn. This area was the immediate hinterland of the Burnt Corn community, representing a significant portion of the available woodland resources and useful agricultural land for dryland farming. After the demise of Burnt Corn it’s probable that the landscape was used by people walking out from San Marcos. Changes in use patterns over this time will tell us a great deal about the two eras, but particularly about the broader associations of the Burnt Corn destruction. For instance, we’re currently trying to determine whether later populations re-used outlying sites of the Burnt Corn communities or avoided them, as they did Burnt Corn itself.

The 2005 data enhance our impression that the end of the AD 1200s in the Galisteo Basin was an era of exceeding complexity. In addition to the fieldwork summarized here, information on previously-recorded Coalition Period sites in the region continues to be assembled. A visit to the Lamy site (LA 27) in March 2006 confirmed that it was a major component of the 13th century settlement system and that it offers considerable promise for future research. The Lamy site resembles Burnt Corn in many ways; a large community house at the center of a cluster of smaller roomblocks - collectively referred to as the “Lamy Junction sites” - with evidence for a major construction episode in the late 1290s with little activity thereafter (Robinson et al 1973: 23).

Existing data for a cluster of 13th century sites in the vicinity of Las Madres (LA 25) is also under review. These include La Alesna (LA 8843), El Pipo (LA 8844), and Los Danitos (LA 8845), all recorded during the Las Madres project; and the nearby LA 83703 (Viklund 1990). Since it is generally assumed that Las Madres - reliably dated to the Coalition-Classic transition - is ancestral to the Classic/Historic Pueblo Galisteo (LA 26) immediately north (Dutton 1964), these sites provide a unique look at the development of a settlement cluster over several centuries.

We can also now add Lodestar to the sample of burned Coalition-period sites in the Galisteo Basin. The total now includes Manzanares and Pueblo Largo in addition to Burnt Corn; tree-ring samples derived from collections made at Pueblo Alamo in the early 1970s currently at LTRR may add this site to the list. The chronology remains suspect, and it’s possible that the destructive event at Lodestar preceded these others. It’s also important to note that destruction by fire was not restricted to the Coalition period, and has been identified at the late 14th century Wheeler site (LA 6869) to the west of Lodestar (Alexander 1971) and at Arrowhead Ruin (LA 251) near Pecos (Windes 2002: 509). Nonetheless, evidence for competition is growing, and indications that it was a complex and possibly multi-stage process is of considerable importance.

The implications of the 2005 fieldwork at these multiple scales are being channeled into plans for the 2006 season. The central theme of upcoming fieldwork is to bring lessons learned at Lodestar and Petroglyph Hill back “home” to Burnt Corn. Plans include completion of the survey of the Burnt Corn community core begun in 2000, to ensure comparability with the Petroglyph Hill data. With experience gained testing the structures at Lodestar, we also plan to conduct modest excavations in a sample of the small roomblocks in the Burnt Corn community beyond the central site. Chronology and comparative analysis will be strengthened by both of these initiatives. We’ll also collect further information from other Coalition communities with an eye toward future directions of fieldwork. Added to the ongoing analysis of excavated collections, these steps will position the Tano Origins Project to make a significant contribution to the study of population movement and conflict in the Pre-Columbian Galisteo Basin.
7. ACKNOWLEDGEMENTS

The Tano Origins Project benefits from the participation of many. National Science Foundation funding (BCS 0352702) provides the financial underpinning of the program. Logistical support at George Mason University was provided by Karen Secrist of the Department of Sociology and Anthropology. Permits for the Burnt Corn excavations were facilitated by Paul Williams of the Bureau of Land Management, Taos Field Office. Access to Burnt Corn and considerable additional support is contributed by Buck Dant, while a large part of the field team was housed by Linda Murnik and Hugh Nazor. The aid of Jim and Georgia Snead and the good nature of Aidan Jameson was particularly helpful.

The Burnt Corn excavation team was led by Monica Smith (UCLA), with assistance from Elizabeth Baker (UCLA) and Lab Director Rikki Cohen (LOA). The mapping team consisted of Steven Post (OAS) and J. Badner (OAS). Volunteer excavators included Bill Baxter, Barbara Chatterjee, Ondine Frauenglass, Becky Gilbert, Lilly Greenawald, Gary Hein, Jill Heppenheimer, Josh Heppenheimer, Lois Lockwood, R. Marchal, Sal Morreale, L. Schub, Joe Snead, Susan Stephens, Anne Weaver, and Tess Wilkes. Bob Powers and Mike Bremer provided essential assistance at a critical stage of the operation. Visitors in the course of the field season included Kurt Anschuetz, Andy Darling, Sunday Eiselt, Tim Kohler, Steven LeBlanc, Lisa Lucero, Tim Pauketat, Sarah Schlanger, Douglas Schwartz, and the members of several tour groups.

Most of the volunteers who worked at Burnt Corn were also participants in the Petroglyph Hill Survey, led by Field Director Genevieve Head. Adam Sullins served as crew chief. This part of the project was facilitated by Paul Olafson, of Santa Fe County, with GIS support from Erle Wright. Permitting through the NM Office of Historic Preservation was coordinated by Michelle Ensey. Cherie Scheick of Southwest Archaeological Consultants contributed information and useful commentary.

The Lodestar work was encouraged by landowner Billie Russell, who initially contacted The Archaeological Conservancy (TAC) and provided constant encouragement. Plans for fieldwork were spearheaded by TAC, particularly Jim Walker, with considerable encouragement from Tamara Jager. Gordon Wilson and Steve Koczan, also of TAC, assisted the field team. Rick Farrell helped the crew on practically a daily basis, with additional assistance from Lodestar associates Tatoo Tammie and Paul. Housing was provided by Chuck Cambron and his family at Casa Sinagua de Cambron. Mark Allen, who led the Lodestar team, was assisted by Becky Gilbert and Greg Greene. Additional Cal Poly participants were Jose Alvarez, Peter Carey, Claudia Castro, Christopher Duran, Elizabeth Joerger, and Barry Olson, Jr.

Laboratory facilities in Santa Fe are provided by the Laboratory of Anthropology/Museum of Indian Arts and Cultures, courtesy of Assistant Director Chris Turnbow. Here again Rikki Cohen provides essential aid. We’re also grateful for the ethnobotanical services of Molly Toll. There are numerous supporters of the Tano Origins Project from the local community and elsewhere who didn’t spend time in the field but have had a substantial impact nonetheless. These include Eric Blinman, Richard Ford, Lucy Lippard, Marit Munson, Annibal Rodriguez, Dede Snow, and Henry Wright.
8. PAPERS, PUBLICATIONS, AND REPORTS TO DATE

The following are works of the Tano Origins Project prepared under NSF funding:

Allen, Mark W.

Smith, Monica L.

Snead, James E.


Snead, James E., ed.

Snead, James E., and Genevieve Head

8. REFERENCES CITED

Alexander, Robert K.

Allen, Mark W.

Dutton, Bertha P.


Hammack, Laurens C.
1971 LA 9147: the Waldo Site. In Salvage Archaeology in the Galisteo Dam and Reservoir Area, New Mexico, edited by David W. Kayser and George H. Ewing, pp. 95-137. Laboratory of Anthropology Note no. 101. Museum of New Mexico, Santa Fe.

Lang, Richard W.
1977 Archaeological Survey of the Upper San Cristobal Drainage, Galisteo Basin, Santa Fe County. MS on file, School of American Research, Santa Fe, NM.


Lange, Charles H., and Carroll L. Riley, eds.

Nelson, Nels C.

Peck, Jay
Robinson, William J., Bruce G. Harrill, and Richard L. Warren
1973  *Tree-Ring Dates From New Mexico J-K, P, V Santa Fe-Pecos-Lincoln Area.* Laboratory of Tree-Ring Research, University of Arizona, Tucson.

Smith, Monica L.

Snead, James E.

2001  *Archaeological Survey in the Canada de la Cueva, Santa Fe County, New Mexico: Report of the 2000 Field Season.* Submitted to the Bureau of Land Management, Northeast District, New Mexico


Van Zandt, Tineke

Viklund, Lonyta

Windes, Thomas C.