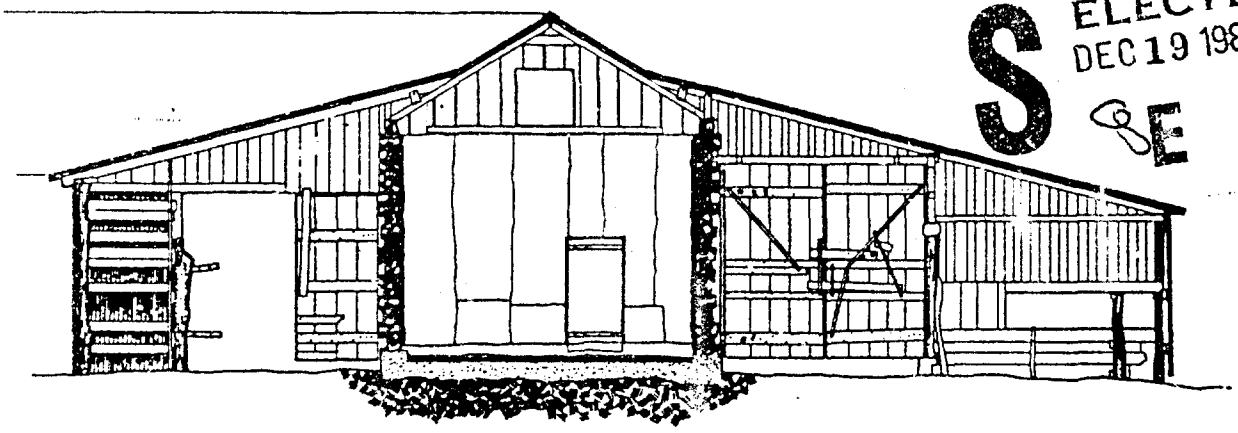
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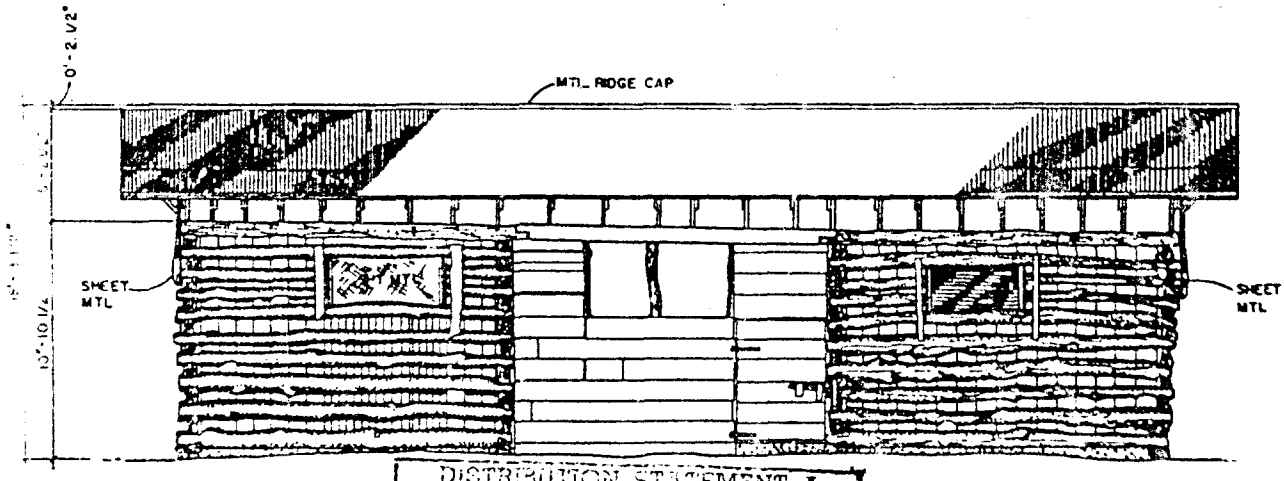
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VOL I: This volume contains the summary report of the prehistoric archaeological and paleo-ecological investigations undertaken by Southern Methodist University within the Joe Pool Lake Reservoir southwest of Dallas, Texas. Joe Pool Lake was constructed by the U.S. Army Corps of Engineers, Fort Worth District. The investigations were conducted to mitigate the impact of the proposed construction of the floodwater retarding structure, associated park facilities, and the eventual inundation of the lake area. This volume presents the results of the archaeological investigations of 6 prehistoric sites. The excavation of the sites revealed that the use of the Mountain Creek drainage was never very intensive during the prehistoric period. Excavation revealed primarily Lake Archaic and Late Prehistoric occupations. Keywords:
VOL. II: Historic archaeological investigations were conducted to mitigate adverse project impacts identified for 13 historic properties dating from the mid-nineteenth and early twentieth centuries and determined eligible for nomination to the National Register of Historic Places. Archaeological and architectural studies were focused on 9 landowners' farmsteads and 4 tenant farmers' dwellings. Most of the sites consisted of white landowners' farmstead (over)

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complexes with above average landholdings and layouts. The archaeological and architectural resources of Joe Pool Lake contain information on the evolution of an agrarian rural area near to a major urban center. Keywords: Archeology; Survey/testing; Cultural resources, (EDC)

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HISTORIC FARMING ON THE HOGWALLOW PRAIRIES

ETHNOARCHAEOLOGICAL INVESTIGATIONS OF THE MOUNTAIN CREEK AREA, NORTH CENTRAL TEXAS

JOE POOL LAKE ARCHAEOLOGICAL PROJECT
VOLUME II

complied by
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and Melissa M. Green

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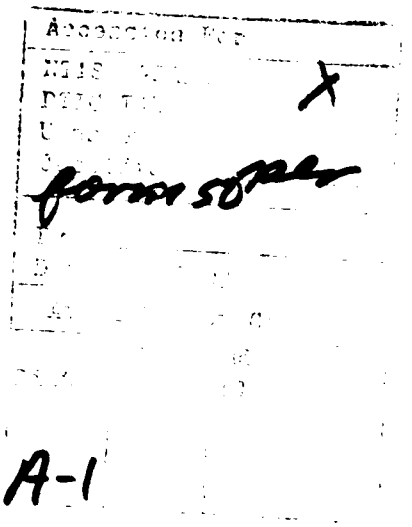
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Cover: HABS drawing of Large Log Barn from the Penn Farmstead (41DL192)
by Will E. Alexander
Environmental Consultants Inc., Dallas, Texas

HISTORIC FARMING ON THE HOGWALLOW PRAIRIES

ETHNOARCHAEOLOGICAL INVESTIGATIONS OF THE MOUNTAIN CREEK AREA, NORTH CENTRAL TEXAS

JOE POOL LAKE ARCHAEOLOGICAL PROJECT
VOLUME II



May 1988

Contract No.
DACW-63-84-C-0146

MANAGEMENT SUMMARY

Archaeological and historical investigations were conducted for 13 historic and 5 prehistoric properties (see Volume I) in the Joe Pool Lake project area between October, 1984 and July, 1986 by the Archaeology Research Program, Institute for the Study of Earth and Man, Southern Methodist University. Joe Pool Lake will impound 7,400 acres along Mountain and Walnut Creeks in Dallas, Tarrant, Ellis, and Johnson Counties. The U. S. Army Corps of Engineers, Fort Worth District constructed the lake to provide flood protection. An additional 5,100 acres of park lands will also provide recreation facilities for Dallas and Fort Worth.

Historic archaeological investigations were conducted to mitigate adverse project impacts identified for 13 historic properties dating from the mid-nineteenth and early twentieth centuries and determined eligible for nomination to the National Register of Historic Places. Archaeological and architectural studies were focused on 9 landowners' farmsteads and 4 tenant farmers' dwellings. Historic sites with mid-nineteenth century components included Loyd (41TR39), Anderson (41DL190), and Penn (41DL192). Late nineteenth century components were present at these 3 sites, as well as Lowe (41TR40), Reitz (41TR45), Marrs (41TR48), Holveck (41DL183), Pool (41DL191), Titterington Tenant (41DL267) and Titterington (41DL268). Sites with predominantly twentieth century occupations were Bowman (41TR42), Hintze (41DL181), and Hintze Tenant (41DL196).

Investigations were focused on the archaeological features, sheet refuse, architecture, archival records, and oral information related to these 13 properties. This interdisciplinary research was focused on gathering detailed information on local settlement and traditional lifeways using the 13 sites as a data base. An explicit research design was formulated to focus all of these studies and to provide a framework for deriving important results.

Most of the sites selected for study consisted of white landowners' farmstead complexes with above average landholdings and large layouts. Sheet refuse deposits common to rural Texas farmsteads were not as dense as those recently identified in other rural areas of North Central Texas. The large farmstead layouts have tended to disperse sheet middens across broad areas, making artifact densities light in any one spot.

Root cellars and storm cellars were common; stonelined well shafts and frame granaries were also very common. Based on architectural investigations, horizontal log construction was not a common technique used on the North Central Texas Frontier. Instead, hewn and sawn timber frame buildings using mortise and tennon joinery was the dominant construction technique. The four tenant sites revealed smaller, but denser, sheet refuse middens and compact active yards. Brick was common on all sites and at the Anderson Plantation was used to construct a large, elaborate storm cellar. All farm tenant sites were occupied by white families based on oral information. No black or hispanic tenant sites were among the group of sites identified for receiving data recovery. General Land Office records provided a means of reconstructing the initial land divisions and the vegetation at the time of settlement.

The archaeological and architectural resources of Joe Pool Lake contain information on the evolution of a rural agrarian area near to a major urban center. This Mountain Creek region is comparatively unique for North Central Texas in terms of its topographical and ecological setting. The Joe Pool Lake historical investigations provide an initial understanding of the rich history of this area and the long farming traditions that were pursued until the 1920s.

ACKNOWLEDGEMENTS

The Joe Pool Lake Archaeological Project benefited from the dedication, assistance, and support of many people. The interdisciplinary nature of its work involved numerous field personnel, analysts, writers, consultants, and support staff. We owe a large debt of gratitude to all of these individuals. We are also very grateful to the general public for their deep and sincere support. The hundreds of interested local Metroplex residents and the highly curious, but largely nameless, stray visitor always provided us with fresh enthusiasm. Recorded attendance at the Penn Farm Open House, for example, numbered over 1,400 vistors in just three days. This kind of public support and personal interest in the local heritage makes it mandatory that archaeologists return back to the public some of the fruits of their labors whenever possible. After all, without strong public support archaeological projects such as Joe Pool Lake would not be possible.

First and foremost, we thank the U.S. Army Corps of Engineers (CE), Fort Worth District and all of its staff who contributed their time and expertise to the project. In particular, we thank Mr. Stephen Helfert, Mr. Daniel Prikryl, Ms. Karen Scott, Ms. Sally Werst, Mr. Erwin Roemer, Jr., Mr. Larry Bogue, Mr. Michael J. Mocek, Mr. E. E. Blalock, Ms. Karen R. Smith, and Ms. Debra L. Pulling. Mr. Erwin Roemer, Jr., deserves additional thanks for his thorough review of the final draft and his many helpful comments and constructive criticisms.

We also wish to extend special thanks to CE archaeologist, Mr. Robert Burton, who made many important contributions to the project. His personal input resulted in the scheduling of several public events and the publication of a brochure written specifically for a lay audience to convey archaeological and historical results in non-technical language. Mr. Burton conceived of these and many other important facets of the Joe Pool Lake Project, and we are greatly indebted to him for his contributions, constructive comments, personal guidance, encouragement, and frequent communication. His assistance did much to insure project success.

Special thanks also go to the staff of the Texas Parks and Wildlife Department (TPW) who helped coordinate the field efforts. In particular, we thank Mr. Ronald W. Ralph, Dr. Wilson E. Dolman III, Mr. Dennis E. Cordes, Mr. Barry W. Hutcheson, and Mr. Ed L. Werland, and Park Ranger John Ratcliff. Mr. Ralph provided valuable comments on our research interests and field work. Mr. Cordes provided important information and photographs on the Penn Farmstead, as well as on the Anderson Plantation.

A great deal of appreciation goes to the field and laboratory crews who worked despite the physical discomfort imposed by summer's heat and winter's chill. The field crews worked steadily and often put in long hours to make sure the job was completed properly. Likewise, laboratory workers put in long, tedious hours washing, identifying, and cataloging artifacts from both prehistoric and historic sites. The ultimate success of this project was due in large measure to their collective efforts. Many thanks are also extended to the supervisory personnel who put in many hours of their own time to complete maps, forms, and computer processing so that the project could run smoothly.

Susan Lebo and David Jurney served as supervisors during the two seasons of investigations. Melissa Green directed the laboratory efforts. Patricia Easley was a tremendous help as artifact washer, data entry person, and general gal Friday to the lab director. Field and lab crew members who worked long but appreciated hours include: Jim Blagg, Keith Boen, Jeffery Bohlin, Pamella Carmichael, David Crass, Mark Cravalho, Don Dorward, Ray Frye, Steven Hunt, Paul Lorrain, Debbie Marcaurelle, Gemma Mehalchick, Stephen McCrum, Curtis McKinney, Douglas Peter, Kathleen Sparkes, Richard Stallings, Louis Sardelli, and Kay Taylor. Don Dorward also is to be acknowledged for the excellent work he did as assistant on the dendrochronology and architecture survey, as well as the other architecture related tasks he worked on.

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The efforts of numerous volunteers were critical to the success of the Penn Farm Open House, and we wish to thank all who donated their time and resources to help promote public awareness of our heritage. The following members of the Dallas Archeological Society played key roles in operating visitors' booths, first aid stations, and assisting with parking and transportation of visitors to and from the site: John Kothmann, Kelly Thurston, Kent Ubil, Becky Ubil, Vic Armstrong, Frank Stone, Steve Cox, Ruth Ann Ericson, Doyle Granberry, Jane Hendrix, Bill Parnell, Jan Sarrett, Paul Lorrain, Jim Smith, Lorna Smith, Virginia Wilson, Brenda Whorton, Bonnie McKee and Ruthelle Wilson. Members of the Dallas Amateur Radio Club also assisted with this event. They include: Vic Armstrong, Vern Berry, Jim Birdsong, Bob Bost, Bob Burks, Jim Burks, Mark Collard, Cliff

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The support and interest from the local residents of the Joe Pool Lake area was greatly appreciated. To both the Goldman family and the Penn family, particularly Lou and Lovell Penn, a deep appreciation is expressed. Without their time, little would have been know of their family histories in the Mountain Creek area Assisting in many ways were the Cedar Hill Historical Society, the Duncanville Historical Society, and the Grand Prairie Historical Society. Other local citizens, in particular, were Donna Emerton, Joe Cannady, Lois Cannady, Annette McMullen, Allen Russell, Brenda Russell, Ray Taylor, Philip Berchtold, and Charles Miller.

The Joe Pool Lake Archaeological Project could not have been successful were it not for the development of a coherent research design. The original research design was developed by Duane Peter (prehistoric portion) and Randall Moir (historic portion), with the assistance of Dr. Mark Raab, James Bruseth, David Jurney, and Daniel McGregor.

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We are grateful to all of the unnamed professionals who may have reviewed the drafts of these manuscripts, provided constructive criticism, and offered suggestions which improved the quality of the report.

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Finally, many thanks are extended to those who authored and produced these volumes. These people deserve special recognition for their professionalism and willingness to undertake and complete difficult tasks under tight deadlines.

Randall W. Moir, Director
Archaeology Research Program

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INTRODUCTION AND RESEARCH DESIGN

1

by

Randall W. Moir

Joe Pool Lake is a flood control and multiple use reservoir located in southwest Dallas County and southeast Tarrant County in North Central Texas (Figure 1-1). Construction began in 1979. The 22,360 ft long dam will impound a 7,470 acre lake along Mountain and Walnut Creeks at conservation pool level of 522 ft (msl). During active flood control, the pool may raise another 14 feet and extend its limits another 3,470 acres. In addition to providing flood protection, the Lake is surrounded by about 5,100 acres of public parks and another 2,500 acres of project lands (see Figure 1-2 and Table 1-1). Construction of this reservoir is being funded by the U. S. Army Corps of Engineers, Fort Worth District, Fort Worth, Texas. This report presents the results of archaeological data recovery conducted for 13 historic properties in the Joe Pool Lake Project area under contract DACW63-84-C-0146.

Four stages of archaeological and historical investigations have been conducted in the Joe Pool Lake Project area between 1977 and 1986. All of these investigations, with the exception of some historic archaeological research and fieldwork subcontracted to North Texas State University, have been carried out by Southern Methodist University. The thirteen historic sites (Table 1-2) intensively studied and presented in this report were occupied at various periods from the late 1850s up to the 1970s. Investigations have included archival and ethnological research, as well as archaeological and architectural fieldwork and analyses. Since the current study is a direct extension of previous research, it is useful to review briefly these earlier studies.

PREVIOUS INVESTIGATIONS

There were three archaeological investigations of historic properties in the Joe Pool Lake Project area prior to data recovery conducted in 1985-6. These three earlier studies were implemented between 1977 and 1981. We confine our review in this report to the historic portion of the work.

The earliest historical research associated with Joe Pool Lake was conducted between 1977 and 1979 and was supervised by Dr. S. Alan Skinner (Principal Investigator), Dr. Mark Lynott, and Ms. Deborah Connors. At that time, Joe Pool Lake was referred to as Lakeview Lake and the results of their investigations were published by SMU (Skinner and Connors 1979). A total of 25 historic sites were recorded and each consisted of a standing structure or structures. In addition many sites also contained wells, windmills, cellars, and standing outbuildings. Only two historic artifact scatters lacking any evidence of extant structures were noted (i.e., 41DL188 and 41TR58; Skinner and Connors 1979:35) primarily because of their co-association with prehistoric artifacts. No test excavations or surface collections were undertaken and site documentation consisted entirely of field observations, notes, and occasional photographs supplemented with brief informant data (Skinner and Connors 1979:23-35). Contractual obligations at the time specifically restricted fieldwork to surface reconnaissance and walkover without subsurface examinations using test excavations (Raab 1982:2).

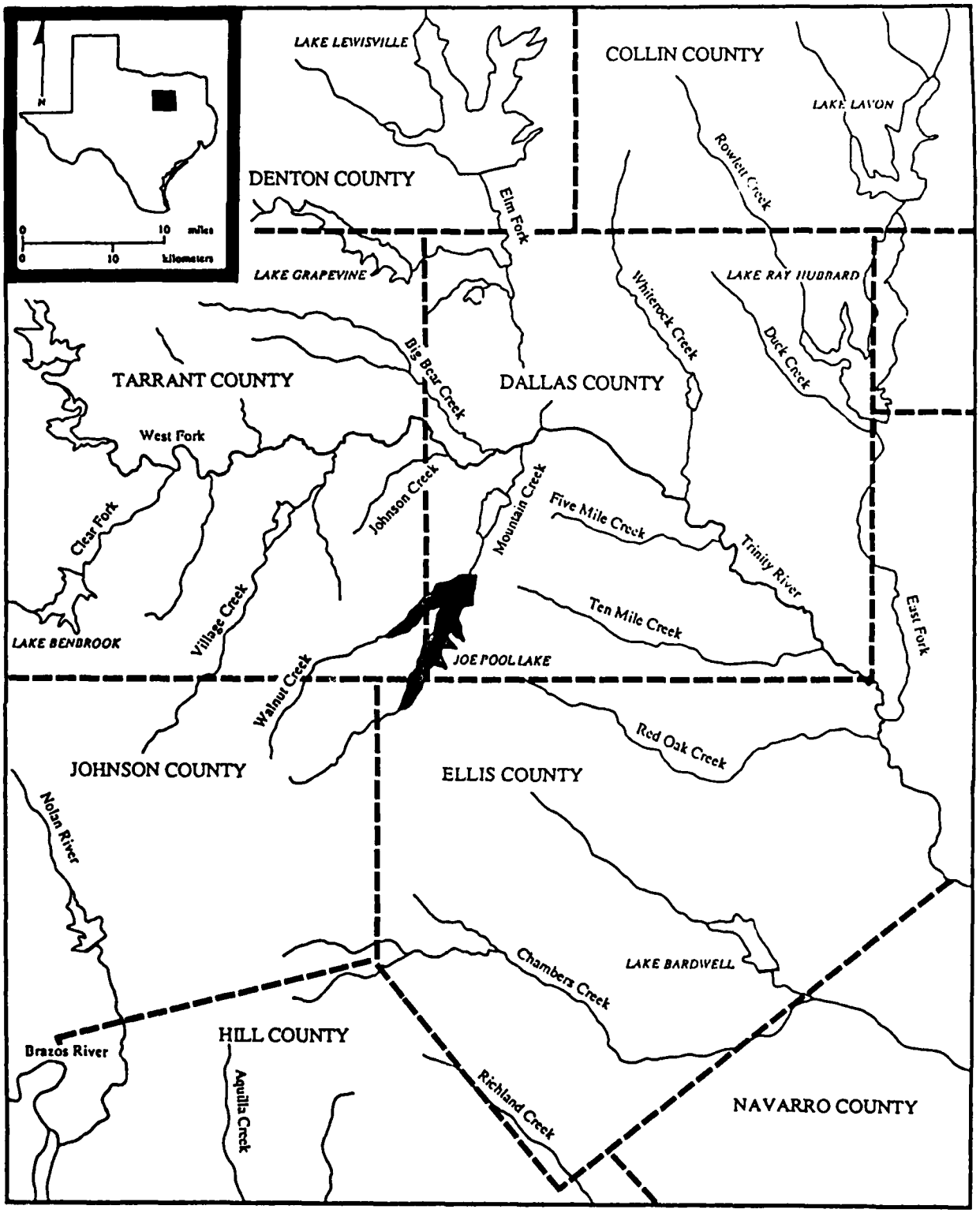


Figure 1-1. Location of Joe Pool Lake, North Central Texas.

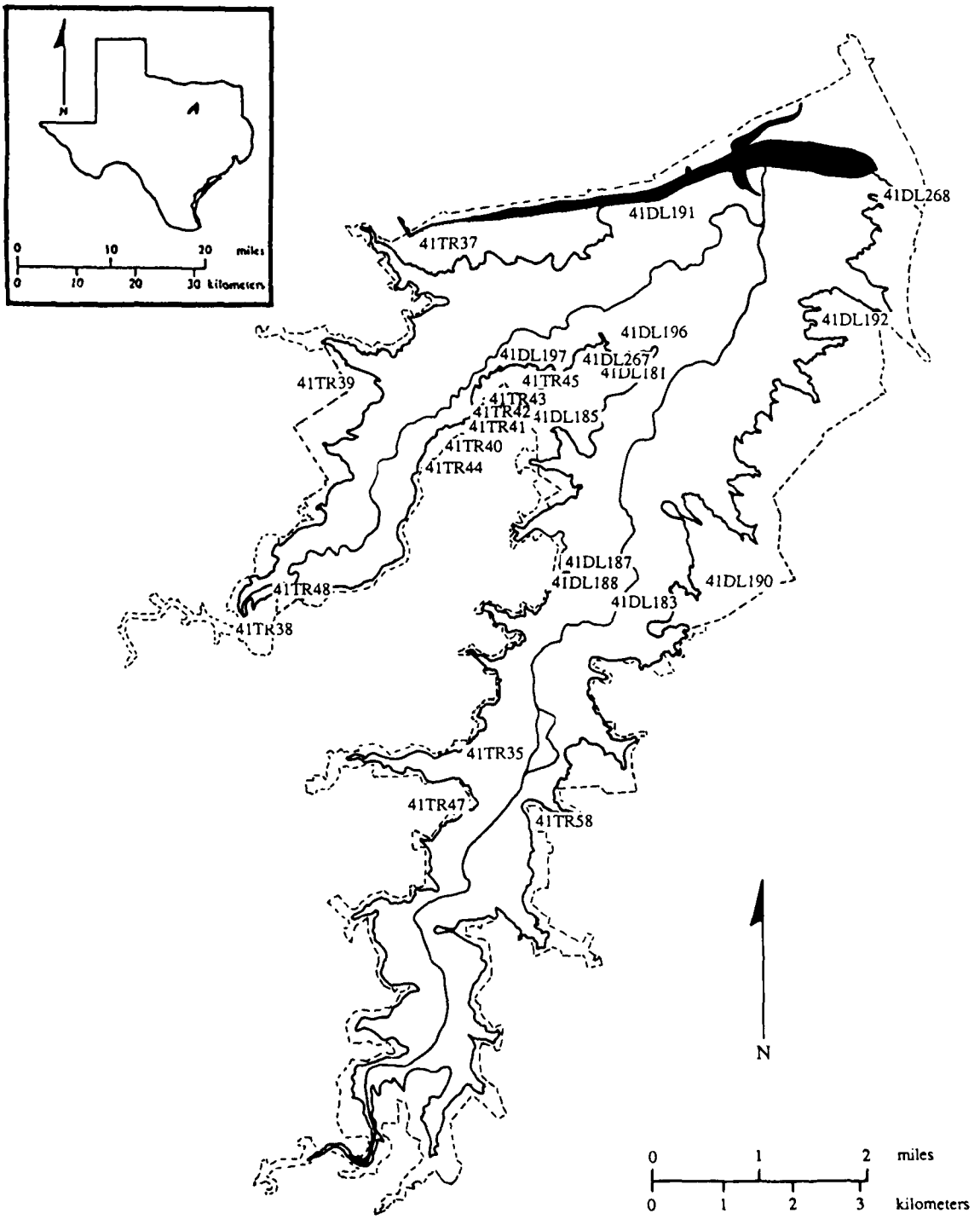


Figure 1-2. Location of Project Boundaries and Sites in the Joe Pool Lake Project area, North Central Texas.

Table 1-1
PHYSICAL SIZE OF JOE POOL LAKE AND ASSOCIATED PROJECT LANDS

Land Type	Dimension (English)	Dimension (Metric)
Dimensions		
Compacted, Earth Filled Dam		
Length	22,360 ft	6815.0 m
Height above stream bed	109 ft	33.1 m
Crest (msl)	565 ft	172.2 m
Lake		
Conservation pool (msl)	522 a	159.1 ha
Flood control pool (msl)	536 a	163.4 ha
Area		
Lake		
Conservation pool	7470 a	3023 ha
Flood pool	10,940 a	4427 ha
Public Use Areas (Approx.)		
Lakeview State Park	2016 a	816 ha
Britton Park	129 a	52 ha
Pleasant Valley Park	224 a	91 ha
Lynn Creek Park	784 a	317 ha
Loyd Park	791 a	320 ha
Estes Park	1030 a	417 ha
Low Branch Park	155 a	63 ha
Project Lands		
Other Restricted use areas	undetermined	

The second investigation of historic sites in the Joe Pool Lake Project area was conducted by North Texas State University in 1979 and 1980 (Ferring and Reese 1982). Test excavations were conducted at four historic properties (41DL181, 41DL182, 41DL191, and 41DL196). In the report on their results, Ferring and Reese (1980:278-280) noted the general absence of archaeological studies of late nineteenth and early twentieth century sites in North Central Texas. Consequently, they made a strong plea for the potential value of studying these more recent periods in addition to earlier occupations. As a result of these recommendations, a third study was conducted between 1980 and 1981, and the historic sites originally noted by Skinner and Connors (1979:23-35) were evaluated in greater detail. Test excavations were conducted at four additional historic sites (41DL190, 41TR40, 41TR42, 41TR45) and standing architecture was documented for many sites (Ferring and Reese 1982:127-222). Several local citizens were interviewed and transcripts were made of the information collected. At the conclusion of this work, 11 farmsteads and one isolated grave were recommended to receive additional investigations and/or active preservation. Information on these properties prior to data recovery is presented in Table 1-2.

The investigations presented in this report are a direct result of the recommendations offered by Ferring and Reese (1982:223-234). All 11 historic properties suggested for further work were addressed by excavations conducted by SMU to recover significant data. A detailed research design was formulated to focus this work on specific remains and maximize results in a single field season. The research design is reviewed next.

RESEARCH APPROACH FOR HISTORICAL PROPERTIES

The research design formulated for focusing the data recovery program on historical properties in the Joe Pool Lake Project area included theoretical as well as methodological considerations which addressed a broad spectrum of corroborating resources. Standing architecture, buried material remains, documents, relic landscape vegetation, cemeteries, oral history, and informants were some of the cultural resources which proved useful for understanding local settlement and and past lifeways in the Project area. The following subsections provide a review of some of the assumptions behind the theoretical objectives in our approach to the mitigation of Joe Pool Lake historical properties. Following the lead taken by Ferring and Reese (1982:109-112), we have attempted to recognize the important contributions archaeology has to offer for studying late nineteenth and early twentieth century rural lifeways.

THEORETICAL FRAMEWORK

The archaeology of farmsteads, especially those post-dating 1850, is a comparatively recent endeavor (e.g., see Fox 1983:143-238; Grantz and Michael 1984). Historical archaeologists and material culture specialists are still coming to grips with formulating a meaningful framework within which one can view the rapid and broadscale technological and sociocultural changes that penetrated rural households since the eighteenth century. What is becoming clear, however, is the importance of farmstead archaeology and its value to contribute directly to our understanding of recent past. It is well known that archaeology can be expensive, and consequently, we generally do not use it to document historical facts and events that are already well understood. It would be frivolous, for example, to disregard well documented accounts of the settlement of the Mountain Creek area and turn to archaeology to gather various historical particulars concerning the precise year of earliest occupations. Instead, the archaeology of an early pioneer's cabin offers a look at some characteristics of the size, layout, construction techniques, and material possessions. Unfortunately, no initial settlers' cabins or cabin sites have been identified in the 16,000 acre Joe Pool Lake Project area. This is not a flaw in research, but rather a common occurrence due to the low visibility of short term, initial settlement, cabin sites, or the subsequent mixing of these remains by more recent occupations. There are, however, many other important research themes to pursue besides ones concerned only with the earliest settlers. The late nineteenth century in Texas is particularly notable for its socioeconomic divisioning and the expansion of the cotton agriculture system. Before we discuss many of these research themes in detail, we wish to make a few additional points.

Table 1-2
DATA ON SIGNIFICANT SITES PRIOR TO MITIGATION[1]

Name	TARL	Documentary/ Informant Age	Artifact Dates	Standing Architecture/ Features[5]	Excavation			Estimated Area (m2)
					Hand (m2)	Machine (m2)	None	
Loyd	41TR39	1856-1859		4 rm DT-Log? 2 wells/smokehouse cellar/slave qtrs?			x	6600
Lowe?	41TR40	1854-1865-1877	Mixed, some l. 19th	2 story MT/cistern windmill/4 barns	4			5700
Bowman	41TR42	1855-1890-1907-1910	Recent mixed?	4 rm Victorian 6 barns/cellar well/windmill	5			6300
Reitz	41TR45	1876?	Recent debris under house mixed?	Removed 3 rm? 9 barns/cellar well	6			6000
Marrs tenant	41TR48	1859		2 story MT BF/cellar well/trash			x	4600
Hintze	41DL181	1881-1898-1915		3 rm T 1915T 3 barns/water tank		5[2]		3600 (1000)[3]
Holveck	41DL183	1882		SP/BS/barn garage/2 sheds			x	2400 (1500)[3]
Anderson	41DL190	1859-1898	Mixed cut cut wire nail rain	SP & Plantation house burned 4 barns/garage cellar/springbox water tank	8			6000 (2000)[3]
Pool	41DL191	1880-1890	1898 newspaper Recent debris	DT-9rm evolution 3 barns/ 5 sheds/garage windmill/cellar		5		6000 (1200)[3]
Penn	41DL192	1854		3 houses/4 sheds 4 barns/1 MT 3 sheds/2 windmills			x	160,000 (1000/ 1200)[3]
Hintze tenant	41DL196	post-1900	e. 20th glass	Cumberland trash pits		2.5		(1200)[3]
Tenant	41DL267a	1890-1950		well, chimney fall			x[4]	
Titterington tenant	41DL268	1859-1930		cellar, chimney fall cistern			x[4]	

1 Complied from Fernng and Reese 1982
2 Includes surface collection
3 Parenthesis denotes estimated active yard and sheet refuse
4 Several brief shovel tests with material reviewed and left in field
5 Key for architecture: DT = Dog Trot, MT = Mortise and Tenon, SP = Single Pen, BS = Box and Strip, BF = Balloon Frame, T = T shaped

The archaeology of farmsteads, whether the occupants were landowners or tenants, Anglo-, Euro-, or Afro-American is extremely important for two basic reasons. First, until the second decade of the twentieth

Table 1-3
DATA ON SIGNIFICANT SITES AFTER MITIGATION WAS PERFORMED

Site Name	Site Number	Age of Artifacts	Occupation Period	Features Defined	Area Excavated (m2)	Number of Units	Artifact Totals	Site Area (m2)
Loyd	41TR39	ca.1865-1970	1859-1976	2	33	131	25,400	4800
Lowe	41TR40	ca.1880-1950	1870s-1950s	5	40	160	4834	11,000
Bowman	41TR42	ca.1910-1950	1907-1950s	1	24.5	98	6895	8100
Reitz	41TR45	ca.1900-1965	1910-1960s		14.5	58	2363	5500
Marrs Tenant	41TR48	ca.1870-1945	1880-1940s	2	42	167	63,112	3600
Hintze	41DL181	ca.1900-1970	1898-1973		19	76	7441	5000
Holveck	41DL183	ca.1900-1950	1882-1940s		6.5	25	940	5000
Anderson	41DL190	ca.1880-1945	1887-1940s	2	18.7	75	10,701	10,000
Pool	41DL191	ca.1890-1970	1896-1978	2	34	137	8325	10,000
Penn	41DL192	ca.1860-1970	1859-1975	3	62.5	236	12,821	36,000
Hintze Tenant	41DL196	ca.1900-1950	1898-1950		32	129	9505	1500
Tenant	41DL267	ca.1870-1940	1870-1940s	3	29	115	1885	4200
Titterington	41DL268	ca.1890-1940	1900-1935	2	19	75	733	3000

century, a majority of households in America were located in rural settings and were agrarian (Eldridge and Thomas 1964). In Navarro County just 60 miles south of Joe Pool Lake, over half of the rural population was made up of farming households until after World War II (Lee 1982). Demographically, this typifies all of North Central Texas except for major urban centers like Dallas and Fort Worth. Consequently, the archaeology of farmsteads and traditional lifeways of agrarian households is of great interest because it directly relates to the roots of many Americans.

In 1890, for example, two out of every three households in the United States and six out of every seven households in Texas were situated in rural communities and were involved in agrarian activities in some form or another (Eldridge and Thomas 1964). Despite these facts, late nineteenth and early twentieth century farmsteads in Texas have received very little archaeological attention (Fox 1983). This situation is not just restricted to Texas but applies elsewhere as well (Grantz and Michael 1984). The Joe Pool Lake Archaeological Project, however, provided an excellent opportunity to investigate thirteen historical properties that represented several socioeconomic classes and agrarian interests.

The second important reason for focusing archaeological attention on farmsteads is their unique potential for measuring certain elements of household consumption and change. George Miller has pointed out that the archaeology of nineteenth and twentieth century farmsteads offers a more viable avenue to understanding household consumption than documents and archival research (Grantz and Michael 1984:65-68). He indicated, contrary to popular belief, that the quality and quantity of written records declined during the nineteenth century and furthermore that inventories, credit transactions, probate records, and business records were seldom permanently preserved. Finally, the amount of detail one finds in these documents, when they do exist, is greatly inferior to the previous century. As a consequence, documentary information regarding material possessions and patterns of consumption for individual households is less detailed and less useful for study of the nineteenth century than of the preceeding eighteenth century.

Beyond these points, we have found that farmsteads contain extensive sheet refuse deposits that correspond to certain segments of traditional lifeways. These deposits are actually dispersed middens that contain tens and hundreds of thousands of small fragments of glass, ceramics, metal, bone, etc. The magnitude of these deposits for the Joe Pool Lake historic sites is given in Table 1-3.

Figure 1-3 illustrates the general patterning of sheet refuse materials across a small landowner's farmstead (Moir 1983e:52-53). It illustrates the layout of buildings and yard features and also provides a visual model between sheet refuse distributions and farmstead activity areas. The distributional patterns displayed by sheet refuse on tenant sites and small landowners (i.e., less than 60 acres) generally do not exhibit any major differences. Sheet refuse distributions associated with large landowners, however, are very different as the Joe Pool Lake historic sites have revealed. First, large landowners have sheet refuse patterns that are more dispersed, cover greater surface area, and exhibit less predictable patterning and structure. Second, sheet refuse counts are generally greater and deposits much broader for large landowner sites than smaller farmsteads. This is attributable to their longer length of occupation than most tenant sites. Consequently, large landowners' residences vary considerably in layout, structure and archaeological deposits.

Intrasite artifact distributions and the spatial patterning of activity zones and yard features (i.e., wells, cisterns, smoke houses, storage cellars, sheds, privies etc.) represent another area that has received great attention. Recently, we presented a general proxemic model for the layout of non-upperclass farmsteads (Moir 1983b, 1983e, 1984a, 1984b). Figure 1-4 illustrates several well defined spatial characteristics of some farmstead yards in North Central Texas. The

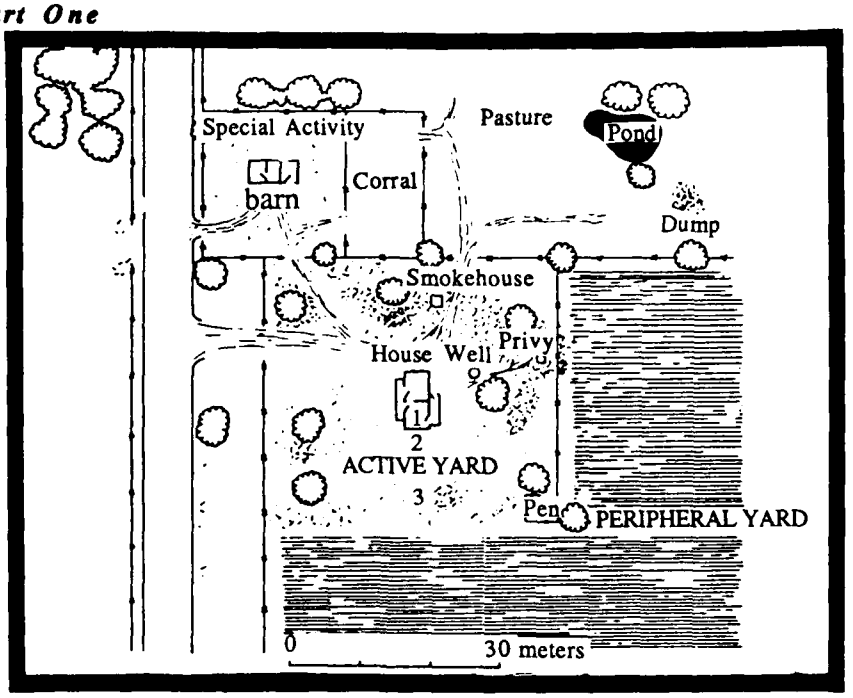


Figure 1-3a. An idealized small farmstead (ca. 1890 - 1910) for North Central Texas. The house, a two room Cumberland with rear addition, is surrounded by an Immediate Active Yard (2) and an Outer Active Yard (3). The Subactive Yard (1) is covered by the house. All three zones (i.e., Subactive, Immediate, and Outer) form the Active Yard, the area where most household activities occur. Major farm outbuildings (e.g., barns, sheds, pens, etc.) are located in the Peripheral Yard (after Moir 1987b:232).

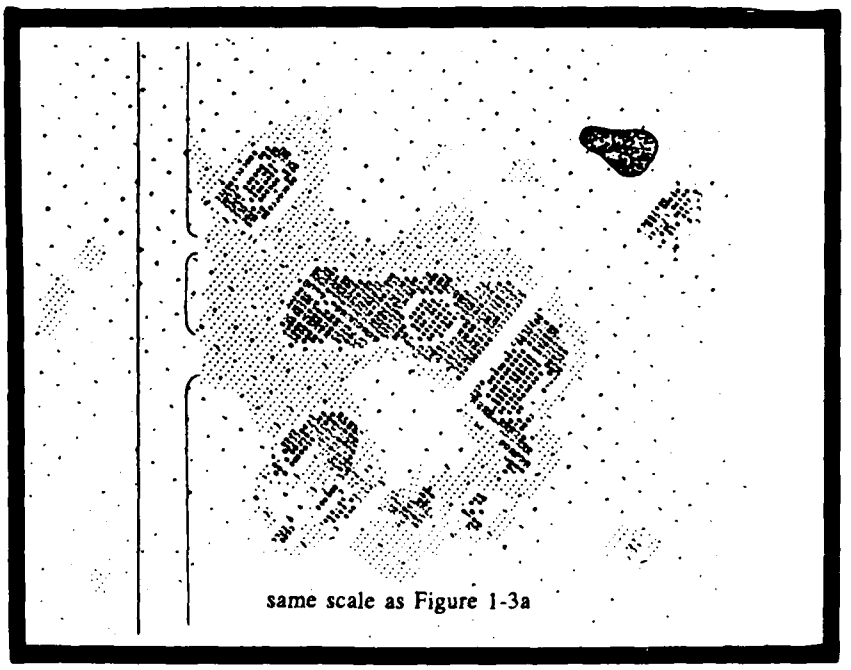


Figure 1-3b. Hypothetical SYMAP of sheet refuse for the model farmstead illustrated in Figure 1-3a. Artifact frequencies clearly show the Outer Active Yard and Immediate Active Yard. Artifact alignments are also clearly evident and relate to major fence lines (after Moir 1987b: 232).

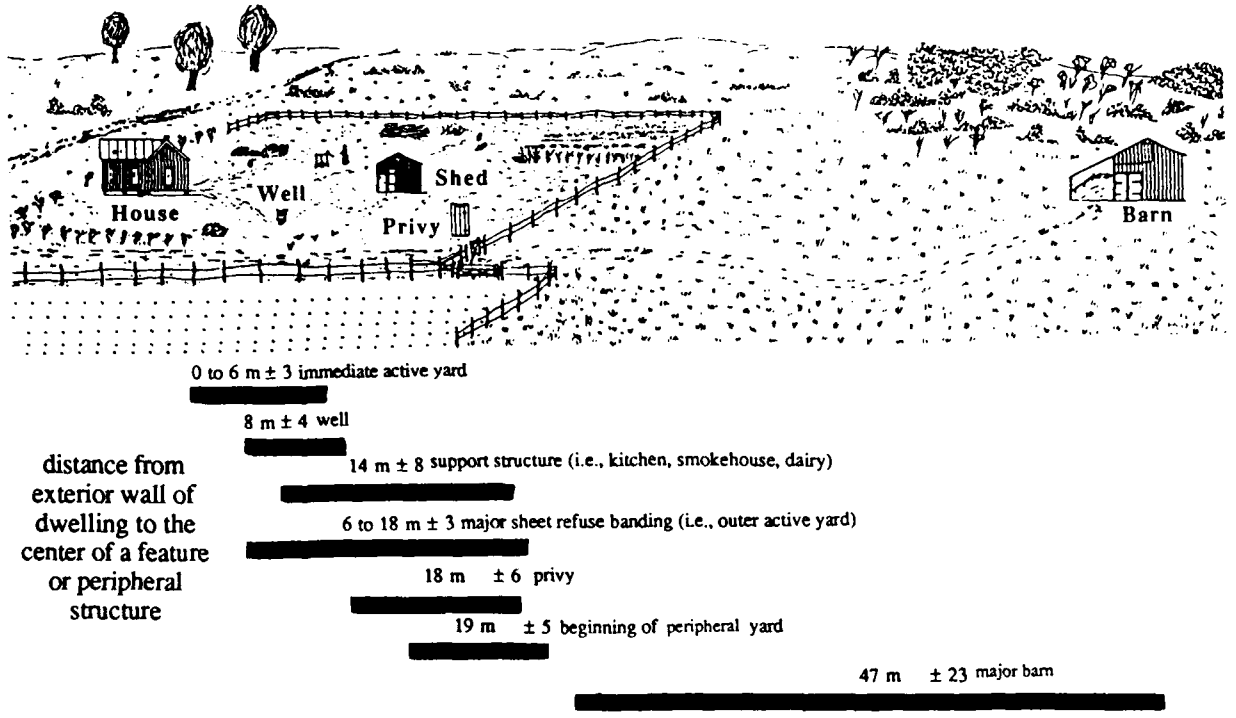


Figure 1-4. A proxemic model for the layout of the traditional farmstead in North Central Texas. This schematic view is based on data recovered from over 30 farm sites dating between 1850 and 1930. The scene is drawn for a tenant farmer or small landowner farm around the turn of the century (from Moir 1987b:234).

model further reveals roughly square yards with artifacts forming major alignments at 45° and 135° off north, artifact scarce areas in the center of the active yards, and higher frequency artifact bands that surround parts of the inner yard (Figure 1-3 and 1-4).

Figures 1-3 and 1-4 provide some explanatory devices to begin to understand spatial patterning and layout of farmstead yards. Viewed together, these illustrate several major patterns in the location of specific features (e.g., wells/cisterns, privies, etc.) and major sheet refuse bands. We have applied the concepts behind these schematic figures to the 13 historical properties in the Joe Pool Lake Project area. The divergence of a number of Mountain Creek households away from the small landowner pattern is attributable to their higher social status and this is discussed in the chapters presenting each site description. We have also recognized that some layouts are associated more with Lower South lifeways rather than the Upper South (Jordan 1967) and expose these insights in Chapter 29.

We have laid out in very general terms some of our theoretical perspectives on the historical archaeology of rural farmsteads. Excavation and analysis of farmstead assemblages from post 1850 sites represents a new arena of research. The quality and quantity of extant documentation on patterns of household consumption and material possessions for these farmsteads is inferior to those preserved for the eighteenth century (see Miller 1984). At the same time, farm life and traditional lifeways associated with rural households are extremely important to understand because, prior to 1920, most families have been affected by these sociocultural elements. It is in this framework that we conducted our research on the farmsteads and house sites in the Joe Pool Lake Project area.

JOE POOL LAKE RESEARCH

The archaeology of historic sites in the Joe Pool Lake Project area offers empirical insights into former lifeways and past households of a rural area adjacent to two major population centers: Dallas and Fort Worth, Texas. These two urban centers, however, were not very important for their first 20 years, when they were little more than frontier towns. Once they acquired major railroad connections in the 1870s, however, Dallas and Fort Worth quickly established their important roles as regional redistribution centers. The magnitude of the influence that these two trade and transportation centers exerted on rural households in the Mountain Creek area can be studied in the material remains and records left behind. Farmstead layout, yard size, ceramic and bottle glass assemblages, and other variables are well represented in the archaeological record and provide additional information that is not well documented for most households by traditional sources (Miller 1984).

The recovery of significant data from thirteen historic properties in the Joe Pool Lake Project area has provided us with a greater understanding of rural farmsteads and farm life. For example, we are beginning to recognize that the layout of rural farmyards encapsulates a measure of traditional lifeways and activities. Prior to the onset of modern conveniences (e.g., indoor plumbing, gas, electricity, refrigeration, and so forth), the yard immediately around a rural farmhouse was the setting for a variety of daily tasks

and seasonal activities. In addition, certain maintenance practices and aesthetic traditions were exercised quite unlike those practiced today. The cumulative effects of these activities and practices along with the net effects of children, animals, and general foot traffic resulted in dispersed sheet refuse of considerable magnitude and complexity. It is these kinds of deposits along with other smaller, more discrete features that contain the key to understanding specific segments of rural lifeways, household consumption, socioeconomic patterning, and ethnic variability.

Sheet refuse represents a type of midden that is directly linked to traditional lifeways. Naturally, there are different types of sheet refuse depending on the function of a site. In most cases, sheet refuse does not represent merely the result of intentionally discarded refuse or litter using today's concept of garbage. Instead, it accumulated slowly but continuously over the entire life span of the traditional farmstead. Simply viewing the distribution and composition of sheet refuse as the result of short term, discrete episodes of behavior or "quick time" events (e.g., see Binford 1981 for elaboration) is misleading and often inappropriate.

Architecture, like sheet refuse and smaller archaeological features also offers an opportunity to investigate a spectrum of research problems. Ferring and Reese (1982:223-231) have presented several important hypotheses directed at trends and traditions exhibited in buildings in the Project area. Our data recovery investigations have built upon these objectives. We have gathered additional empirical evidence to evaluate more fully the viewpoint that post-1875 structures display an absence of ethnically related elements, despite family backgrounds and origins. Tree-ring dating has provided a crucial independent check for dating some building types over time and space. In addition, tree-rings have offered an accurate method to begin to test a variety of models commonly used by architectural historians and cultural geographers (see Jurney 1983a, 1984).

In summary, the research approach used for the investigation of historical properties in the Joe Pool Lake Project area has involved the delineation of patterns encoded in material remains, artifacts, and architecture in order to address cultural and socio-economic variability at the household level. Ancillary studies have been used to add substantive information concerning ethnic affiliation, household size, personal histories, and pertinent local demographic, historical, and economic data. Informants, archival resources, photographs, and landscape studies have been used to identify local lifeways and the shift from traditional to popular culture. In this respect, historical archaeology in the Joe Pool Lake Project area has provided information on some broad trends and local patterns that have also been unobtrusively measured at the household level, and that are not easily documented by other sources of information.

FORMULATION OF THE HISTORIC RESEARCH DESIGN

The research design behind the data recovery program for historical properties in the Project area started with a framework of hypotheses and ideas initiated by Ferring and Reese (1982:223-231). For example, significant historical properties in the Project area were viewed as resources useful for investigating material manifestations of the ethnic origin of a household. In this regard, it was hypothesized that sites in the Project area appeared to be strongly homogeneous in many respects despite varied ethnic backgrounds. This pattern contrasted greatly with other parts of Texas (e.g., the expression of many German characteristics commonly shared by ethnically related households in central Texas). The absence of well defined ethnic communities in the Joe Pool Lake Project area indicated that this area contained a blend of households that cross-cut ethnic boundaries. The apparent rapid acculturation of the households, especially in regards to architecture, enhances the concept of an *ethnic threshold* population, a minimum group size necessary to perpetuate certain ethnic traits and thwart rapid acculturation. In the Mountain Creek area, ethnic groups of sufficient size to retain their own identity did not exist.

There were also several other generalized research themes proposed (Ferring and Reese 1982:228-230). Under the fabric of economic adaptations, the issue of local settlement and subsistence systems initially raised by Skinner and Connors (1979) was pursued. The practical problems inherent in applying a simple ranching versus farming dichotomy to explain differences among sites was recognized. For example, although the Anderson and Penn households emphasized horse and cattle raising to a greater degree than other crops, farming still remained the dominant economic adaptation among nearly all rural homesteads. Given this general adaptive strategy shared by most households, smaller differences in economic adaptation were thought to be exhibited in other maintenance activities, such as blacksmithing, and in widely different socioeconomic affiliations (e.g., slaves, hired hands, and day laborers, etc.).

Finally, the importance of diachronic change both in architecture and in commercial goods was recognized. Ferring and Reese (1982) expressed an interest in focusing some research on isolating changes in the availability and source of manufactured items archaeologically recovered. At the same time, they also recognized that little research had been pursued to date on these two topics for post 1840 sites in Texas.

Summarizing each of these major research questions, Ferring and Reese (1982) suggested two basic research hypotheses (RH) as foci for further investigations. One emphasized ethnic diversity and the other economic adaptation as the two basic elements crucial to understanding differences observed between sites. It was their belief that without understanding these basic elements, the development of useful models of the Joe Pool area would be questionable at best. These hypotheses and their associated test implications (I) are as follows:

RH1: Intersite variability during the historical period at Lakeview (Joe Pool Lake) is in part explicable by ethnic differences of the settlers-occupants of the sites.

I1: Architectural manifestations reflect patterning determined by ethnic traditions of the original settlers.

I2: Artifact assemblage differences among sites are patterned according to ethnic differences, reflecting different preferred sources of imported commodities as well as differential introduction of personal possessions.

RH2: Intersite variability during the historical period at Lakeview (Joe Pool Lake) is partially explicable in terms of functional manifestations of different or similar economic adaptations of the settlers-occupants.

I1: Initial settlements will reflect less extensive trade and communication networks, and hence will manifest more evidence of subsistence agriculture-ranching as well as folk production/ maintenance of implements and facilities. Minimized availability of commercial foodstuffs and utensils will be reflected in lower discard rates than later periods and greater curation of containers and implements.

I2: Following the initial settlement period, intersite assemblage variability should decrease, owing to increased market availability of supplies (implements, containers, etc.).

I3: Following initial settlement period, intersite functional variability will be proportionate to economic specialization (farming versus ranching) and economic productivity.
(Ferring and Reese 1982:230)

Ferring and Reese (1982:230) critiqued their own research hypotheses by noting that comparable sets of data would be required from comparable intersite proveniences. In regards to architecture, they noted a definite lack of congruence between ethnic traditions and building types, at least for the post 1875 period. Thus, Research Hypothesis One (RH1) seemed to be partly falsifiable particularly with respect to test Implication One (I1). The remaining test implications (i.e., I2 of RH1 and I1, I2, I3, of RH2) all focused on archaeological patterning and variability of assemblages. In this realm of research, Ferring and Reese (1982:231) pointed out that artifactual data bearing on the hypotheses have hardly been treated at all. But since data recovery was focused on extensive excavations, we proposed the following four additional test implications in our draft research design (Moir et al. 1984:51-53).

Additional test implications for RH1 (after Ferring and Reese 1982:230):

I3: Sheet refuse distributions and spatial patterns of artifacts will reflect differences attributable to ethnic background and culture of birth.

I4: Site layout and yard proxemics will reflect differences attributable to ethnic affiliation and cultural origins.

Additional test implications for RH2:

I4: Sheet refuse and other discrete trash disposal patterns (i.e., dumps, trash pits, etc.) will exhibit less variation between sites when socioeconomic, temporal, and functional variables are taken into account.

I5: Site layout and yard proxemic models will diverge in direct relationship to the degree of socioeconomic differences exhibited between households, and be especially divergent when an upper class farmstead is compared to one of the lower classes.

In addition to Ferring and Reese's (1982) two research hypotheses (i.e., RH1 and RH2), we proposed several others as a part of the formal research design for Joe Pool Lake (Moir et al. 1984:54-57). The first, which becomes RH3, is focused on an objective evaluation of the thirteen historical properties selected for mitigation, particularly in regards to rural settlement of the Joe Pool Lake area. There was some unintentional bias toward selecting landowner sites over typical tenant sites in the original 11 sites recommended for data recovery. The addition of two more tenant sites (41DL267, 41DL268) to the mitigation plan helped to correct this bias. Consequently, Research Hypothesis Three specifically addresses the nature of rural farmsteads and rural settlement in the Mountain and Walnut Creek areas. The Sam Street map compiled for Dallas County in 1900 (Highland Historical Press 1980) showed 20 tenant houses and 14 landowner occupied houses in the Joe Pool Lake Project area. Thus, tenants occupied 59% of the dwellings in the area. If one counted the residences located up to 2 miles outside the general project area on the map, the total counts would be 43 tenant houses to 27 landowner occupied houses, or 61% tenants. The proportions remain similar either way. This topic leads in to the next research hypothesis.

RH3 The range of households attributable to the thirteen historic properties in the Joe Pool Lake mitigation plan is also representative of the general range of households found for all of the Project area.

I1 The division between landowners and non-landowners (i.e., tenants) illustrated on the Sam Street map (ca. 1900) closely fits the sample of historic properties selected for mitigation.

I2 Oral history and archival information portray a much more complex history of occupation for each site and indicate that a simple tenant versus landowner dichotomy is erroneous.

I3 Length of occupation and amount of visible standing architecture, two factors that weighed heavily in the initial inventory of historical sites (Skinner and Connors 1979), selected against the inclusion of typical tenant farming sites.

I4 Socioeconomic data relative to the properties selected indicates a general status well above that revealed from census information for the rest of the sites in the area.

This hypothesis underscores the need to make an objective evaluation of the meaning and significance of the thirteen properties selected for data recovery. Are they representative of the full range of rural historic settlement and households of this area? If not, what proportion of farmsteads do these thirteen sites typify? Data recovery excavations indicated that pre-1854 sites or occupations were not represented among the properties mitigated. In a similar manner, it is useful to know if other kinds of households or occupations were also absent from the mitigation plan and for what reasons.

There were two other research hypotheses included in the formal Joe Pool Lake research design. We have listed these by time period. The first, RH4, is focused on the Antebellum period in detail following the ideas laid out by Ferring and Reese (1982).

The Antebellum Period is briefly represented in the Joe Pool Lake area at only two sites (41TR39 and 41DL192). From both of these, discrete remains are scant and consist of a thin veneer of older material scattered across yard areas and occasionally found in isolated pockets (see Chapters 8 and 12). The total amount of Antebellum material represented at either site, however, is not great enough to enable a clear picture of the lifeways associated with this period. The hypotheses are as follows:

RH4 Antebellum Period (ca. 1854 - 1861) farmsteads in the Project area represent above average households by economic standing and present a picture of a semi-closed, ethnically related community.

I1: Site physical dimensions (site area) for older components when definable will be larger than the typical small land owner patterns established for the Richland Creek area (see Moir 1983a, 1983b) which correspond to the usual "cabin plus 40 acres" stereotype.

I2: Deed/title, census, and probate records (when available) will provide another yard stick against which household wealth can be quantitatively measured.

I3: Names and personal data on census forms will reveal a certain level of ethnic affiliation that will also support overall community ties and bonding.

I4: Marriage records also will provide a yard stick against which community and family bonds can be measured.

I5: Fine ceramic tablewares, glassware, and other status items will contrast sharply with the generally plain, utilitarian items found associated with landowners in the Richland Creek area, and will reveal middle to upper class affinities.

This hypothesis with, five major test implications pull together some results from quantitative analyses of the Richland Creek Archaeological Project (Jurney and Moir 1987; Moir and Jurney 1987a) located just 60 miles south of Joe Pool Lake. All of the test implications require quantitative results to support or reject the hypothesis. They represent the integration of archaeological, architectural, archival, and at times oral information in order to construct a better understanding of certain segments of antebellum lifeways. Unfortunately, the Joe Pool Lake sites mitigated yielded no dense or easily isolated early components useful for testing the archaeological correlates beyond qualitative measures.

The next research hypothesis, RH5, is focused on the Civil War and post War period of reconstruction which runs from 1861 to 1875. This period is better represented on some of the archaeological properties selected for mitigation (41DL192 and 41TR39) than the Antebellum period. In general, the sites are fairly large and complex in comparison to short term sites of comparable age in North Central Texas. At the same time, however, their household possessions are still typically characterized by undecorated and slightly impoverished material remains like those recovered from sites 60 miles to the south (Jurney and Moir 1987). The hypothesis is as follows:

RH5: Major sociocultural changes occurred during the 1861 and 1875 period which involved the settlement system, land use and subsistence patterns.

I1: Land holding size decreased as major plantations were replaced by the cotton tenant farming system.

I2: Economic upheaval will be evident in documents (e.g., number of land transactions) and in material remains through a decline in "high style" material items commonly attributed to northern sites for the period represented, but not found in this area.

I3: Economic instability will be reflected in architecture and will show some chaotic blending of regional and local styles and construction techniques.

Once again, the material remains for investigating these test implications were less prevalent than expected. The oldest artifacts recovered provided some glimpses into traditional, mid-nineteenth century life but were not substantial enough to go beyond simple generalizations. Only two sites provided enough

remains to begin to interpret this period (see Chapters 8 and 12; Sites 41DL192 and 41TR39).

The next period to be addressed is the late Victorian Period (1876 - 1910). The late nineteenth century is a period of radical social, economic, and technological change. Farms in the Joe Pool Lake area offer an opportunity to look closely at rates of change in a rural area adjacent to a fast-growing urban center. Results to date indicate a slightly earlier assimilation of popular innovations and greater access to a wider variety of commercial commodities than usually found in more remote rural areas (e.g., Richland Creek in Navarro and Freestone counties, Texas; Jurney and Moir 1987; Moir and Jurney 1987a). Material goods, foodstuffs, and fruit jars are items frequently found in households that are shifting their consumption away from traditional foodways and toward popular lifestyles. Research Hypothesis Six addresses some of the important issues for the late nineteenth century.

RH6 The late nineteenth century (ca. 1876 - 1900) is a period of great socio-economic differentiation whereby the major classes of households can be separated based upon site layout, sheet refuse-complexity, and material remains.

I1 Tenant households will exhibit the smallest active yards and yield the broadest assemblages of glass and ceramic vessels whereas major landowners will be associated with the largest site areas and a narrower assemblage of glass and ceramic vessels (excluding features).

I2 Architectural designs will reveal greater inclusion of regional styles for upper class sites and more local variants for lower class sites and tenant farmers.

I3 Tenant sites will reveal the simplest site layouts, and landowner sites the most complex layouts.

The early twentieth century is a period of dramatic social and cultural change. Many households that had followed farming for generations finally abandoned it altogether to take advantage of new job opportunities in urban areas. Furthermore, the introduction of electricity, telephones, and tractors, and the improvement of roads and rural transportation brought new ideas and job opportunities to the doorstep of most homes. Hand labor and other less skilled agricultural jobs were replaced by machines capable of increasing efficiency and productivity. Mass marketing of implements, material goods and even houses put many folk craftsmen out of business. The depth and extent of cultural changes endured by these households went beyond any changes experienced previously.

Research Hypothesis Seven is focused on the major differences that emerged among households in the Project area. It addresses the nature of the changes that were brought forward as some rural households relinquished their ties to traditional living and past lifeways.

RH7 The early twentieth century (ca. 1900 - 1925) represents one of the most dynamic periods for rural households in Texas. It is during this period that many of the more prosperous families and middle class farmers actively relinquished their ties to traditional lifeways. Farmsteads located next to urban centers reveal a greater assimilation of popular lifeways then more remote households.

I1 Active use of yard areas declines in direct correlation with abandonment of traditional lifeways. Sheet refuse, a trait of traditional living, becomes less prevalent with twentieth century occupation.

I2 Landowners, especially those with well-to-do households, will shift away from traditional yard activities toward more cosmetic types of yard care. Sheet refuse, an important signature of traditional living will decline in quantity and content.

I3 Architectural techniques and styles, especially basic framing and fenestration, will reveal greater affinities towards mainstream America and a break from past rural traditions.

The last research hypothesis (RH8) provides a required framework for evaluating all the previous hypotheses and major results. From our investigations of rural farms around Dallas/Fort Worth, and especially our research in Navarro and Freestone counties, it has become apparent that population origins of historic settlers provide an important framework for evaluating sociocultural differences. According to Jordan (1969, 1970), the Joe Pool Lake project area lies well within the portion of Texas predominantly settled by Upper South families. The Richland Creek area, however, falls within the zone that was settled by Lower South or mixed Upper and Lower South families. Consequently, Research Hypothesis Eight utilized this major difference to begin interpreting the physical, artifactual, architectural, ethnic, and sociocultural differences observed among Joe Pool Lake farms and in comparison to other farms investigated elsewhere.

RH8 Differences observed in Joe Pool Lake farms in comparison to farms investigated in the Richland Creek Project can be explained by the differences in population origins of each of the two rural areas. These differences related directly to Upper South vs. Lower South (i.e., Deep South/ sociocultural traditions (see Jordan 1967, 1969, 1970).

I1 Upper South farmsteads will display greater agricultural diversification than Lower South farmsteads.

I2 Upper South architectural traditions will include a broader spectrum of building types and will also involve more status related structures than Lower South traditions which focus primarily on cotton agriculture and its associated traditions.

I3 Because of their broader agricultural focus and greater overall income, Upper South farmsteads will exhibit a greater tendency to assimilate new technologies than more rigid, Lower South farmsteads.

There are a wealth of ancillary test implications associated with the Upper vs. Lower South research theme. We have addressed these in greater detail in Chapter 29 which summarizes the Joe Pool Lake data in terms of these two sociocultural dimensions. As our results have indicated, these two dimensions along with recognition of the Midwest as a discrete cultural area, offer the most substantive framework for organizing Joe Pool Lake results of any of the research hypotheses discussed so far.

In conclusion, eight research hypotheses form the major theoretical framework for the historic investigations in the Joe Pool Lake Project area. In order to confirm or reject the hypotheses and their test implications, research efforts included archival and oral investigations in addition to excavations and architectural examinations. The following chapters review the major results of these studies and provide information pertinent to resolving and refining all hypotheses. These studies have helped to provide a greater understanding of the former lifeways and history of some of the families that once occupied the Mountain Creek region of southwest Dallas County and adjacent areas.

HISTORIC SETTLEMENT IN THE MOUNTAIN CREEK AREA

2

by

Randall W. Moir
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In comparison to many other regions of the southern United States, North Central Texas was settled fairly recently. Anglo-Americans and European emigrants entered this area late in the second quarter of the nineteenth century as a natural consequence of westward migrations from Louisiana and Arkansas. The earliest permanent Anglo settlement within 50 km of the Joe Pool Lake Project area was Bird's Fort on the Trinity River to the north. It was constructed on the West Fork in what was then Robertson County (later to become Navarro County, then finally Tarrant County) by Major Jonathan Bird in the fall of 1841. It consisted of a Fort and several residences that were intermittently occupied for the first few years. In the 1850s, Birdwell, a small community, had formed in the area and became the county seat for Tarrant County before it shifted to Fort Worth (Samuels and Knox 1980:11; Texas Almanac 1857:29; Yates and Ferring 1986:172).

Dallas County received its first permanent settler in 1841 when John Neely Bryan returned to the famed three forks of the Trinity River to establish his town. The Joe Pool Lake area, located about 35 km southwest of Dallas began to receive settlers in 1845 and 1846. In this Chapter, the historical development of the Joe Pool Lake Project area is reviewed. The settlement and ensuing development of the area is found scattered in bits and pieces in the histories of many of its surrounding communities, such as Cedar Hill, Grand Prairie, Florence Hill, Mansfield, and Dallas. Consequently, much of the following has been extracted from local sources and unpublished works.

NORTH CENTRAL TEXAS FROM EARLY CONTACT TO 1840

Although beginning as early as 1532, there is documentary evidence of Spanish and French activity in East Texas, it was not until the mid-nineteenth century that large numbers of settlers began to enter the upper Trinity River and settle in Dallas and Tarrant Counties. During the eighteenth century, Spanish towns and missions were established south and east of the Project area (Bolton 1914; Foscue 1960). In 1756, the presidio San Augustin de Ahumada and the mission of Nuestra Señora de la Luz were established on the banks of the lower Trinity River. Also by the mid-eighteenth century, both Spanish and French traders had begun exchanging goods with the Native Americans. Some explorations were conducted across parts of Texas as well.

It is possible that the earliest expedition to pass near the Project area occurred in the sixteenth century. Luis de Moscoso led the survivors of Hernando De Soto's ill-fated expedition after De Soto's death in 1541. The group may have crossed through this part of North Central Texas while enroute from the Mississippi back to Mexico (Reese et al. 1986:154). In the eighteenth century, other Spanish explorations were conducted to the east and south, such as the expedition undertaken by

Athanase De Mézieres (Castaneda 1945:2-3). None of these resulted in drawing permanent settlers or settlements to the middle and upper Trinity River. By the end of the eighteenth century, political and economic factors had contributed to the collapse of both Spanish and French influences in the middle and upper Trinity River Basin. Although American colonizing efforts helped to ease Spanish, French, and Indian holds on the territory, Mexican military and political activities prevented North Central Texas from being extensively settled until after the 1840s.

Native Americans occupied parts of the Upper Trinity River in the early nineteenth century. Representatives of the Caddo, Kickapoo, Kichai, Shawnee, and Wichita are thought to have been residing within the area. Many of these groups had been pushed out of their native territories and driven into this part of Texas by Anglo settlers. In the late 1830s, several major battles were fought and by the early 1840s most Native Americans had been driven out of the Trinity River - Three Forks area opening the door further to attract new settlers (Samuels and Knox 1980:10-12).

North Central Texas began receiving new settlers after Texas obtained its independence from Mexico in 1836. At the time of Texas' annexation by the United States in 1845, it was estimated that the population of all Texas was between 125,000 to 150,000 residents. The first U.S. Census for Texas enumerated 212,592 individuals in 1850. Anglo-American settlements had pushed the frontier westward 350 km from Louisiana and Arkansas to about 97.5° longitude north of Austin, doubling the area settled in Texas in just 14 years.

In North Central Texas, some farmsteads were settled in the mid-1840s as a result of commercial land development schemes and in particular, the Mercer's and Peters Colonies. The distribution of early land surveys around the Project area offers an overview of the major phases of land speculation for this area (Figure 2-1). The first surveys in the area were laid out in 1836 and were located along the Trinity Valley. Major land speculation began to increase in the 1838 - 1840 period and preceded most settlers by several years. As mentioned previously, the first settlements were started in 1841 to 1844 when Texas was an independent Republic. Tracts of land continued to be acquired well beyond the 1860s indicating that some parts of Tarrant and Dallas Counties were initially occupied quite late.

From 1836 to 1850, the lands in the Project area passed through five county names. Sites found in the Tarrant and Dallas county portions of the Project area were originally in Nacogdoches County from 1836 to 1839 (Figure 2-2). In 1843, all of the Project area was in Robertson County which later became Navarro County, and then finally subdivided into many smaller counties, including Dallas, Tarrant, and Ellis counties (Samuels and Knox 1980:5-10).

The progression of settlement across Texas reveals an orderly westward progression from the 1840s to the 1890s (Figure 2-3). Indian territory to the north greatly slowed settlement along the Red River until after Oklahoma territories were opened to Anglo Americans. The boundary of the frontier, for all practical purposes, passed westward across the Dallas - Fort Worth area in the early 1840s as indicated in Figure 2-3. Consequently, the frontier period was extremely brief in North Central Texas and was over by 1855.

Due to transportation routes and demography, settlement of the Mountain Creek area was predominantly carried out by families coming from the Midwest and Upper South. Many families entered Texas from Arkansas after passing through Tennessee or Missouri. In the early 1850s, railroads brought settlers from the Midwest and northern United States to eastern Missouri and the Mississippi River about 370 miles northeast of Texas. But not all families took advantage of the trains. John Anderson Penn and his family made the trip by wagon from Sangamon County, Illinois to the Mountain Creek area in 45 days (Hazel 1985:6). This is a distance of over 650 miles as the crow flies, and the family probably averaged at least 16 miles a day. The Penns joined other families from Illinois, such as the Kimmels, Moores, Rapes, Andersons, and Trees, living in the Mountain Creek area, and settled down to start their new farm. Other families joined them from Missouri, Arkansas, Kentucky, Ohio, Iowa, and Tennessee to make up a majority of the rural population in Dallas and Tarrant counties (Connor 1959; Ferring and Reese 1982:121; U.S. Census 1850, 1860). These states comprise or were settled by families following cultural traditions known as the Upper South (Jordan 1969). The states assigned to the core of this area are Tennessee, Kentucky, Missouri, and Arkansas (Jordan 1969). Illinois, Iowa, Indiana, and other parts of the Midwest were settled by many families coming from these Upper South states. Architecture, farming orientations, mortuary practices, material culture, and related traditions for families from the Upper South share a general cultural affiliation that diverged from other groups living in the Deep South (Jordan 1967).

The Mountain Creek area, therefore, provides a microcosm for studying a frontier region settled by families from the Upper South or Midwest. South and east of Dallas and Fort Worth, families from the Deep South outnumbered those from the Upper South (Jordan 1970). Consequently, the imprint of these differences in cultural traditions and lifeways offers a major explanatory paradigm for understanding the Mountain Creek area in comparison to some other part of North Central Texas. This is particularly helpful in drawing comparisons to the Richland Creek Archaeological Project (Jurney and Moir 1987; Moir and Jurney 1987a) area located only 70 km south of Joe Pool Lake. Cotton farming, a Deep South tradition, formed the focus of rural agriculture in the Richland Creek area. Diversified farming, consisting of corn, wheat, and cotton along with livestock formed the agricultural orientation of most rural families in the Mountain Creek area. These differences and others make the archaeological and architectural study of farmstead sites in the Joe Pool Lake Project area important to provide full understanding of the sociocultural dynamics of nineteenth century North Central Texas.

EARLY SETTLEMENT ALONG MOUNTAIN CREEK

The southwest corner of Dallas County is distinguished by a chain of rugged crags, running in a southwesterly direction for fourteen or fifteen miles, then turning due west for two or three miles, and finally south again until they disappear in Ellis County. These



Waves of Surveys

1* Mexican
1. 1836-1841 Pre-Colony
2. 1842-1850 Peters' and Mercer's Colonies
3. 1851-1855
4. 1856-1865
5. 1866+

Figure 2-1. Distribution of original land grants in Dallas, Tarrant, and Ellis Counties (A). Enlargement shows the two major property orientations in the Joe Pool Lake vicinity. The skewed surveys along Mountain Creek represent early Republic of Texas grants (Robertson Land District). North-south property orientations are Peters Colony grants dating prior to 1856.

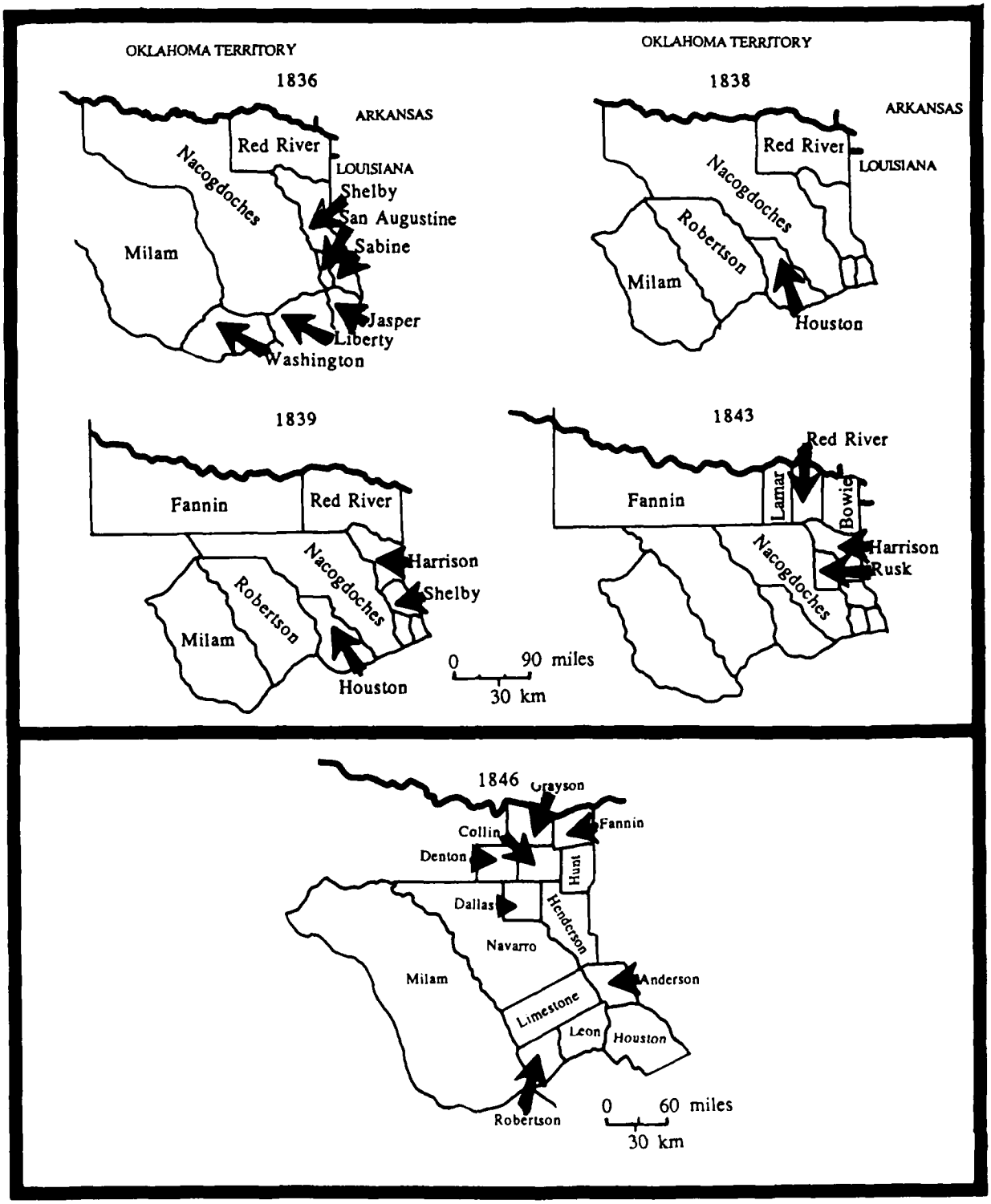


Figure 2-2. Evolution of counties in North East Texas 1836 to 1846. The first counties were organized along major drainages. Later counties were surveyed in blocks. Boundaries adapted from Samuels and Knox (1980:5-8).

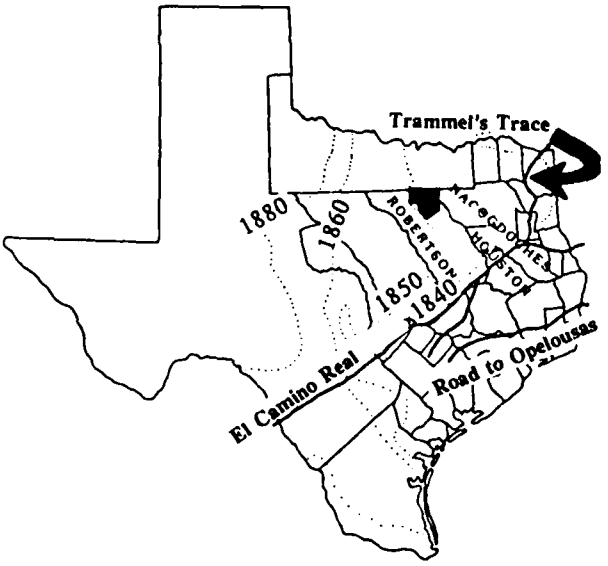


Figure 2-3. Progression of Anglo-American settlement across Texas illustrating westward edge of frontier in 1840, 1850, 1860, and 1880 (denoted by dotted lines), and original Land Districts, and major roads.

crags were covered with cedar *(Juniperus virginiana)*, and from a distance looked to the early pioneers like mountains. Consequently, they were called "The Cedar Mountains," and the creek which winds its way from the west side of the crags to the Trinity River was christened "Mountain Creek." Settlers began to homestead around the Cedar Mountains in 1845, only four years after John Neely Bryan built his cabin at a ford across the Trinity River where he would soon plan the village of Dallas.

Settlement in the Cedar Mountains area was promoted principally by the Texas Emigration and Land Company, a group of Louisville, Kentucky, investors headed by W. S. Peters. In a series of contracts signed between 1841 and 1843, the Republic of Texas, anxious to encourage settlement, granted over ten million acres of land to the company, including all of what was to become Dallas County except a three mile strip along the eastern edge. The Peters Colony, as this land was commonly called, extended north to the Red River and west nearly 200 miles. The company was responsible for surveying the properties and providing assistance in house construction. As an inducement to join the colony, each head of a family who met the conditions of settlement could claim homestead rights on 640 acres and each single man 320 acres. Every other section of land was to go to the company in return for its services. The Peters Colony was widely advertised both in the United States and Europe, and it attracted some 3000 settlers to Texas, especially from the states of Illinois, Missouri, and Tennessee (Connor 1959).

Among the earliest settlers to choose land in the Cedar Mountains vicinity was Crawford Trees, a native of Union County, Illinois, who came in 1845. Shortly afterwards, some of his Illinois neighbors, the Kimmels, settled in the area. The marriage license issued to Crawford Trees and Anna Kimmel on July 22, 1846, was the first issued after the organization of Dallas County. The Merrifields, the Husteads, the Carrs, the Wilsons, and the Ramsays of Missouri were other families which established homes in the area in the 1840s (Vinyard 1973:32-40).

Attracted by reports of these first settlers, relatives and friends decided to take up residence in the area. Major John Anderson Penn of Sangamon County, Illinois, visited Crawford Trees, perhaps as early as 1849, purchased land from John Merrifield and Philip Kimmel, and on October 24, 1854, left his home with his wife and children on the six week journey to Texas. Major Penn settled near a spring, which was soon known as Penn's Spring, in the area that is today Duncanville. His eldest son, Joseph, settled on 640 acres in the Old Wesley Chapel area, east of the Major. As the Major's younger sons reached adulthood, they too acquired land in the area. John Wesley Penn acquired land in the Joe Pool Lake Project area from his father in 1859 and soon built his house at site 41DL192 (Duncanville Historical Commission 1976:310, 312).

The dissatisfaction of the early settlers with the Peters Company for its failure to provide promised services and for confusion over deed titles led to a revolt, and in 1851 the Texas Legislature paid off the company and began issuing clear titles to the settlers for their lands. Yet the service of emigration companies in settling North Central Texas should not be overlooked. Although designed to encourage immigration, guide books of the 1840s often included much practical advice. "It is best to select a location upon the edge of a wood," recommended Edward Smith, in his *Account of a Journey through North East Texas*, published in 1848, "where there is good timber, and pine if possible, and not far distant from small water courses, where the cattle may feed during the short winter...It is not prudent to locate in the midst of a great prairie, since there, stock water is not very plentiful; wood is scarce and small, and shade is absent." Smith was particularly impressed with the black soil which extended from the Red River through Dallas County. "It is universaly [sic] admitted to be the finest soil in the country," he wrote, "equalling [sic] in fertility the rich alluvial bottoms of the great Mississippi valley" (Smith 1848:11-12, 100). At least in this instance, Smith's description was not exaggerated. "This portion of the country is just as rich as any man wants it to be:" wrote Charles Barker from the southwestern part of Dallas County in 1853. "The soil is black and sticky as far and deep as necessary. Corn, wheat, and cotton grow well..." (Switzer 1954:15).

The black soil did present drawbacks for travelers. Although Smith admitted that the roads in North Central Texas were "universally primitive," he minimized the difficulty they represented for immigrants. But the early settlers found them a serious obstacle. "There were no bridges or graded roads," recalled Mrs. George James, whose family traveled from Tennessee to the northeastern part of Dallas County in 1855. "When travelers came to one of those rushing streams they just had to wait until the water went down. Getting up and down those steep muddy banks was a hard problem. Wagons would often sink to the hubs. With each wheel loaded with sticky black mud that had to be pried off with poles, the teams had to be doubled and hitched to a wagon to get across" (James 1927:3-4).

Yet the land had an irresistible virgin beauty, which remained vividly in the memories of the early pioneers. "Our first impressions of Texas," wrote Mrs. James

(1927:1-2), "were the vastness of the prairies and the long range of vision. It seemed we could see where the sky and earth met...When spring came the prairies were like a vast flower garden. Flowers of every hue spread out for miles." Her sentiments were echoed by John Billingsley, whose family crossed the Red River in 1844 after a difficult journey from Missouri. "This prairie land was then in its beauty," he wrote; "no plow had ever skimmed its surface, no barbed wire, no wall or ditch crossed the trail of the Indian hunter, the wild deer in his flight or the wild horse in his ramble. A carpet of green grass now covered the land and our horses and oxen no longer rambled in search of food over this beautiful and rich prairie country we traveled" (Billingsley 1885:202).

Despite the physical beauty of the land, emigrants of the 1840s who believed the descriptions in guide books and the promises of promoters faced disillusionment when they reached the tiny village of Dallas. "We had heard a great deal said about the three forks of the Trinity and town of Dallas," recalled Billingsley, who was about thirteen when his family migrated to Texas. "I had it all shaped up in my mind and expected to see three rivers coming from the far west and meeting at one point thus forming a great river sufficient for steam boats at all seasons of the year. There I expected to find a town layed off in order with its stores, its shops and dwelling houses, its gardens and all the surroundings of a nice country town...Behold my disappointment when the day after our halt three miles from town I...started out on foot to see the city and the great river...Two small log cabins, the logs just as nature formed them, the walls just high enough for the door heads, the covering was clapboard held to their place by weight poles, chimneys made of sticks and mud, and old mother earth served as floors, a shelter made of four forks for a smith shop, a garden fenced in with brush and a mortar in which they beat their corn into meal, this was the town of Dallas, and two families 10 or 12 souls was its population. After taking in the town the next thing was to see the river a few yards away and we were on its banks. One deep narrow crooked and muddy channel was all we could see of the far famed Trinity river..." (Billingsley 1885:202).

Simple cabins like those viewed by Billingsley in 1844 could be built by two hired men in two days for about $20, according to Edward Smith. But if the settler could afford it, Smith recommended that he "build a double log cabin of adzed blocks, and a neatly laid floor, the intricies betwixt the logs to be filled up, and covered with split wood on the inside. Each cabin is usually sixteen or eighteen feet square, and they are separated by an interval of twelve to fifteen feet, across which the roof is carried, and in this open hall the farmer sits, eats, washes, and frequently sleeps, fanned by the lovely south-west wind. Three men will build it in three days, at a cost, exclusive of the shingles, of $75, if the wood be pine, and a little extra for other kinds of wood, and such men will be readily procured. He well also build a small smoke house in the rear of his house in which to cook" (Smith 1848:101). It is significant to note that all pine wood had to be imported from East Texas since native pine was absent in the Mountain Creek area of North Central Texas. Quite possibly the writer was referring to Cedar rather than pine.

But few settlers could afford to spend $75 in order to have their house built for them, even if skilled labor could be "readily procured." Each family usually built their own house, with the help of willing neighbors and perhaps an experienced stone mason to construct the chimney. And while Smith's advice to settle near the edge of a woods was sound, this was not always possible, especially for later arrivals, who found the best land already taken. "Houses are very sorry in this country," wrote Charles Barker in the letter quoted earlier, "for it is a considerable job to build a cabin in this country owing to the timber being so scarce and plank out of the question. The people use what they call puncheons which is ash saplings split open and laid down for floors" (Switzer 1954:15).

Pioneers were also at the mercy of the weather. In 1848 winter set in before the John Jackson family, which had settled near Farmers Branch in the northwestern part of Dallas County, had completed their house, and they were forced to remain in a leaky, rented cabin, plagued by snow and sleet for three weeks (Bonner 1975:35). Major Penn's family was more fortunate; although it was December when they arrived in Dallas County, the weather was mild enough for them to live in their covered wagons until their log house was built (Duncanville Historical Commission 1976:310).

To furnish their homes the settlers had only what they could fit into their wagons, for stores in the 1840s were scarce and uncertain as to supplies. Guidebooks offered detailed lists of necessary items. "The emigrant should carry with him all requisite carpenters' tools (except axes) of the best quality," advised Edward Smith in 1848; "also spades, shovels, hoes, shears, sickles, twine, rope, chain, and the iron-work for an oven and other domestic conveniences...enamelled iron cooking utensils of every kind, and tin ware with good crockery and common glass." Smith also suggested that "a few sash frames with panes 8 × 11" or 12 × 16" opening vertically, and panelled doors would repay the carriage; but windows are not universally found in the Texas houses..." (Smith 1848:90).

Smith's list understandably gave priority to tools and implements essential to building a house and establishing a farm. In addition, pioneers usually brought a couple trunks and perhaps a large chest, packed with clothing and bedding, and a woman would have brought her spinning wheel. But other furniture would have to be acquired after the family settled in their new home. Since there was no place to purchase it, it had to be made on the spot. This was another reason why carpenter's tools were necessary. A new settler could make a rough table and benches, and possibly some chairs, although there were itinerant chair makers who specialized in chairs. Children often slept on pallets on the floor or in the loft, but a bed for the adults could be the largest piece of furniture in the house. One early Dallas settler recalled that her family's bedsteads were make of oak. "They had four posts, sides fitted in and ropes used to lace them together. The underbed tick was made of cloth filled with hay, then the featherbed placed on top of that...Beds were high enough to accommodate a trundle bed underneath" (Floyd 1955:5-7). Since space was at a premium in these small one- and two-room houses, furniture was kept to a minimum, and household items were placed on shelves or hung from the rafters.

Table 2-1
POST OFFICES IN COMMUNITIES
AS OF DECEMBER 1, 1856

Dallas County	Tarrant County
Cedar Hill	Birdville (County Seat)
Dallas (County Seat)	Fort Worth
Duck Creek	Johnson's Station
Farmer's Branch	
Havanna	
Lancaster	
Locust Shade	
Pleasant Run	
Prairie Creek	
Scyene	

Despite the many hardships involved in settling in a new and unfamiliar territory, families continued to migrate to the North Central Texas area. "From the year 1848 to 1851 there were great changes in the country," recalled Billingsley, "people were moving in more each year, the water courses were being lined with settlements, farms and houses began to dot the prairie, dry goods and grocery stores were established in Dallas and a few in the country at different points" (Billingsley 1885:218).

Dallas County had been created in 1845, and Tarrant and Ellis Counties were established in 1849. Transportation networks began to improve, as early settlers teamed together to form freighting companies, stagecoach lines were set up, and more ferries crossed the Trinity River. After purchasing John Neely Bryan's remaining interests in Dallas in 1852, Alexander Cockrell erected a steam saw mill, built a brick factory, and began construction of the first bridge across the Trinity. Having moved into Dallas from the Mountain Creek area, Cockrell appreciated the value of the bridge to those living west of the Trinity. But the fact that a toll was exacted for crossing the bridge did not sit well with his former neighbors. Farmers in the southwestern part of the county were just as likely to trade at Cedar Hill, Grand Prairie, or Mansfield. These towns usually boasted a blacksmith's shop and a general store, and in 1852 a post office was established at Cedar Hill, providing a place for farmers to pick up mail or a weekly newspaper.

The lack of efficient and economical forms of transportation discouraged farmers from growing more than they could consume or sell locally. "A farm of fifty acres was considered sufficient to grow all the wheat, corn, and sorghum needed for home consumption," wrote Mrs. James. "There was no market for them at the time. The principle buyers were new comers" (James 1927:2). Indeed, according to the 1850 Agricultural Census for Dallas County (1850:213), Samuel Ramsay, who farmed near Cedar Hill, had only 63 acres cultivated, out of holdings totaling more than 550 acres. He did not report growing any wheat, but he harvested 900 bushels of Indian corn and 40 bushels of sweet potatoes. From his five milk cows he produced 100 lbs of butter. The value of Ramsay's farm was placed at $1407. Philip Kimmel, another resident of the Cedar Mountains, reported 40 acres improved, out of 240. He did produce 30 bushels of wheat, along with 650 of corn and 40 of sweet potatoes. Kimmel owned 25 milk cows, from whom he produced 150 lbs of butter and 300 lbs of cheese. His farm was valued at $500 (Agricultural Census 1850:215). Crawford Trees, along with many others from the area, had gone to California in 1849 in pursuit of gold, and did not return until 1851, so his name did not appear on the Agricultural Census taken in November, 1850.

The growth of the 1850s can be partly seen in the number of communities requiring post offices. A list of post offices for Dallas and Tarrant Counties as of December 1, 1856 listed 10 and 3 respectively (Table 2-1). As a result, the growing population offered expanded trade opportunities and ready markets for farmers to increase production. In 1860 Samuel Ramsay reported 200 acres cultivated, producing 220 bushels of wheat, 200 corn, and 820 oats. The value of his farm had more than tripled during the previous decade, to $5000 (Agricultural Census 1860:19). Crawford Trees reported 120 acres improved and produced 430 bushels of wheat, 40 corn, and 300 oats. The most prosperous farmer in the Cedar Hill area in 1850 appears to have been George Wilson, who had moved with his family to Dallas County in 1848 and acquired land on both sides of the Cedar Mountains. Wilson reported 300 bushels of wheat, his farm was valued at an astounding $22,500. Philip Kimmel had been killed in 1856, and by 1860 much of his property was in the hands of the Penn family.

On the 1860 Agricultural Census, Major Penn reported 1225 acres of improved land out of 2500. His son-in-law, Napoleon Bonaparte Anderson, who lived west of Cedar Hill at site 41DL190 in the Project area, owned 170 acres, of which 60 were improved. In March of 1859, John W. Penn, the Major's second son, had been given half interest in 557 acres purchased by his father a year earlier in the James Hughes Survey, a few miles northwest of Cedar Hill. On May 13, 1859, he married Lucinda Moore, whose family had come to Texas in 1857, and the couple settled on John's property around site 41DL192, also in the Project area. Here they built a house, which is believed to be the one still standing, and took up farming and livestock breeding. By the time the Agricultural Census was taken on August 17, 1860, John W. Penn reported 225 acres improved and 604 unimproved land, but he had not yet harvested any crops (Agricultural Census 1860:19).

Like most early settlers, the Mountain Creek residents found the raising of livestock both easier and more profitable than farming. "A man can raise as many cattle as he pleases without feeding them at all," noted Charles Barker in the 1853 letter quoted earlier, "and can kill fat beeves anytime in the winter. In fact cows are fatter here than I ever saw them in North Carolina. The grass is now green in the bottoms notwithstanding we have some cold weather" (Switzer 1954:15). Barker's testimony was corroborated by Mrs. James, who wrote: "As they depended mostly on sales of stock for income, every settler had cattle or horses and sheep. The native grass was so fine and abundant they never raised or prepared feed for stock. Cattle were wiser then than now, and knew how to rustle for their living" (James 1927:8).

Although he had been on his farm (site 41DL192) little more than a year in 1860, John W. Penn reported fifty horses, three asses or mules, four oxen, six milk cows, and fifty other cattle. "Bony" Anderson owned

twenty-nine horses, seven milk cows, and thirty other cattle. Samuel Ramsay owned 100 horses, seven milk cows, ten oxen, and 175 other cattle. Crawford Trees owned 44 horses, 70 milk cows, six oxen, and 125 other cattle. Anderson, Ramsay, and Trees also owned sheep. Sale of livestock, especially to newcomers, provided an important source of cash income for farmers (Agricultural Census 1860).

The high cost of hauling freight from Jefferson by ox wagons also affected the prices of goods available in the local stores. "Groceries are high in this country owing to having to haul so far by wagon, "Charles Baker wrote in 1853. "Salt is worth $7.00 per sack, sugar 12 1/2 cents, coffee 12 1/2 cents, iron and nails are 10 to 15 cents a pound and chewing tobacco is out of all reason..." (Switzer 1954:15). And yet a surprisingly large variety of goods was available in the stores by the mid-1850s for those with the means to purchase them. A foreign visitor recorded in his diary on May 14, 1855, that the shop of the leading merchant in Dallas was stocked " with the greatest variety of wares. Here you may get salt pork, whiskey, wine, arak, sugar, salt, coffee, tea, and other articles necessary for life, all scattered chaotically about. Outside are farming implements, ox hides, and hides of buffalo and bear; all kinds of iron utensils and implements, carts, chest, boxes, kegs, etc" (Wolski 1855:180). The inventory of a store near Lancaster, in the southern part of Dallas County, taken in 1860, listed wearing apparel for men, women, and children, notions (glove stretchers, buttons, scissors, fans, ribbons), and all sorts of hardware, from nails and screws to pitchforks and spades. This store also carried mousetraps, locks, guns, textbooks and musical instruments, and patent medicines (Dallas County Heritage Society n.d.). The *Dallas Herald* also advertised an assortment of goods in the late 1850s.

As well as providing essential goods, storekeepers served the developing community by extending credit to farmers until their crops were harvested or stock was sold. By so doing they shared the farmers' ever present risk of crop failure due to bad weather. On May 15,1847, Issac Webb, a farmer in the Farmer's Branch settlement northwest of Dallas, recorded in his diary that "we were visited today with one of Pharoah's plagues. Between 11 and 12 o'clock there fell a very destructive hail with a very heavy rain. It broke about one third of the wheat and trimmed the corn with the beans and all garden vegetables. All things look sorrowful in the evening. Farms and gardens look as though they had rapped themselves in sackcloth and morning" (Webb 1847-1848).

On April 27, 1856, a tornado devastated the town of Cedar Hill, killing nine people and scattering goods miles away. At the other extreme, and just as destructive, was drought. A dry spell set in during June, 1860, which lasted a year. "Crops in this vicinity were a total failure," recalled Mrs. James. "People had to go as far as Limestone County for corn to make meal. All streams went dry and most of the wells and springs. . . Stock of all kinds, as well as people, suffered for water...There was no farm work to do because there was nothing growing. The grass got so dead and dry it crumbled almost to dust as one walked over it. The air on hot afternoons was almost unbearable" (James 1927:3).

Despite these natural hardships, there were still enough opportunities to draw hundreds of new families to the area. By 1850, Dallas County had about 440 rural farms and a total population of 2,743 (U.S. Census 1850). Tarrant County, however, was just beginning to be settled and had a population of 664 and a scattering of less than 100 rural farms. The following decade was a period of rapid growth for both Dallas and Tarrant Counties, including the Project area. The total number of rural farmsteads increased to about 1130 and 700 for Dallas and Tarrant Counties respectively. Still, there was ample room for additional growth and farms averaged about 1 per square mile away from the small but growing urban centers. Unfortunately this period of prosperity was short lived and was soon eclipsed by the Civil War.

COTTON AGRICULTURE AND TENANT FARMING

Although not a strong producer at first, Texas soon surpassed all other states in the nation in terms of cotton production. As a result, cotton farming became dominant for in many regions of Texas after the Civil War, and especially in the blackland prairies running through Dallas. So deeply ingrained, cotton influenced the growth of towns, the location of railroads, and even the social relationships of landowners and tenants.

Cotton farming, as a major agricultural enterprise, was established comparatively late in Texas. In 1839, the U.S. produced about 1.6 million bales of cotton weighing about 227 kg each (Agelasto et al. 1922:331). Five states — Mississippi, Georgia, Louisiana, Alabama, and South Carolina — were responsible for 87% of the bales. Texas' cotton crop was nearly nonexistent (Bizzell 1924:157-8). In the next 20 years, the situation changed dramatically.

In 1859, on the eve of the American Civil War, Texas' cotton production ranked fifth in the nation with Mississippi, Alabama, Louisiana, and Georgia, the only larger producers. Nevertheless, these top four states accounted for 67% of the nation's 4.3 million bales (Agelasto et al. 1922:331). Consequently, for most of the antebellum period, Texas was not a formidable agricultural competitor among cotton growers in the South. The Civil War set cotton agriculture and the economy of the South, including Texas, back more than a decade. Production did not surpass the 1859 mark until 1875. By 1879, Texas produced one-seventh of the 5.7 million cotton bales in the U.S., and was the largest single producer of all states. Mississippi and Georgia, the next two largest producers of cotton, yielded a combined bale count that was less than the total for Texas. For the remainder of the nineteenth and into the twentieth century, Texas was the largest producer of cotton in the U.S., and it also out produced every other country in the world before the boll weevil significantly reduced yields in the early twentieth century.

Texas, of course, is the largest state in the continental U.S., and so for Texas to rank first in cotton production is not unexpected. Cotton production within Texas, however, was not uniformly distributed. Cotton farming was most heavily concentrated in the blackland prairies. These prairies, consisting of fertile black clays and clay loams, ran slightly skewed to the northeast from San Antonio through Austin and Dallas, and finally stopped in southern Oklahoma (Figure 2-4). This comparatively narrow band of about 30 counties

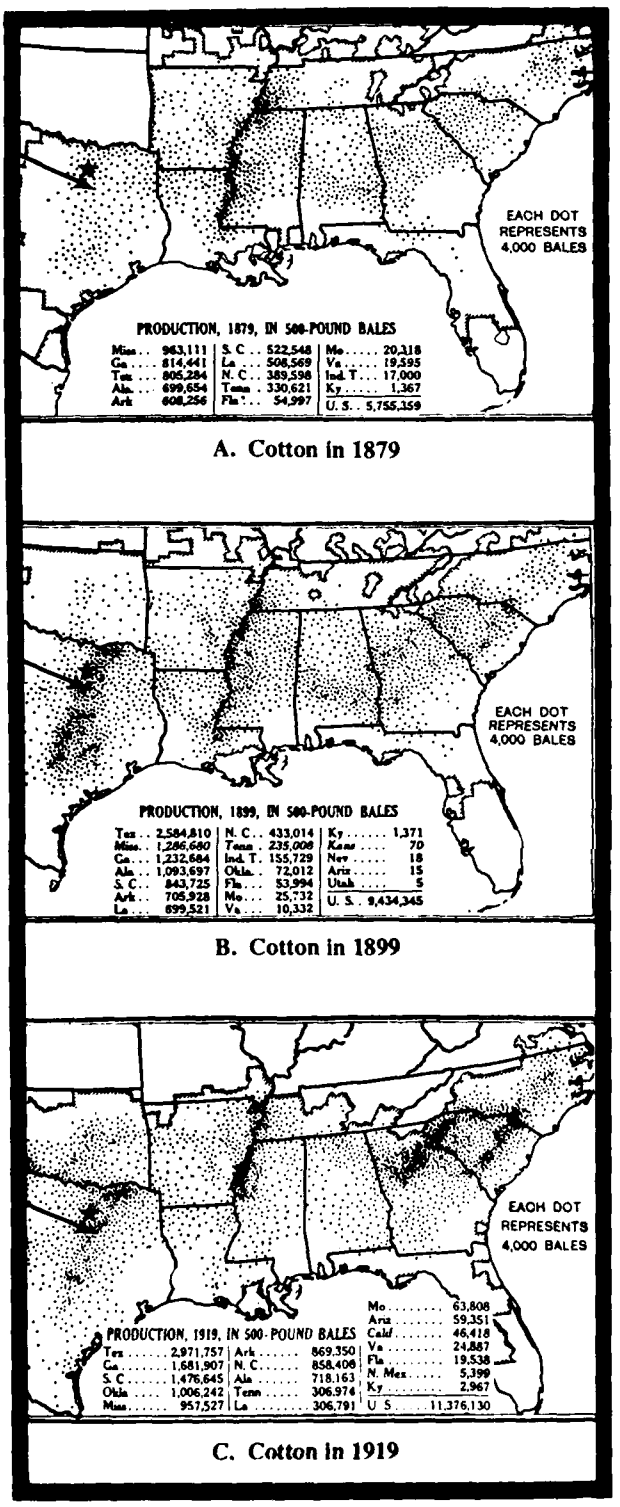


Figure 2-4. Cotton production in the South. Arrows point to the Blackland Prairie, a major cotton producing area in 1899 and 1919. It forms a band running from about the center of Texas to the Oklahoma border. The Joe Pool Lake Project area is located by the star. Each dot represents production of 4,000 bales weighing 500 lbs. each (From Agelasto et al. 1922:332-333)

represented less than 20% of the state by area, yet it was responsible for over 50% of the annual cotton production (Belo 1969:386-389; Bizzell 1924:159). It was also in this narrow band of counties that the tenant farming population first grew in large numbers eventually to become the dominant class of farmers in all of Texas after 1900 (Belo 1969:400-401). Only five other states surpassed Texas in the early twentieth century in their percentages of tenant operated farms (Mississippi, Georgia, Alabama, South Carolina, and Louisiana). But, in terms of total numbers of tenant farmers, Texas surpassed all (Bizzell 1921; Turner 1936).

Cotton agriculture and tenant farming were inextricably interwoven in the South after the Civil War. Tenant farmers — whether croppers, renters, or otherwise — became a major rural socioeconomic constituency in the cotton belt. Texas followed the lead of other cotton states and tenancy increased greatly during the 1880s. In North Central Texas in 1890, one-third of the counties located along the fertile blackland prairies had more tenant-operated than owner-operated farms (Turner 1936:12-13). By 1900, in nearly all these counties, tenants outnumbered owners. These trends intensified as cotton farmers faced diminished yields due to the boll weevil, soil exhaustion, bad growing seasons, and finally the Great Depression. In 1930, (Figure 2-5) the tenancy rate among cotton farmers reached 75%, twice as high as the tenancy rate for farms not associated with cotton (Turner 1936:2). Wherever cotton farming had been a primary agricultural focus, rural communities were reduced and hundreds of thousands of people were displaced as families searched for comparable opportunities elsewhere. Many packed up their belongings and eventually worked their way westward to take new jobs in California.

Tenant farming was both an economic system and a social institution in the late nineteenth and early twentieth centuries. For the North Central Texas area, Saunders (1982:180) outlined the general principles behind this form of farming:

> Briefly, tenant farming represents an economic system which, at a general level, can be divided into the land owning and non-land owning classes. In addition, this southern institution was occupied by both white and black families at the owner/non-owner levels. Consequently, the most widely represented period presents a data base which may be classified along economic (owner vs. non-owner) and ethnic (white vs. black) divisions. Through the information of informants, historic documents, and archaeological materials, some of the sites could be, and were classified by the occupation (owner/non-owner) and ethnic identity (black/ white)...

Tenant farming continually increased in the United States between 1880 and 1930 (Cauley 1930; Vance 1929; Wise 1937; Figure 1-3). For example, between 1910 and 1930, the number of tenant farms increased by 75% (Sanderson 1937). Within the southern region alone, the

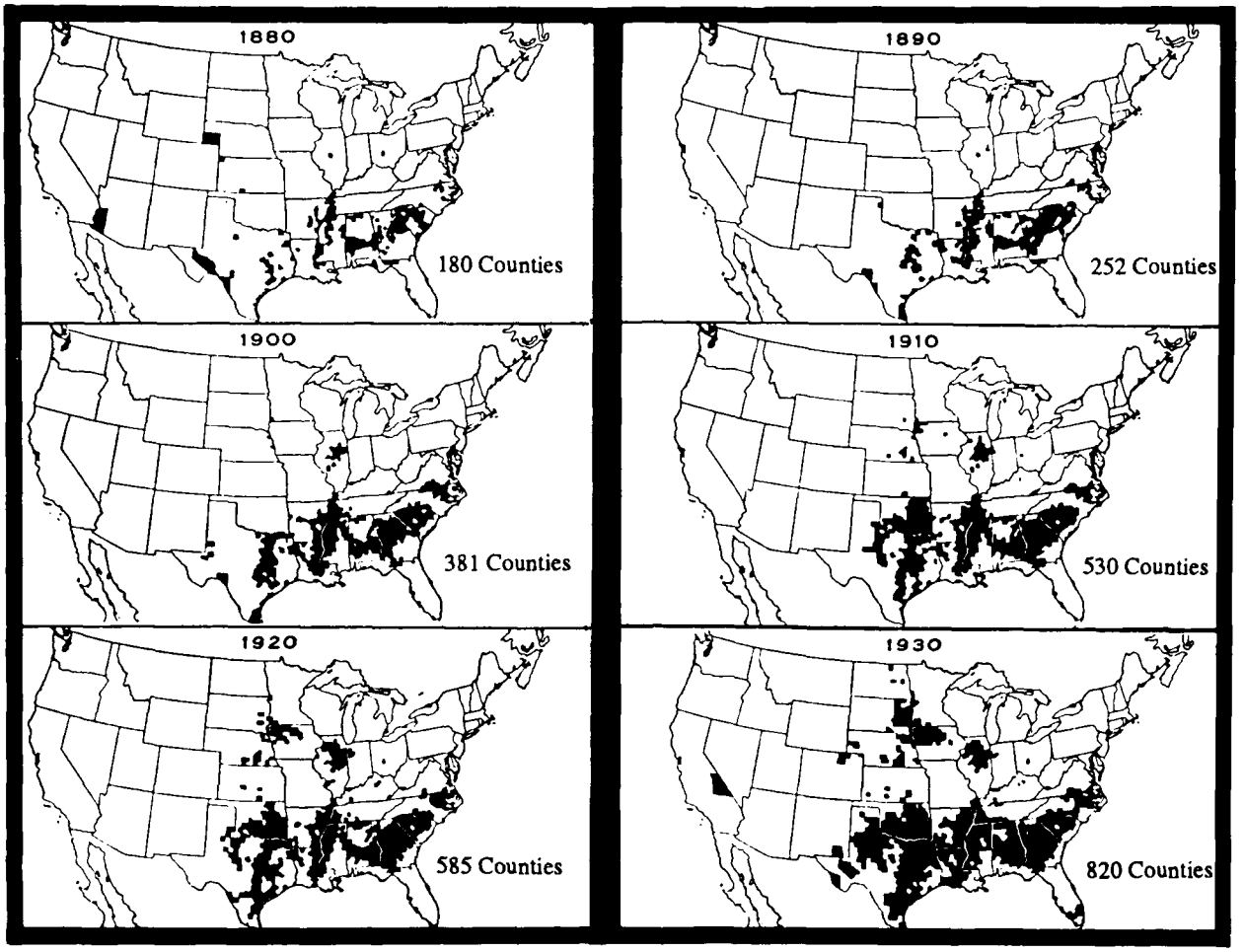


Figure 2-5. Counties containing at least half of their farms operated by tenants or croppers. The cotton dominated Blackland Prairie belt of Texas shows up as a major band of tenants/croppers running nearly north - south on the 1900 map. Dallas County and the Project area surpass the 50% tenant mark in the 1890s and, consequently, it shows up on the 1900, 1910, 1920, and 1930 maps. The Project area is located in the 1880 map at the end of the arrow. Adapted from Turner (1936:Figures 14 and 15).

> area which contained a proportionally higher frequency of tenant farmers, the number of farms operated by tenants increased from 36.2% in 1880 to 55.5% in 1930 (Johnson et al. 1935). The State of Texas, following the trend set in the South increased in the percentage of tenant farms from 37.5% in 1880 to 60.9% in 1930 (Cauley 1930; Sanderson 1937). It was not until the advent of the economic depression of the 1930s that the institution of tenancy farming began to decline. Although within the five-year period 1930 to 1935 the national rate of tenant decreased by 0.3%, the actual decline in tenant farming was almost completely restricted to the six southern states of Alabama, Arkansas, Louisiana, Mississippi, Tennessee, and Texas (Sanderson 1937)...
>
> Twenty-four percent of the western states' farms were operated by tenants; for the central states 35%; while in the southern region 54% (or 64% of the national total) of all farms were operated by tenants...
>
> Tenant farming may be defined as the right of an individual to farm a landowner's land for either a set fee paid in cash or by an exchange of a predetermined proportion of the final crop harvested for a particular period. Although the precise terms varied from state to state, the general agreements usually followed the terms presented in Table 2-2. The *half* system for the sharecropper and the *one-quarter cotton* and *one-third corn* for the tenant farmer became the standard fees allowed by the State of Texas in 1913 (McElree 1917:45). Although cash tenants were formally recognized throughout all states as a specific type of tenant, they were extremely low in number and continued to decrease in frequency throughout the early twentieth century (Saunders 1982:180-182).

The roots of some of the lifeways practiced by tenant farmers, like yeoman farmers and plantationers, go back into the early seventeenth century. But, for the most part, cotton production did not greatly expand until the nineteenth century and some forms of tenancy did not become widespread until the postbellum era. The

Table 2-2
TYPES OF TENANCY AFTER GOLDENWEISER AND BOEGER (1913)

Share Cropping for Half & Half	Share Renting for Third & Fourth	Cash or Standing Renting
Landlord furnishes:		
Land	Land	Land
House	House	House
Fuel	Fuel	Fuel
Tools	1/4 or 1/3 fertilizers	
Work stock		
Feed for stock		
Seed		
1/2 of fertilizers		
Tenant furnishes:		
Labor	Labor	Labor
1/2 of fertilizers	Work stock	Work stock
Food for stock	Food for stock	
	Tools	Tools
	Seed	Seed
	3/4 or 2/3 of fertilizers	Fertilizers
Landlord gets:		
1/2 of crop	1/4 or 2/3 of crop	Fixed amount in cash or cotton
Tenant gets:		
1/2 of crop	3/4 or 2/3 of crop	Entire crop less fixed amount

rise of tenant farming in North Central Texas, as partly examined through the ethno-archaeological study of a section of Navarro County 100 km southeast of Dallas (Moir 1987d:5), provides a detailed picture of a segment of this institution in the black waxy (i.e., Blackland Prairie) of Texas. From this study, it appears that the Joe Pool Lake tenant sites are substantially different and represent more stable tenant occupations than found in more isolated rural areas. Since 1940, tenant farming has been greatly reduced and sharecropping has nearly disappeared. The technological revolutions in agriculture and rural living have erased many of the older practices and lifeways.

CIVIL WAR AND RECONSTRUCTION

Although North Central Texas escaped the hostilities of the Civil War, the life of the region was profoundly affected by the conflict. The majority of the residents sympathized with the Southern cause, and in May, 1861, citizens voted 516 to 3 to appropriate $5,000 in gold belonging to Dallas County to buy arms for the Confederacy. The residents of the Cedar Mountain area appear to have been equally loyal to the Confederacy, despite the fact that many had come from Illinois and few, if any, owned slaves. The sons of Major Penn were all strong for the South. George M. Laws, County Clerk for Dallas, wrote a testimonial to the effect that John W. Penn, William, and Robert Penn all fought for the Confederacy, and William was killed near Princeton, Arkansas, in the Battle of Pea Ridge. The eldest Penn brother, Joseph, paid a substitute $1,000 to assume his duties as a volunteer in Capt. John D. Stratton's company in 1863 (Duncanville Historical Commission 1976:311). But, the war split the Penn family, just as it did many others across the country. Despite the fervor with which his sons supported the Confederacy, Major Penn remained loyal to the Union. He separated from his wife and returned to Illinois, where he remained until his death in 1871. A similar split occurred in the neighboring Rape family, which also hailed from Sangamon County, Illinois. The father, Jackson Rape, and his third son, Peter, held Unionist views and left Texas for Mexico during the war, while the two older sons, John and William, fought for the Confederacy (Hill 1909:100-103).

At the outbreak of the war a general quartermaster and commissary headquarters for the army of the Trans-Mississippi were established in Dallas, and a large number of slaves were brought into the region and leased to farmers in order to augment the supply of grain and other needed crops. Dallas also became a center for organizing regiments of infantry, cavalry, and artillery. But life quickly became hard for those in Dallas. "There is no market for anything," Susan Good wrote her husband, Capt. John Good, on September 22, 1861. "Money is scarcer than ever known. Many would be glad to sell wheat at 50 cts a bush[el] if they could get the money in hand. All the farmers can do is to exchange their produce at reduced prices to the merchants and pay 100 percent more on good than they have been in the habit of paying" (Fitzhugh 1971:178). Many families had raised small patches of cotton for home consumption, but cotton as a cash crop had begun to develop only in the years before the war. It became so important to people during the war that stories were told of people snatching bits and pieces of cotton that happened to fall or were sticking out from bales which passed through the county on the way to military depositories (Strain and Bain 1978:117).

With the fall of the Confederacy early in 1865, the soldiers returned home. Many, of course, killed in action or from disease, never returned. The survivors attempted to pick up the threads of their old lives, but in new economic and political conditions. "The young men...were badly demoralized," recalled Mrs. James. "Many took up freighting by wagon to the nearest railroad towns. This was a trying business, as graded roads were unknown then, and there were very few bridges." But this freighting "was a great boom to the people as it brought money into circulation again and enabled us to get some long needed groceries and dry goods..." Other enterprising men organized cattle drives to the Kansas railheads (James 1927:16).

The farmers in the Cedar Mountains area were slow to recover. When the 1870 Agricultural Census was taken, John W. Penn (site 41DL192) reported only 45 acres of improved land, with 125 unimproved. Crawford Trees had 100 improved, 350 unimproved; George Wilson, 320 improved and 1800 unimproved. Only Napoleon Anderson (site 41DL190) reported more land improved in 1870 than in 1860: 150 acres compared to

60. Farm values had generally dropped: George Wilson's from $22,500 to $9000; Crawford Trees from $4760 to $1000. Anderson's had stayed the same at $3000, while John W. Penn's had increased by $500 — to $3000; but he had not harvested any crops in 1860. Corn was the largest crop reported by most of these farmers, followed by wheat and oats. Some of the farmers in the area reported growing Irish potatoes or sweet potatoes, and a few produced butter, cheese, and molasses (Agricultural Census 1870).

RAILROADS AND RENEWED PROSPERITY

It was the coming of the railroads which finally brought prosperity to Dallas County. The Houston and Texas Central reached Dallas in 1872, cutting through the southeastern part of the county. The Texas and Pacific arrived from Louisiana the following year, although the "Panic of '73" halted its westward development for three years. Farmers within an easy drive of a railway depot now had access to outside markets. Cotton suddenly became viable as a cash crop. "People went wild raising cotton," recalled Mrs. James. "Dallas grew like a mushroom, and became a great cotton market." During 1877 cotton transactions, direct from the producer, totaled $3,500,000. This was $1 million more than the value of all wheat exported and made into flour (Lindsley 1909:121). As the population grew, the demand for dairy products and vegetables also increased, and farmers found a ready market for their produce in town.

The coming of the railroads naturally affected the price of land. "Lands in the county are valued according to locality and condition," reported the Dallas City Directory for 1880-1881. "Wild lands sell from say $2.50 to $10 per acre, according to distance from the city of Dallas and from a railroad....Lands in cultivation in the county sell at from $10 to $50" (Gillespie and Work 1881). Farmers with capital and vision began acquiring promising land, even if it was not near their homestead. In 1879, for instance, Napoleon Anderson bought over 600 acres of land (in three separate deals) in Ellis County (Anderson Collection n.d.).

But the distance from the Cedar Hill area to the nearest depot at Hutchins prohibited farmers in that region from joining the rush to plant cotton on a wide scale. The 1880 Agricultural Census indicates that the acreage planted in corn, oats, and wheat far outnumbered that planted with cotton. John Penn (site 41DL192), for instance, had only ten acres of cotton, which yielded seven bales, while he had 130 acres in cereals. His brother-in-law, "Bony" Anderson (site 41DL190), also had ten acres of cotton, which yielded five bales, compared to 110 acres in cereals. Penn was developing his cattle breeding business, having sold 62 living cattle living during the year. Most of the farmers in the area also seem to have planted orchards of peach trees, although only Robert and Joseph Penn reported harvesting cash crops (Agricultural Census 1880).

Real change came to the area the very next year, with the completion of the Dallas to Cleburne line of the Chicago, Texas, and Mexican Central Railroad. An 1882 directory lists four general merchandise stores in Cedar Hill, three physicians, one attorney, one druggist, one mechanic, and one saddlery and harness dealer. Enough cotton was being produced to warrant four gins, soon to be reduced to two (Gillespie and Work 1881: 106-8). When the Gulf, Colorado, and Santa Fe absorbed the line in 1884, it built new depots and began erecting telegraph poles. The difference the railroad made to local merchants is indicated by an advertisement issued by Strauss Brothers Store in Cedar Hill on February 7, 1885. The store advertised 50 box car loads of lumber, three car loads of shingles, and one car load each of furniture, barbed wire, Studebaker wagons, groceries, and dry goods. On November 29, 1887, a correspondent from Cedar Hill reported in the Dallas Daily Herald that local gins had ginned "between eight and nine hundred bales this season. The Co-operative Association will commence their new store building in a few days. When finished it will be one of the largest business houses in town."

The railroads also brought new residents to the area. While the first wave of immigrants had come mostly from Illinois and Missouri, this second group included many people of foreign origins. Ernest and Fred Hintze, for instance, were born in Germany and emigrated in 1872 in order to escape the military draft. After working in Buffalo and Cincinnati, the brothers were in Covington, Kentucky, when they saw signs at the depot advising young men to go to Texas. They reached Dallas in 1873 and worked as farm hands near Ten Mile Creek at $10 a month. When they discovered an unclaimed tract on Mountain Creek, they took possession and began farming. After problems arose over the legal title, they purchased the property, and soon became well respected members of the community. Ernest lived at site 41DL181 in the Project area. "Although trained in the art of coloring and having little experience of manual labor until he reached America," one account reported, "Ernest Hintze has demonstrated his ability to adapt himself to his surroundings and to win success in the field of agriculture" (Hill 1909:97). This was a description which also applied to French-born John Holveck, who settled in the area in 1882, at site 41DL-183 and German-born Martin Ballweg (site 41DL187) who arrived in 1883. Fred Shutt, a native of England, was actually trained at the Ripton School of Agriculture, where the methods of scientific farming were taught. Shutt came to Texas in 1877 bringing a consignment of shorthorn cattle with him. He settled near Duncanville in 1888 and devoted himself largely to sheep raising.

By 1892 Cedar Hill boasted three druggists, two blacksmithing establishments, and two dealers in confectioneries, one of whom was also the town barber. There was also a hotel, the Lowe House, and two cotton gins. The population at that time was about 600. Nearby Dallas had ranked as the largest city in Texas in the 1890 Census, and was the second largest distribution point for farm implements in the United States. Farmers with enough capital could purchase McCormick harvesters and binders, threshing machines, cultivators, and a variety of windmills. Breeders of livestock had a ready market at the Dallas Meat Packery, which had the capacity to process 200 beeves, 200 hogs, and 20 sheep a day (Texas Farm and Ranch 1890).

LOCAL FARMING AND FARM TECHNOLOGY IN THE 1880'S

Along with increased population and prosperity for farmers also came the introduction of newer ideas for

many agriculturalists. The concept of crop rotation, not evident in the writings of the 1850s in the Dallas and Tarrant county areas started to become visible in the 1880s (Harris 1985:11). As a farmer from Dallas County stated "Land which has been run in small grain many years without any rotation in crops does not look so well, and will not yield so many bushels this year" (Texas Farm and Ranch 1885:June 15).

In his letter to the editor, C. C. Watterson of Live Oak, Texas notes, "I am a practical farmer raising: corn, oats, potatoes, cotton, cattle, poultry, fish, peaches, vines, grapes, plums etc. corn is in full silk and tassel; oats, small acreage, but good." (Texas Farm and Ranch 1885).

Clearly, diversified cropping patterns were in existence at this time. A farmer who grew many different crops and also raised livestock spread out the risk of a poor harvest inherent in monocropping for cash. Similarly, cattle and poultry offered the farmer both income and products for home use. Cattle provided manure for fertilizer, meat for home consumption or sale. Poultry, a valuable farm commodity, also provided the farmer with eggs and meat.

A short news brief in *Texas Farm and Ranch* (December 1, 1884) says, "on the 20th of November we had our first killing frost and since that date the weather has been pleasant. The winter grasses are growing. There are very few days when land breaking cannot be done with ease. The vegetation that has accumulated on the surface of the field (corn and cotton stalks, grain stubble, grass and weeds) should be turned over into the soil and allowed to decay in a manner that will do the most good."

This quote serves as another example of the diversified farming in the area. More than cotton was being grown. It also illustrates a basic principle of farming — the addition of organic matter to soil enhances its fertility. It may seem like an easy concept to grasp, but many farmers did not adopt the method for a variety of reasons. Notes and letters are especially pertinent to the Joe Pool Lake, since the *Texas Farm and Ranch* magazine was published in Dallas from 1885 annually and consisted of information sent in by many farmers in North Central Texas.

Concerning the planting of corn and cotton, a contributor to *Texas Farm and Ranch* noted:

> Corn should be planted the first week of February. Planting is done with a hoe or by running two light furrows with a shooter.
>
> Cotton should be planted the first fair week in March. Run around with a sweep in early April, but not chop it out until it starts dying (until the warm weather of summer). (Texas Farm and Ranch 1884(11):12).

Tenant farming, much more well known as it existed in the early 1900s, was already an important topic of discussion. The problems of tenancy were well elucidated in a letter to the editor. In 1885, J. C. P. of Waxahachie, Texas states why he believes the tenant farmer does not plant early in the late winter or spring (anticipation of a long dry summer). First, the farmer moved to his rented home about the middle or end of December. He therefore could not plow early, as rains and inclement weather had begun. Second, it will not pay him to do deep and thorough plowing for only one crop (cotton). Third "He takes more land than he can prepare well and must cultivate all he has rented; consequently he skims over rapidly to get it all." Furthermore, according to this contributor, tenant farming does not allow the numerous money savers which should be on a farm: chicken houses, work shelters, a tool shed, ash hoppers, manured spots for a garden, hot beds and orchards. In fact, the tenant system discourages inputs into the farm other than the most basic necessities needed for sharecropping and subsistence.

There is also advice for first-time farmers in the magazine. "Plant at least 20 fruit trees the first fall and put one acre in Bermuda grass the first spring and sow on the same ground in the fall fescue or Texas Blue grass seed. Use this for pasture year round. Spend all your time on the other in deep plowing, manuring, under draining and cultivating" (Texas Farm and Ranch 1884 (24):7).

The idea that one part of the land should be saved for pasture, while the other should be used for cultivation is informative for the period. Also, the idea of deep plowing provides some important insight. Later writers discredited the idea of deep plowing (Warren 1920).

LATE NINETEENTH CENTURY DEVELOPMENT

The increased population and the new prosperity of the last quarter of the nineteenth century brought about a blossoming of Cedar Hill's religious and educational life. The First Baptist Church, which had been organized in 1854 with the Trees, Penns, Hendersons, and other pioneer families as members, moved into Cedar Hill in 1876 and built a 36' × 60' frame building at a cost of $325. The First Methodist Church purchased property from the Santa Fe Railroad in 1883 and built a box frame rectangular structure. The Church of Christ purchased a lot in 1886 (Cedar Hill Historical Commission 1976). Small country schools had functioned since the 1850s on property owned by Melton Merrifield, Crawford Trees, and John W. Penn. Trustees for a public school district in Cedar Hill were elected in 1886. The following fall there were sixteen students enrolled (Dallas Daily Herald 1887:Nov 29). There was also a fine private school, which began life as the Cedar Hill Institute for Girls in the 1880s and grew into the Cedar Hill Academy. By 1890 it had 120 students (Dallas County 1892).

The development of businesses and other amenities in Cedar Hill was made possible by the growing prosperity of the farms which surrounded the small town. Each of these farms was centered on a small and sturdy farmhouse, added to and adorned as families grew and thrived. On November 29, 1887 the *Dallas Daily Herald* reported "N. B. Anderson, near town, [has] just finished a neat two-story dwelling house." Most farmhouses were four- or five-room structures, with a kitchen where food was prepared on a wood-burning stove. The *Texas Farm and Ranch*, a semi-monthly magazine published in Dallas from 1885, and the *Semi-Weekly Farm News*, issued by the *Dallas Morning News*, both printed model floor plans and offered suggestions

on decoration, new recipes, etc. This exposure to fashionable ideas, and the invention of the jig saw as a wood working tool, influenced many families to put gingerbread trim on their homes, and to paint them colors other than the traditional white. With easy access to goods in Dallas, families took the opportunity to refurnish their houses. An invoice from the Louis F. Rick Furniture Co., dated January 18, 1894, shows that the Anderson family purchased one folding bed ($50), three rockers ($5, $3, and $2.50), six chairs ($6) and two mattresses ($7). They received a hat rack free as a bonus (Anderson n.d.).

In many respects, of course, farm life retained its traditional pattern. None of the houses had electricity or telephones or indoor plumbing. Water was obtained from wells or springs, and rain water was collected in cisterns or barrels. During warm weather, free time was spent on porches positioned to catch the prevailing breeze. Horses, mules, or oxen were used for cultivation and transportation. Cattle and sheep not only provided beef and dairy products for the family table and wool for clothing and bedding, but also generated cash income when surpluses were marketed. Chickens, turkeys, and geese furnished food for the family and feathers for pillows and mattresses. Women spent the summer canning and preserving fresh vegetables and fruits from the garden and orchard, and their harvest was stored in a cool, dry, root cellar, since they still had no means of refrigeration.

Farmers still coped with the weather, and their comments at the turn of the century were remarkably similar to those of Issac Webb fifty years earlier. "We are having an abundance of rain," W. W. Sloan wrote his father on July 3, 1898, from an area east of Cedar Hill. "Wheat and oats are badly damaged, but corn is shure [sic] fine. The most of the cotton is in weed and grass, but what is clean is looking very well...We have plenty of water in our well but it is the first in over a year." Then, indicating the importance which livestock held, he added, "We have two horses, three cows, three hogs, four pigs, and one dog" (Anthony 1971:16).

Although it was tempting to pasture livestock in lowlands, since the grass was plentiful, there was always the danger that a downpour would flood the bottoms and drown the cattle. Farmers would have to get on their horses after the rain hit and ride down to round up the cattle and drive them to higher ground. The Penns (41DL192) were lucky enough to own a steer who performed that duty; he seemed to have a sixth sense when a storm was approaching and would lead the other cattle out of the lowlands (Hazel 1985:21).

Farmers did benefit from the introduction of barbed wire for fences, replacing bois d'arc hedges and other types of fencing. A history of Dallas County published in 1892 reported that "At the present period of development, almost every farmer in the county has his inclosure fenced with barbed wire. The introduction of this wire was a great blessing to the people. In fact, it would have been almost impossible for the people in the county to have gotten along without it." The same account reported that the average yield of wheat per acre was from 15 to 30 bushels; cotton from one half bale to one bale; corn from 30 to 70 bushels; and oats from 35 to 80 bushels. These crops "cannot be surpassed in any county in the State," claimed the writer. "The cotton stalk is known to grow so high in places that a man can scarcely reach to the top, and the limbs so heavy with bolls that they sometimes break from the main stem" (Dallas County 1892:127).

With economic prosperity and a rising population, the cost of land increased, and so did the number of tenant farmers and sharecroppers. In most cases they were new arrivals with little capital; in others they were former owners who had lost their holdings because of crop failures or other reversals. Sharecropping tenants usually worked on what was called the "third and fourth" system — paying a third of the grain crop and a fourth of the cotton crop. The landowner provided the land, a house for the tenant family, equipment, seed, and credit. Tenant farmers moved frequently, always searching for a better situation. The family of Fo[illegible]yce Sims, who was born in 1894 on a farm near Cedar Hill, moved four times before he was four years old. Their life was spartan. Many years later he recalled his excitement, at age eight when he and his father spent a night in a rooming house in Cedar Hill and he saw real wall paper on the walls. "To paper where we were living," he wrote, "Mother used pages of newspaper on the boxing plank walls, making paste of flour and water. I learned to do some of my reading on these papers". Cotton, of course, was the principal cash crop for Sims' father. "Sometimes when father would haul a bale of cotton to Cedar Hill to have it ginned, I would go with him. Before starting up the long hill west of Cedar Hill, we would have to stop three or four times for [the] mules to rest from [the] hard pull, father putting the block of wood behind wheels to rest [the] team." Although the twentieth century was dawning, it might as well have been forty years earlier for all the improvements in local transportation and roads (Sims n.d.).

Farmers, of course, had been complaining about the roads for years. "Great loss has accrued to the farmers of Texas on account of bad roads, because they could not get their produce to market when they could have gotten the highest prices, besides the wear and tear on wagon and team and loss of time," wrote one irate farmer to the *Texas Farm and Ranch*, April 1, 1890. "Therefore the farmers of Texas should demand of our next legislature to amend the road law in such a way that the people can build permanently good roads." The editors of the magazine agreed: "Every farm wagon as it drags its slow length along our muddy lanes, loaded with a maximum of two bales of cotton or 20 bushels of corn, is an object lesson on the road question" (Texas Farm and Ranch 1890:Oct 15).

CHANGING LIFEWAYS OF THE EARLY TWENTIETH CENTURY

The twentieth century brought with it some important amenities. "I remember going with Father and some men to one of the homes that had a telephone," wrote Sims. "One of the young girls called up some one down the line and they talked. The men sat out in the yard and marveled that one [could] go to a box on the wall, turn a crank, and get some one at the other end and their voices would carry over the wire. Then the quickest way of communicating was to get on a fast horse" (Sims n.d.) The first telephone exchange in Cedar Hill was located in a general store on the town square, and for awhile, it was that only telephone in town.

FARMING AND FARM TECHNOLOGY IN THE EARLY 1900S

In a letter to the editor of *Farm and Ranch* in March of 1900, a farmer notes the changes he has seen take place in Johnson county. "Where once were dense bois d'arc thickets now grow beautiful fields of corn, cotton, oats, wheat and now and then, alfalfa. The latter is one of the modern introductions to the country, having been brought but little of here until two to three years ago. Now patches are seen on almost every farm" (Texas Farm and Ranch 1900 (11):4). Also, when plowed in, it provided essential soil nutrients. As as editor's note, we wish to mention that bois d'arc was not a component of the native vegetation. This description, consequently must relate to the earlier practice of transplanting bois d' arc to hedges and fence posts. Alfalfa was a significant improvement over the various grasses (Johnson and Bermuda grass) as a forage crop for livestock. Alfalfa provided a high nutrient pasture land for livestock.

Uncle John, a regular columnist for *Texas Farm and Ranch*, noted on March 24, 1900 that: "There are a great many men who live on hog wallow, waxy land, who think watermelons and cantelopes of large size and fine quality cannot be grown on such land...This is especially directed at renters who can add to country pleasures even if only on a farm only a year at a time." He then goes on the relate the making of a garden of melons in technical terms such as "break it up deep, three or more times, check it 10 foot apart, with a hoe, pull off the first four inches for about a 15 inch diameter, on one side, plant the seeds and cover" (Texas Farm and Ranch 1900 (12):11).

Also in 1900, the idea of crop rotation was taking hold. The system offered by *Texas Farm and Ranch* for this area was as follows:

> A good rotation system is corn followed by wheat...followed by cow peas, sown, broadcast and plowed in; next year, cotton followed by oats, sown after the cotton is gathered; and after the oats, peas again. This rotation will improve thin soils.
>
> A shorter rotation is also offered.
>
> ...cotton followed by oats, oats followed by mexican june corn and cow peas combined; then wheat followed by cow peas. This will build up the soil faster than the above. (Texas Farm and Ranch 1900(11):2).

Cow peas, a hay product, were supposed to be planted in between the corn rows. The corn offered it protection from the sun. In this manner, the farmer was able to get two crops; one for subsistence and sale and the other for forage.

In 1910, G. S. Rubin of Dallas Co. Texas, offered his technique for cultivating cotton:

> First, take the old middle buster and throw it onto the scrap pile...Then get a good disk harrow and go over the ground four times in the fall and winter. When planting time comes, take a section of harrow and level the ground with 12-inch solid sweeps and lay off; then plant. If the weevils are bad, a good early harvest is recommended. After the stand is secured, the cultivator should be rigged with a buzzard-swing sweep (six inches deep on the inside, 8 - 12 inches deep on the outside) and plow close to the cotton, but never over an inch deep. It is best to plow this way until dry weather.
>
> Then take the plow out of the field. Get a log 18 inches through — one with rough bark is preferable and three feet long. Begin one foot back and hew to a wedge shape. Bore a hole through the wedge part; hitch to the log a big clevis and hook and swivel so you can turn it over. Now, if the weevils are in the cotton, get a long wagon single tree, saddle the mule, mount and you are ready...The object of the long singletree is to knock all squares and bolls that might be infested. The log crushes and covers them up and forms a mulch. If the weevils are bad, go over the cotton twice a week, and you will make cotton in spite of dry weather or weevils (Texas Farm and Ranch 1910(1)18-19).

An important part of raising and cultivating cotton is the use not only of the boll for lint, but also the seed for oil and fodder. Cotton seed is used for two things: as meal for livestock and for the making of cottonseed oil for human consumption. W. L. Wood advises farmers to give cottonseed meal to stock at one-half the weight of grainstuff. This can be given to cows, horses, and pigs (Texas Farm and Ranch 1910(2):14).

Another reader from Ellis County gives his personal testimony regarding the practice of growing cowpeas. He says, "Take the poorest land you have and you can plant that land in peas and turn it under in the fall...I have planted peas for six or seven years and I have seen it advocated to plant them in the middles after you lay by your corn, but I have never made a dollar's worth of peas in my life by planting in the middles" (Texas Farm and Ranch 1910(3):5).

It was often advocated that a crop of peas offered much more than a crop of hay, rather, it was seen as a "triple header": a crop of peas, fertile ground, and manure distribution from letting the hogs and other livestock out to pasture.

In the second decade of the twentieth century, the importance of fall and winter plowing was often emphasized. Plowing served to prepare the ground as a reservoir for moisture, allowed air to enter soil and hastened the work of soil bacteria. When land wasn't plowed in the fall, heavy rains and snows often washed away valuable food. Also, early plowing allowed the humus to fully decompose.

Tenant farmer J. N. Clem, in a letter entitled "Intensified Farming" explains in detail how he went about preparing his garden.

> When I moved to the farm on which I now live (1908)...I found the former tenant had allowed one-half of the garden to go into Johnson grass. I immediately cleared a few years accumulation from the barn and barn lot, and gave that garden a heavy application of barnyard manure, and then with plow and harrow, thoroughly pulverized the ground.

> During the last week of February, I planted the sod part with one-half bushel of Irish potatoes. As my seed wasn't good, I did not get a very good stand and later on planted the vacant places with black wax bean. As the ground became warm the potatoes, beans and Johnson grass got an equal start...About June 10, I dug the potatoes that hadn't been used in the kitchen and planted common white corn. The middle of August we had the best roasting corn imaginable. My cow and horse ate the stalks, husks and cobs, and I took care to cut stalks 16 inches above the ground. About September 10, I finished harvesting the corn that became too old for cooking, and had enough to feed two pigs a month. I also cut the 16 inch stubble close the the ground and had nearly a half-wagon load of fine stove wood kindling. I then planted the ground with an equal mixture of winter turnips. (Texas Farm and Ranch 1929(3):12).

In the question and answer section of *Texas Farm and Ranch* (1910(3):8), a farmer inquires about the proper commercial fertilizer for cotton. He is recommended to manure the field and then apply 50 pounds of acid phosphate to the acre, applied by drill a few days before planting time. Barnyard manure should be supplemented with acid phosphate and sulfate of potash or kainite. Manure should be well rotted and thoroughly pulverized.

In this same issue, William Lomas asserts six "secrets to success in dry farming." Break the soil deep, compact the soil, manure it, make sure the vegetable matter in the soil is good, rotate crops, and keep enough livestock to ensure a good supply of manure. C. T. Hogan tells farmers to plant trees on waste land. On overflow land, for example, plant either catalpa or bois d'arc trees. The initial costs are little and a high return will be achieved in five years through suitable wood for fence posts (*Texas Farm and Ranch* 1910(6):12). Fences should be prepared before the busy season. In fact, all needed repairs (manure sheds, shelter for stock, and room for hay) should be done before cultivation.

An important phenomenon which becomes very evident in the early 1900s is the utilization of more cotton by-products. Particularly important is the idea of using cottonseed for both the production of oil and for meal (ground cotton seed) as roughage for livestock feed. Although the first cotton seed oil was pressed in 1875, only gradually did the industry spread. However, by 1910 Dallas was one of the three largest cotton oil milling centers in the county (Bizzell 1924).

The influence of this new innovation is clearly shown in the following quotation: "In former days, millions of dollars of seed were annually thrown aside as worthless, whereas now the value of seed is probably equal to 30 percent of the crop; in the U.S. a very fine grade of oil being extracted...Of 1500 pounds of cotton as it comes from the field, 1000 pounds of the weight is seed...of which only but a few pounds need to be saved for the next planting" (Texas Farm and Ranch 1910 (9):1).

Along with these advancements also came a dependence on a single cash crop. Already, the effects of the monocropping with cotton were being felt in the four counties around the Project area. Some farmers observed clearly differences in production from farm to farm. Perhaps more importantly, it reinforced the valuable contribution of crop rotation.

W. C. Martin of Tarrant County says, "The cause for so many worn out farms in the South is running the land in cotton...I noticed a neighbor who two years ago planted a plot of ground in oats. After they were harvested, he planted June corn in four-foot rows and sowed cowpeas between the rows. He got a good crop of oats and June corn and had a fine fall pasture for his horses and cattle. The land was then plowed and planted in cotton which, in the face of the drouth, made more than one-half bale per acre. Land just across the road had been planted in cotton for five years only made a bale to seven acres" (Texas Farm and Ranch 1910 (10):17).

There were numerous admonishments for farmers to cut down on the planting of cotton in the second decade of the century because the market price of cotton was severely depressed. Particularly striking was the admonishment to plant more corn. "More corn means — more hogs, beef, better work stock, better soil fertility, and more profit. More cotton means more debt" (Texas Farm and Ranch 1910 (12):18).

IMPROVEMENTS IN RURAL LIVING

On the brighter side of the picture, the first quarter of the twentieth century was a period of rapid technological advancement. Of course, rural farmers did not always acquire all the modern conveniences as soon as they hit the market place. Unlike their urban counterparts, rural households had to wait considerably longer for simple utilities and other modern conveniences. For example, sometime before World War I enterprising Cedar Hill residents opened a Dynamo Electric plant in town, which provided power to homes in the evenings. At 10:30 the lights blinked, and at 11:00 the plant closed down. The owners also operated the plant for a few hours on certain days of the week so that housewives could use electric irons and any other new appliances they were lucky enough to own (Cedar Hill Historical Commission 1976).

Until the 1930s, few if any of the farms in southwest Dallas County had electricity, although a few installed carbide gas systems or battery operated generators. Using septic tanks, the more prosperous farmers installed indoor plumbing, but most of the tenants probably continued to frequent outhouses. Cooking on wood burning stoves was the norm until World War II.

The important changes in rural areas in the early twentieth century dealt with notably physical comforts in the farm home, but also with the breakdown of the sense of isolation which had always been part of rural life. The creation of Rural Free Delivery in the 1890s (inaugurated from Cedar Hill in 1902) led to a major improvement in roads, since the mailmen refused to contend with muddy, rutted lanes. Better roads, as the farmers had long argued, made it easier for them to transport themselves and their produce to town. Although the automobile, introduced to Dallas in 1899, remained a plaything of the rich until World War I, better roads and mechanized vehicles obviously went hand in hand.

Rural Free Delivery also brought mail order catalogues to the home, carried orders to Sears, Roebuck

and Montgomery Ward, and delivered the promised merchandise. RFD made it possible for farmers to subscribe to daily newspapers and thus to become much more aware of the happenings in the wider world. Many news-starved farmers signed up for two or three daily papers, and by 1902 the newspaper boom was so great that the *Editor and Publisher* magazine reported that "the daily newspapers have never had such a boom in circulation as they have since the free rural delivery was established" (Fuller 1964:294-5). A survey of 500 farms in Rockwall County, immediately east of Dallas, taken in the early 1920s, revealed that 336 of the families took a local paper, and 135 subscribed to the *Dallas Morning News*. In addition to the other Dallas papers and the *Semi-Weekly Farm News*, Rockwall farmers also subscribed to papers in Forth Worth, Houston, and St. Louis. Of all the homes surveyed, 490 received daily mail service (Texas Agricultural Experiment Station 1925:145-150).

The tendency to adopt a technology which reduced the sense of isolation, ahead of inventions which simply made life more comfortable, continued after World War I. Forty percent of the Rockwall County farms had telephones in 1922, for instance. Considering the relative newness of the invention, and the time-consuming process of stringing lines along rural roads, this is a fairly high statistic and indicates the importance which farm families placed on the ability to communicate with those beyond their immediate local area. Equally striking is the fact that 313 of the 500 farms had an automobile, and that the cost of the car represented 25% of the total investment in farm machinery. A man with a car is obviously more mobile and less isolated than one dependent on horses or mules.

During the 1920s radios became the vogue. On November 2, 1920, Station KDKA went on the air in East Pittsburgh with the news that Warren G. Harding had been elected President of the United States. Within two years 564 stations were broadcasting, and $60 million worth of receiving sets were sold. Like the magazines and newspapers which flooded the countryside after the advent of Rural Free Delivery, radio helped break down the sense of rural isolation. Farmers often became obsessed with how many stations they could receive, and from how far away. Since reception was best at night, they often stayed up late twisting the dials (Wik 1981:340-350).

Radios brought the farmer daily weather forecasts and the latest quotations on farm commodities. State agricultural colleges and the Extension Services began broadcasting farm programs, offering soil conservation information, tips for successful farming, and comments on home economics. Radio advertisements introduced farm families to new products and offered them more options, such as ordering directly from a manufacturer. Religious hours, as well as educational and musical programs, became popular, enriching the lives of families whose daily lives were restricted to their farms.

The penetration of the radio into rural homes near Dallas was slow but steady. In February, 1921, the editor of the Mesquite newspaper noted that so far only one local resident had a receiving set, but he predicted that others would soon follow (Mesquite Historical Commission 1984:137). The survey of 500 Rockwall County farms, conducted in the fall of 1922, revealed that 43 homes had radios. "The number of radio sets has evidently increased very considerably," noted the report when it was published in 1925, "since at that time the radio was just being introduced on the farms" (Texas Agricultural Experiment Station 1925:145-150).

Although farmers were relatively quick to take advantage of daily mail service, telephones, radio, and automobiles — all of which helped break the burden of isolation — they were slower to adopt improvements in their living arrangements. The Rockwall County survey revealed that only 61 of the homes enjoyed running water, only 34 had bathing facilities, and only six had septic tanks. "There is an almost universal lack of effort on the part of farmers in this region to beautify the home by the use of grass, trees, flowers, and shrubs," observed the report. Other farm buildings were in even worse shape. "Leaky roofs, dilapidated walls, and a total absence of paint were...glaring...It was unusual to find painted barns and other farm buildings." Moreover, the number of outbuildings was generally inadequate to fulfill the needs of the farm. A total of 379 farms had no sheds for storing machinery or shops for repairing it. Garages to shelter cars were more common than poultry houses for the chickens (Texas Agricultural Experiment Station 1925:15).

Electricity did not reach most Dallas area farms until the late 1930s. Early electric equipment was bulky, and the distance of most farms from a generating plant made stretching lines an expensive proposition. In addition, early service was not always reliable, and many people harbored suspicions about the safety of electric appliances. Many farmers doubtlessly considered electric power for home use a dispensable luxury. The Rockwall County survey indicated that 34 homes had "lights," but it was not clear if their source of power was a public utility or their own private generator. One of the residents of the Cedar Mountains area recalled that his family installed a carbide gas system about 1918, and Fordyce Sims remembered generators powered by windmills (Sims n.d.).

A breakthrough came in 1929-1930 when engineers from utility companies and manufacturers of electrical equipment succeeded in developing pole-line hardware and new high-strength conductors which made it practical to use small-top poles spaced 600 ft apart instead of the 175 - 200 ft required by the old design. Texas Power and Light Company had already begun a campaign to interest more farmers in electrifying their homes. In 1927 it published and distributed a booklet entitled Electricity and Agriculture, pointing out the many services electricity could offer the farmer. In the same year its Merchandise Sales Department conducted cooking classes in connection with a campaign to sell electric ranges. Once the cost of installing the lines was reduced, T P & L began more aggressive marketing, sending specially trained employees into the territory adjacent to its rural lines, distributing a booklet entitled *City Conveniences Are Moving to the Farm*. Newspaper articles, such as one in the *Dallas Morning News* headlined, "Farmers Find Electricity Bringing Them Advantages Their City Cousins Enjoy," featuring photographs of electric pumps, feed grinders, and churns, also promoted the advantages of the new power source. As a result, during 1930, some 500 rural homes and farms were electrified by T P & L (Johnson 1973:58, 73-80).

Another impetus to electrify came in 1935, when Congress passed the Rural Electrification Act (REA).

This made money available to groups of farmers through government credit, at 2% interest rates and providing for a long amortization period, with which to build rural lines in areas not receiving central station electric service. Although the Act was met initially with some reservations by the electric utility companies, in the Dallas area REA and T P & L soon split up the territory, T P & L confining its service to areas adjacent to the towns it served and along the rural lines it already owned. By 1939 the company was providing electric service to approximately 10,000 farm customers over 4800 miles of distribution lines. According to some of the oral interviews conducted in the Joe Pool Lake project, some of the farms in that area were not electrified until 1940 or 1942. Despite the advantages offered by modern technology, the 1920s were not an easy decade for farmers in North Central Texas. During World War I, the price of cotton, as well as other commodities such as steel, surged. At the end of the war cotton prices plunged — from around 40 cents per pound in 1919 to about 13 cents at the beginning of 1921 — but the drop in steel prices was less. The cost of farm implements, therefore, remained high. The prices farmers could fetch for their produce continued to fluctuate wildly, while the cost of farm machinery was often beyond their reach.

In the early 1920s, when the tractor was becoming important in American agriculture, it was still not used on many farms in the four county area. At the same time, however, articles and headlines proclaimed that Texas farms were nearing the motorization stage. Farmers were acquiring medium size tractors and the new self-feeding, binding and tying hay bailers. In terms of the dairy industry, there were improvements in the automatic cream separator and improved cereal mills. However, the majority of the advertisements in both the *Semi-Weekly Farm News* and *Texas Farm and Ranch*, picture the old mule or horse drawn plow and cultivator. The techniques of farming in the area had not changed much from earlier times.

The following two excerpts illustrate how little knowledge about cropping has changed.

> To plant corn, make a deep seed bed. Fill the seed bed with vegetable matter and give it good drainage. Use the best seed. Practice intensive cultivation. Valuable aids are: disc plow, adjustable tooth harrow and the weeder.
>
> For a cowpea crop, broadcast one-half to one bushel to the acre at the time of the last working of the corn. The corn should be gathered as early as practicable and the stock turned in. Fortunate is the man who has the right fencing so that the pigs, work stock and cattle can have a chance at the cowpeas. On some of the poorer land, the corn rows may be made six feet apart and a row of peanuts planted between them. This will add to the value of the fall pasture when no cowpeas are planted. As soon as the cowpeas have been fairly well grazed, break deep, setting the furrows on edge; harrow, sow to oats, vetch, winter barley or rye and turn this under in the spring (Semi-Weekly Farm News, Feb 18, 1920:3).

Crop rotation techniques had not changed significantly since the late nineteenth century. A typical rotation would be to plant thirty acres each in alfalfa, corn (for two years), cotton (for two years), and sow cowpeas with the corn at the last cultivation.

Beginning in 1922 the county agricultural agent, A. B. Jolley, worked with farmers to help them improve their soil, increase productivity, and find better and more efficient ways to run their operations. Jolley encouraged crop rotation, diversification, and planting of cover crops which, when plowed under, would enhance the yield of the worn, eroded soil. He also conducted experiments throughout the county to determine what varieties of cotton were best suited to the area. While Jolley was working with the farmers, home demonstration agents were educating their wives. In a program which began with a single agent in 1913, farm wives were taught to can tomatoes and meat, and to prepare exhibits for the State Fair. In 1923, with promotional help from the *Semi-Weekly Farm News*, the agents mounted a campaign to remodel farm kitchens, offering prizes (Cross 1930).

The role of the extension agents and the home demonstration agents in introducing modern methods to farmers should not be underestimated. The President of Texas A & M, writing in the early 1920s, observed, "These men and women are touching in a vital way more than 150,000 farmers, farm women, farm boys and girls with some definite project in agriculture or home improvement. They are making available to the farmer and his family the large store of information that has been accumulated during the past 50 years" (Bizzell 1924:367). Bizzell also noted that Texas, in fact, had the largest extension program of any state: in 1923 there were 160 county agents and 70 women home demonstration agents. Not that farmers always welcomed the agents with open arms. Conservative by nature, many regarded with suspicion suggestions that they alter the habits of a lifetime. Clever agents persuaded farm boys and girls to undertake a new project as an experiment, hoping that when the farmer witnessed with his own eyes the greater yield of a certain crop, or the faster growth of some livestock, he would accept the value of the new methods.

Life was particularly hard for the tenant farmers. "Few tenant houses are painted and scarcely any of them have household conveniences," observed the President of A & M in 1923 (Bizzell 1924:405). Fordyce Sims was farming 50 acres four miles southeast of Cedar Hill in 1925. The owner furnished the team, tools, and feed, while Sims did the planting, cultivating, and gathering of crops, which they divided in half. Like other farmers in the area, Sims received credit from Strauss' general store in Cedar Hill until the cotton was sold in the fall. "By that time we had managed to get some milk cows," he recalled. "Then we got a route in Oak Cliff selling butter at 24 cents a lb., eggs 20 cents a dozen, fryers, fruit, and garden stuff in season. We averaged about $10 - $12 a week selling this produce." Out of this cash income they bought gasoline for the car, clothes, and groceries. In the late 1920s, "everything hit rock bottom, and so did cotton and corn, oats, wheat and all farm products," Sims remembered. Cotton sold for 5 cents a lb., corn and wheat 50 cents a bushel, and oats for 25 cents a bushel. "Hester and I worked hard then. In winter time of short days, I would feed the stock and we

would milk the cows by lantern light. Hester would get breakfast while I separated the milk and cream in a separator, and fed the calves their skim milk. I would be going to the field with team and plow by sunrise...At sundown we did the chores again, getting through by dark" (Sims n.d.).

NEW OPPORTUNITIES AND IMPROVED RURAL LIFE

In *Texas Farm and Ranch* in 1930, there was an increasing number of articles and advertisements on poultry production and dairying. At the same time there was mention of terracing fields by renting a tractor and grader. Following earlier plans, there was considerable space devoted to requesting farmers to reduce their cotton acreage. The plight of the small farmer was often discussed, particularly cotton growers. According to *Farm and Ranch* articles, many cotton growers intended to plant feedstuffs and to begin to raise more livestock (i.e., reduce cotton acreage).

Within this context, the problems associated with tenancy are clearly stated by a young tenant farmer. He says, "You know a renter can't plant much feed, but what do you do when you can't get a place without planting it all in cotton or paying a large bonus and then paying the customary rent?" (Texas Farm and Ranch 1940 (8)4).

Also in the 1930s, advertisements for draft-drawn plows were conspicuously absent. There was also a much larger emphasis placed on raising hogs, cattle, and chickens.

In an editorial in *Texas Farm and Ranch* (1930: Dec. 13,8) entitled "Tractor vs. Horses or Mules", farmers were asked to not condemn tractors. The author reminded farmers that the profitable market for feedstuffs was in selling it to provide city horses. Now, when the horse is being replaced by the truck and car, the market is no longer there. The value of the tractor, however, is threefold: perform labor quickly and at the right time, proper plowing depth and it is often too dry to plow with mules or horses but a tractor can do it. Of course, the crash of the overinflated American stock market and the ensuing Great Depression added further stress to the local rural economy.

Even before the onset of the Great Depression, small farmers were going bankrupt because of the low prices being paid for cotton and other commodities. The economic crisis that swept the nation in the early 1930s only exacerbated the problem. "There was a great moving about of the unemployed," recalled Sims, "trying to find something better with little success... One or two hungry men came by and wife fed them, then there were more. It seems they had some way of knowing where there was a meal. We did not have much, but we shared." The New Deal legislation of the Roosevelt administration helped farm owners, often paying them not to plant, so as to avoid surpluses and keep prices up. But the same laws often had the consequences of forcing tenants off the land. Many sought work in the cities, adding to overcrowding and other urban problems. Sims himself had to change farms several times before finally going to work as postmaster of Cedar Hill in 1941.

America's entry into World War II revitalized the farm economy as the demand for production increased. The war provided the final impetus which sent most of the tenant farmers into urban factory jobs, and encouraged those farmers remaining on the land to modernize homes and equipment, and try new farming techniques.

Once again, magazines like *Texas Farm and Ranch* offer an inside perspective on farming condition at the time. Issues in 1943, for example, were clearly dominated by the War. Still, advertisements featured tractors and oil derivative products. However, this can be deceptive since it was obvious from letters that some were still using draft animals for farm work.

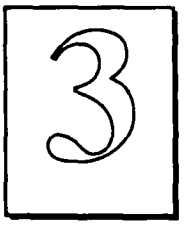
Cotton was still the dominant crop for the area. According to an editorial entitled *Cotton is More than Lint*, "For every bale of cotton produced, there are 1000 pounds of cotton seed; which yield 130 pounds of oil; 400 pounds of meal; 40 pounds of hull (used for seed roughage); and 78 pounds of linters (at this time being used in the making of munitions)" (Texas Farm and Ranch 1943(3):3). Clearly, cotton was being used to its utmost potential.

Also in 1943, there was an emphasis on terracing and contouring the land in order to aid soil conservation. In addition, there also was a general call to improve pasture for grazing.

The dairy industry also was undergoing changes. Milk production was being reduced or staying constant in the face of high production costs. For these reasons, there was a shift towards milk products, such as cheese and powdered milk. Cows raised for such purposes could be grazed on cheaper quality pasture land. Also, by this time, poultry and egg productions were fairly mechanized operations.

By 1945 the Cedar Mountains region, like most other rural areas in Dallas County, had entered a new era. Many of the pioneer families, of course, remained. Andy Penn still occupied the house (41DL192) built by his father about 1876, on land purchased by his grandfather in 1859. Napoleon Anderson's descendants still owned his land, and members of the Ramsay-Strauss family were still on their ranch north of Cedar Hill. Marion Loyd was on his grandfather's place (41TR39), just across the line in Tarrant County. And because of their respect for the past, much history, both personal and architectural, had been preserved. But their lives were dramatically different from those of their parents and grandparents, and the pace of change was quickening steadily. The older rural traditions had come to an end.

ARCHAEOLOGICAL, ARCHITECTURAL, AND LABORATORY METHODOLOGIES



by

Susan A. Lebo, David H. Jurney, and Melissa M. Green

An interdisciplinary approach was used to recover important archaeological, architectural, archival, and oral informant data from the thirteen historic properties deemed significant. Our investigations were oriented, but not limited to, a broad understanding of the traditional lifeways of families within the Project area between the 1850s and 1930s. Major research questions focused on historic settlement, development, and decline of communities within the Project area; subsistence systems; characteristics of the size, layout, and proxemics of farmsteads; material possessions; ethnic and temporal associations; and architecture, including dendrochronological information. A detailed discussion of the historic research hypotheses which directed the 1979-1980 Survey and Testing Phase, and those developed for the 1985-1986 Mitigation Phases, was presented in Chapter 1. The methodologies used to conduct this research are presented in this chapter.

Sites selected for mitigation were recommended for data recovery because of the adverse impacts expected to affect these resources as a result of dam construction, inundation, wave action and shoreline erosion, park development, land clearance and deforestation, or vandalism. Primary adverse impacts identified for specific historic sites (RFP DACW63-84-R-002: J-10, J-11) were dam construction and inundation for site 41DL191 (Pool), inundation for site 41DL196 (Hintze tenant), wave action and shoreline erosion for 41TR48, 41DL181, 41DL183 (Marrs Tenant, Hintze, and Holveck), and park development for 41TR39, 41TR40, 41TR42, 41TR45, 41DL190, and 41DL192 (Loyd, Lowe, Bowman, Reitz, Anderson, and Penn). In addition, land clearance would affect all sites with the exception of 41TR48 and 41DL192 and vandalism had already seriously impacted 41DL181, 41DL191, and 41DL192.

Two major approaches were developed to mitigate the loss of significant historic properties and fulfill the Joe Pool Lake Mitigation Plan. First, a program of archaeological data recovery was implemented for thirteen farmsteads, including ten landowner, and three tenant sites. Excavation focused on two types of archaeological phenomenon: broadcast sheet refuse and discrete features (i.e., wells, root cellars, trash deposits, structures, etc.). A detailed list of all historic properties, structures, and discrete features scheduled for archaeological investigation is presented in Table 3-1. The second approach focused on standing structures and significant collapsed structures which required rapid documentation to insure data recovery before loss from vandalism or adverse impact from the construction. Detailed scaled drawings, photographs, and tree-ring data were recovered for significant structures. The archaeological and architectural data recovered for each historical property are presented by site in Chapters 4 through 16.

Table 3-1
MITIGATION MEASURES FOR HISTORICAL PROPERTIES IN THE JOE POOL LAKE PROJECT AREA[1]

		Excavations	Architectural Documentation	Preservation
41TR39	Loyd	Sheet refuse; block at suspected slave quarters; excavate well; define barn	Record house (notes & photos)	Possible removal
41TR40	Lowe	Sheet refuse; excavate well	Record house (notes & photos)	Possible removal
41TR42	Bowman	Sheet refuse; excavate well	Record house	Offer for restoration possible removal
41TR45	Reitz	Sheet refuse	Record barn foundations (notes & photos)	Possible removal
41TR48	Marrs Tenant	Sheet refuse; excavate trash deposits; test cellar		
41DL181	Hintze	Sheet refuse; excavate trash deposits		Barn will be removed
41DL183	Holveck	Sheet refuse	Record barn (notes & photos) Penn site; removal	Remove wood for possible reuse at of house & barn
41DL190	Anderson	Sheet refuse; search for 1st house site & slave qtrs.	Record cellar	Stabilize cellar & fence; salvage wood in barn for possible reuse at Penn site
41DL191	Pool	Sheet refuse; test cellars	Record barn (notes & photos)	Strutures will be removed
41DL192	Penn	Sheet refuse; test & record wells, cisterns	HABS recording of Old House, small barn, large barn, granary	In-place preservation planned
41DL196	Hintze Tenant	Sheet refuse; test trash deposit	Record house (notes & photos)	Structures will be removed

[1] Taken from Table 1 and text in the Mitigation Plan

ARCHAEOLOGICAL DATA RECOVERY

The archaeological research involved a multi-phase excavation strategy that would allow us to obtain a level of sampling comparability necessary for intra- and inter-site comparative studies. These studies addressed a wide spectrum of research questions (see Chapter 1) which were best approached by implementing a broad, interdisciplinary program of excavation and data recovery. In addition, the excavation strategy was designed to maximize data recovery while minimizing overall costs. Systematic excavations allowed for rapid site coverage and representative samples of the cultural deposits at each site. A judgemental approach would have required considerable information prior to excavation concerning the distribution and density of the sheet refuse deposits, as well as the location of specific activity areas and discrete features (e.g., dwellings, outbuildings, wells, cisterns, root cellars, privies, etc.). This level of information was unavailable prior to data recovery. In addition, many discrete features identified in the Project area were buried below the present surface, and were not located prior to excavation. For example, the stone lined wells at 41TR39 and 41TR48 were found at depths between 30 and 50 cm , and the 1880-1900 trash deposit (Feature 1)

at 41DL192 was first identified 10-20 cm below the surface. Each of these discrete features were located using a systematic excavation strategy. Judgemental sampling generally results in a greater distance between units, which makes it more difficult to assess site limits, and to examine broad yard structure within a site. Judgemental sampling works best after systematic samples have been recovered to provide information in its support.

A combined systematic and judgemental sampling strategy was implemented on the Joe Pool Lake Archaeological Project following some previous projects (e.g. Richland Creek Archaeological Project, Corsicana, Texas; Jurney and Moir 1897; Moir and Jurney 1987a). After a systematic sample of the site had been obtained, and the site limits were defined, judgemental sampling was utilized to examine specific activity areas and discrete features. Three phases of excavation were implemented. The first involved the systematic excavation of 50 x 50 cm units in 10 cm levels to sterile matrix across each site. Spacing between units varied between 8, 12, and 16 m depending on site size and complexity, and allowed us to define site limits, identify yard structure, including sheet refuse density and distribution, yard layout and feature proxemics (i.e., spatial arrangement and distance between discrete features including wells, cisterns, smokehouses, barns, sheds, dwellings, etc.).

Each systematic unit was hand excavated, and all soil was screened through 1/4 inch (6.4 mm) hardware cloth. All cultural material was collected, recorded, labeled, and curated, with the exception of undiagnostic architectural and metal remains. Undiagnostic brick fragments (when in great quantity), unidentifiable thin iron (rotted tin can and wire fragments), concrete, mortar, cement, asbestos shingles, floor tile, and composition siding were recorded, and reburied in the units they were found in. In many cases, a sample of these remains were collected and curated for each site. A field form was filled out for each unit level (10 cm level) and included observations on unit size, provenience, depth of cultural deposits, density, soil color, disturbances, and other important information.

A series of computer SYMAPs (Laboratory for Computer Graphics and Spatial Analysis 1975) were produced for each historical property showing the distribution of several artifact categories useful in identifying site limits, activity areas, house locations, and other discrete features. These maps were designed to provide a spatial representation of sheet refuse and discrete features which could be used to help direct the second and third phases of the fieldwork.

The second stage of excavation consisted of collecting a finer systematic sample of the sheet refuse at selected sites. These sites were selected based on the integrity and age of the sheet refuse. Sites that received additional sampling were 41TR39, 41TR48, 41DL191 barn area, 41DL192 (Old and New), and 41DL196. These five sites contained intact sheet refuse middens associated with single occupations, except 41DL192 which was serially occupied from ca. 1859 until the site was sold to the U.S. Army Corps in the 1970s.

Based on the SYMAP data, a second systematic grid was laid out which included the dwelling location, and the most artifact dense portion of the sheet refuse midden. Excavation units were spaced 4 m apart, generally extending up to 20 m from the dwelling.

The third stage of fieldwork focused entirely on discrete features and activity areas. Spaces under houses and former foundation areas of buildings were sampled in detail. A series of systematic (units on 4 m grid) and judgemental units (on 2 m grid, or offset) were excavated under each burned structure to recover a representative sample of the architectural elements deposited when these structures burned. These units were excavated by hand using 2 cm level increments until sterile soil was encountered. Munsell soil colors (Munsell Soil Color Chart 1973), soil texture, and the distribution of burned and disturbed soil, were recorded for each level. Artifacts were recorded by level, or when appropriate, by stratum. The architectural materials recovered provided a substantial data base for examining the building technology and architectural style(s) of structures which had burned either while occupied (41DL190), or after abandonment (41DL181, 41DL193 barn, 41DL191, 41DL192 New, 41DL196, 41TR48). Four of these sites were selected for additional analysis focused on the vertical movement of cultural material in their soils, (i.e., 41TR48, 41DL191, 41DL192 New, and 41DL196). Cultural material recovered from units under the structures at these sites were weighed and a variety of measurements were taken (e.g., length, shape) to examine the relationship between artifact size, weight, and shape, and the rate of vertical movement within the site.

Among the discrete features investigated as part of the Joe Pool Lake Mitigation Plan for historic properties were five root cellars, five trash deposits, and three wells. A detailed discussion of each of these features is presented in the site descriptions in Chapters 4 through 16. Two approaches were used to investigate these features and included both mechanized excavation, and hand excavation.

When appropriate, heavy machinery was used to expose or excavate portions of large discrete features. Backhoe trenches were excavated to (1) expose the exterior face of specific features, (2) remove an interior section of a feature, cutting a face for profiling the interior fill, or (3) opening up a feature by removing an entire face, or portion of the feature on historic properties.

Hand excavated trenches were also used to help expose particular sections of specific features which had initially been partially uncovered or removed by a backhoe trench. Such trenches were used to identify the major wall locations and the entry way to the two root cellars at 41DL191. Several features were entirely hand excavated, and included two trash deposits at 41DL192 Old (Features 1 and 3), stone lined wells at 41TR39, 41TR40, and 41TR48, among others.

In summary, the archaeological data recovery program was directed at obtaining a representative sample of the sheet refuse and discrete features identified at sites recommended for mitigation in the Project area. A systematic excavation strategy was used for examining the sheet refuse midden, and judgemental units were excavated within discrete features, and under dwellings. This multi-phase approach allowed us to recover a variety of information from historical properties in the Joe Pool Lake area.

ARCHITECTURAL DATA RECOVERY

Architectural documentation of standing structures and significant collapsed structures constituted the second major emphasis of fieldwork, and entailed 14 structures on 7 historical sites. This work focused on the production of scaled drawings and floorplans, photographs, interior and exterior observations, special material culture collections, and dendrochronology. In addition, a specialized study of building siding styles in the Project area was performed, and its results used in dating some structures, and their alterations. A more detailed discussion of the dendrochronology study also performed on Joe Pool Lake historic sites is presented in Chapter 28. The results of the architectural documentation of structures at each site are presented in Chapters 4 to 16.

The architectural aspect of the Joe Pool Lake Archaeological Project focused on expanding and refining previous work conducted in 1977 - 1978 and 1979 - 1980, and built upon the photographs and measured drawings collected at the time. Additional drawings and photographs were produced where needed. All of these studies focused on refining the chronological significance of various building technologies and types in the Project area.

Scaled drawings, notes, and photographs were made for all extant structures specified in the Joe Pool Lake Mitigation Plan (see Table 3-1). Scaled floorplans and elevations were already available for several sites, and included 41TR42 and 41DL192. The Mitigation Plan (U.S. Corps of Engineers RFP DACW63-84-C-0146:J-17) originally called for documentation of concrete barn foundations at 41TR45, but these were terminated when it was determined that this structure postdated the 1950s. Instead, the older barn at 41TR45 was photographed, and the nails and other major structural elements were examined. In addition, tree-ring samples were collected from the foundation of this barn for dating. Two structures included in the Mitigation Plan had been burned to the ground before fieldwork began in 1985, and included the barn at 41DL183 and the house at 41DL196. Additional architectural documentation was not possible, and our examination of these structures focused on the drawings, and field notes recorded by North Texas in 1980 (Ferring and Reese 1982), and the recovery of a representative sample of the architectural items deposited in the archaeological record. These structures are discussed in detail in Chapters 5 and 9, respectively.

Scaled measurements and architectural documentation focused on the dwellings at 41TR39 and 41TR40. The house at 41TR39 remained intact, while the one at 41TR40 had collapsed and was partially salvaged for reusable wood. A tenant dwelling was documented at 41DL190E (east) which dated to the 1920s and was added to the properties which received architectural mitigation work. The outbuildings at 41DL190 and 41DL191 were also drawn. All structures which had been previously documented were revisited, and all architectural assessments or interpretations were re-examined. Major clarifications of building construction technology and typology, as well as function and dating, were provided by this work.

Table 3-2
INVENTORY OF THE NUMBER OF SALVAGED ELEMENTS BY SITE

Element	Bowman	Anderson	Lowe
Interior Trim			
Baseboards	30		
Corner insets	12		
Door/window casing	20		
Base blocks	12		
Ceiling Material			
Tongue-and-groove (16')	16		
Beaded (16')	25		
Beaded (random lengths)	25		
Shingle Lath		16	
Shiplap	3		
Clapboard (weathered)		12	
Cedar Poles (8')			6
Cedar Poles (12')			27
Large Sawn Sill Beams (8')	4	5	1
Large Sawn Sill Beams (12')	5	10	
Floor Joists 3x10, 3x12, 8'	3		
Floor Joists 12'	7		
Rafters, Studs 2x4, 2x6, 2x8, 8'	4	4	
Rafters, Studs 12'		4	8
Miscellaneous Materials			
Bowman	1 door, 18 hinges, 1 length of scrap iron, 2 door lock plates		
Anderson	1 roll Glidden barbed wire, 1 door, 1 lightning rod & accessories		

The Mitigation Plan also called for salvaging usable lumber and equipment from several properties, and included the barns at 41DL183 and 41DL190. The barn at 41DL183 was dropped from the Mitigation Plan because it had burned to the ground before mitigation work began. Field visits and discussions with the COE Archaeologist indicated that other structures contained usable wood, including 41TR40, 41TR42, and 41TR45 (only two cedar poles). Table 3-2 lists the types of lumber and hardware collected from three major sites. This lumber was partially rotten and termite eaten, so each piece was thoroughly sprayed with insecticide five to six days before storage at the Penn farmstead. Also, a number of hinges, straps, and other building hardware were collected for possible reuse.

DENDROCHRONOLOGY STUDIES

Tree-ring dating of structures in the Project area was a primary focus of the architectural study, and was designed to assess the chronological significance of specific buildings. Several tools were necessary to collect tree-ring samples, and their selection was dependent on the condition of the building. A chain saw, bow saw, or crosscut saw was used to cut sections out of rotted structural elements from a collapsed structure. Access to the ends of logs was gained from old

Table 3-3
LISTING OF TREE-RING SPECIMENS COLLECTED FROM EIGHT PROPERTIES[1]

Site	# Species	Architectural Association	Growth Rings
41TR39	6 oak	Superstructure	150+
41TR40	21 pine	Superstructure	150+
41TR42	9 pine	Recycled buildings	150+
41TR45	1 oak	Pier, late 19th c. barn	150+
41DL190	17 pine	Superstructure	200+
41DL192		Superstructures:	
	4 pine	Main house	
	2 oak	Large barn	100
	4 red cedar	North granary	
	9 oak	South granary	150+
	14 red cedar	Old house	100
	22 red cedar	Double crib barn	130+
	15 red cedar	Single pen barn	130+
Old City Park	8 oak	Superstructure	180+
T. M. Ellis	10 oak	Superstructure	150+

[1] Two buildings located outside of the Project area were collected and included for making regional comparisons

doorways, and frame buildings could be sampled in the attic or under the house. Nondestructive tools were used to sample standing structures. A coring implement was used to sample structural elements that would be left exposed after restoration, rehabilitation, or continued use by the owner. A Model 1 Archaeological Core Specimen Extractor Kit, consisting of a 3/8 inch drill bit adapter, a starter bit, core drills, and core break-off tool, manufactured by the Fred C. Henson Company (1984) was used in combination with a 3/8 inch electric drill and electric generator to extract small corings. Other tools that were used included a crow bar, nail puller, claw hammer, wood chisel, step ladder, compass and coping saws, dowel stock for plugging core holes, indelible markers, masking tape, and large collection sacks. Various recording forms that listed the specimen, architectural association, and tree-ring specimen characteristics completed the field equipment inventory.

Laboratory processing of tree-ring samples required access to a wood shop or workbench. Specimens were trimmed into radial (pith to bark) sections using a table saw or a circular saw. The specimens were then nailed securely to a wooden bench and sanded using a belt sander, with progressively finer grits of sandpaper (60x to 400x). Following this, the specimens were hand polished with 600x sandpaper. Fresh razor blades were used to trim dense ring growth, pith, and rotten or termite eaten areas of the sapwood elements of each specimen.

A total of 136 tree-ring samples were collected, and included both cross-sections and core specimens from 14 buildings from 8 sites (Table 3-3). After sanding and surfacing, 53 specimens were eliminated from further study. These 53 specimens were determined not suitable for dating because of insufficient rings (i.e., less than 50 growth rings). The remaining specimens were plotted and analyzed by David Jurney and David Stahle. Of these specimens, 14 produced absolute dates, with four crossdating among themselves (floating chronology), and 65 were not dated due to complacent ring growth. A detailed discussion of this dating methodology is presented in Chapter 28.

LABORATORY PROGRAM

The laboratory was established at Greenhills Environmental Center in Dallas for the 1985 season, and at Southern Methodist University for the 1986 season. Material recovered during excavation was sent to the laboratory on a regular schedule, where it was washed, labeled, analyzed, and temporarily stored until the fieldwork was completed.

Data management for the Joe Pool Lake Archaeological Project was aimed at providing a rapid, reliable, and cost-effective means of managing the material remains recovered from each field season, including 1977 - 1978, 1979 - 1980, and 1985 - 1986. Sheet refuse and feature remains, along with all field notes, photographs, illustrations, computer printouts, architectural and archival data, had to be organized, integrated, and curated for the Project. These materials are permanently stored at the Archaeology Research Program, Southern Methodist University, along with computer tapes which contain a copy of all data files, and microfiche copies of all written records.

Four analysts and one computer data entry person worked in the historic field laboratory. Their tasks were to: (1) quickly and accurately process the field data (artifacts, Munsell samples, flotation samples), and to (2) produce preliminary results that could be used to direct the remaining fieldwork.

An extensive type collection of nineteenth and twentieth century material remains was developed for the Project and served as a teaching collection, a display for visitors, and as a means of monitoring the identifications, and replicability of the analysts. The type collection included examples for each attribute class for the 13 major artifact categories in the classification system used for the historic analysis.

Several editing approaches were utilized to identify and correct identification and data entry errors. Editing occurred at three stages in the laboratory process: (1) during the analysis, prior to data entry, (2) during data entry and transferal, and (3) before data manipulation and hard copy output. Hand editing before the data were entered focused on identifying errors made by individual analysts. These included incorrect identifications or coding errors, where the identification was correct but an error was made when recording the information on the computer sheets. Editing after these data were entered focused on identifying typing errors. These were caught by comparing the original data sheet with the hard copy

printout produced on the computer. The final editing step was conducted after all of these data from a site had been entered and transferred. The data file was resorted by selected variables (e.g., provenience, unit number, class, etc.), making it possible to identify both analytical and data entry errors.

A series of computer programs were utilized for data manipulation. Some of these programs were available, and others were devised by James Bruseth for this Project. The data base system consisted of custom software (Superscriptsit) written for a Radio Shack TRS80 Model III microcomputer connected by telephone modem to the CDC-6600 mainframe computer on the Southern Methodist University campus. This system was used to handle the data entry, transferal, basic manipulation, and storage of computer data files.

Major computer programs used on the Project included *ZORT, SPSS* (SPSS, Inc 1970), *SYMAP* (Laboratory of Computer Graphics and Spatial Analysis 1975) and *SUMMARY TABLES*. The *ZORT* program, sub-system utility of the CDC System, was used for resorting files to aid in identifying data errors, and preparing a synthetic overview of each site by sorting data files by specific artifact categories of interest (e.g., burned versus unburned items, components, etc.). The *SPSS* program provided a wide range of descriptive tabulations that were used in assessing the age, density, distribution, and composition of different yard areas (e.g., under the dwelling, sheet refuse, discrete features, etc.) necessary in preparing the site descriptions. The *SYMAP* program was used for producing spatial maps of artifact densities which were used to provide an assessment of site limits, sheet refuse distributions, locations of former structures, and discrete features. The *SUMMARY TABLES*, another subsystem of the CDC System, were final listings of artifacts by provenience and dominance of the artifact class, showing the number of artifacts per unit per class, as well as sterile units.

Other tasks conducted in the laboratory included processing soil samples for color using Munsell Color Charts, flotation and fine screen samples, illustrating and photographing a representative sample of diagnostic artifacts from each site, and chemical stabilization of a representative sample of the metal items recovered in the Project area.

ARCHIVAL RESEARCH

Archival research was conducted to obtain information on specific topics about early settlement patterns, vegetation, and past lifeways in the Project area. Historical maps, documents, newspaper articles, and family histories, diaries, as well as some vital statistics, tax, and land records were examined and yielded useful information for historical properties and families within the Joe Pool Lake area, as well as surrounding communities, and Tarrant and Dallas counties in general.

Deed/title research began during the 1979-1980 season in the Dallas and Tarrant County courthouses, and focused on establishing the pattern of land ownership and transfer for each site recommended for testing. This research continued during the 1985-1986 mitigation seasons, and included sites 41DL267 and 41DL268. Notes were made on the abstract and deed records to correlate the information on settlement and ownership with the archaeological data recovered in the field. Census records and tax records were obtained for several sites and provided information about the number, size and construction styles of dwellings and outbuildings, as well as economic indicators of family size, status, ethnic background, and subsistence. A detailed discussion of the archival research is presented in Chapter 2. Information pertaining to specific sites is presented in the site descriptions in Chapters 4 through 16.

Information on file at the Texas General Land Office (GLO) in Austin was used to reconstruct the general composition and distribution of vegetation and major environmental zones in the Project area prior to intensive historic Anglo-American settlement. These early survey records contained data on the original plant cover within each tract surveyed. In addition they provided a record of the applications to county surveys for a survey, original land grant certificates, as well as detailed notes on surveying techniques, names of surveyors and chainmen, location of witness trees, and other markers. A discussion of the GLO data is presented in Chapter 26.

INFORMANT RESEARCH AND ORAL HISTORY

Informants provided an additional source of data concerning the historical development of communities in the Project area, changes in subsistence and settlement, attitudes, demography, and lifeways. Informants who had been reared on farmsteads in the Joe Pool Lake area provided a personal reconstruction of the traditional lifeways of families in the area during the late nineteenth and early twentieth centuries.

Several telephone interviews were made by Dr. Wilson Dolman of Texas Parks and Wildlife in 1977, and included Sam Garrett, Steve Nordholt, Mrs. Lovell Penn, Mrs. Deetta Penn, Zelda Vinyard Johnston, Mrs. John W. Anthony, Garland Vincent and James Carrell. A tape recorded interview was also made which included the Penn family history provided by Mr. and Mrs. Lovell Penn and Mrs. Deetta Penn.

Four oral interviews were tape recorded and transcribed during the 1979-1980 season, and included histories provided by Mr. Gwen Hintze (41DL181 and 41DL196), Miss Ruby Pool (41DL191), Mr. James Cain (41DL187), and Mrs. Robert Loyd. Three members of the Goldman family, W. J., Ray, and Bob, provided valuable information on several sites occupied by their family during the late nineteenth and early twentieth centuries, including site 41DL267. A trained ethnologist was employed during the 1985-1986 season to collect oral data from 13 individuals who lived in the Project area or several small communities located near the area, including Cedar Hill. Specific topics were selected to help direct the interviews and included: community identity, yard usage, trash disposal, farming techniques, and traditional activities between 1910 and 1940.

Other informal interviews were obtained from local informants who visited the Penn Farmstead as part of the Open House and Public Excavation Event held May

10-12, 1985. Information pertinent to historical properties and several families that had resided in the Project area, was also provided by the Cedar Hill Historical Society. Several interviews were also recorded as part of the Cedar Hill Bicentennial. In addition, an oral history project sponsored by the Duncanville Historical Society in 1985 produced videotaped recordings of oral interviews of seven Duncanville residents who lived in the area before World War II.

These interviews provided information about the architectural history of the structures on farmsteads occupied by the interviewer's family, and often, structures on neighboring farms as well. Data were also yielded on traditional farming activities, births, deaths, and social and community relationships. Some of this information supported the archival and archaeological records, while some caused direct conflicts, and still others served to enhance specific interpretations. Oral information pertinent to individual historical properties investigated as part of the Joe Pool Lake Mitigation Plan is presented by site within the site descriptions (Chapters 4 through 16). A general discussion of the informant research is provided in Chapter 27.

CEMETERY RESEARCH

Several families which resided at historical properties that were selected for mitigation were represented in two cemeteries located adjacent to the Project area. Some of the grounds at Estes Cemetery were mapped and stones were recorded, while only the oldest section of Pleasant Valley Cemetery was recorded. These tasks were conducted without any costs to the project. Volunteered time was used to collect these data. The tombstone type, shape, age, and epitaph, along with names and decorative motifs were noted.

These investigations were designed to recover information on mortuary architecture and symbolism which expressed the belief system of these individuals and families during the nineteenth and early twentieth centuries. In addition these data provided a means of measuring local demography, including age of death, seasonality of birth and death, and kin and community relationships. This information is presented in Appendix C.

SUMMARY

All of the research directions discussed above complement each other and together they provide a more complete reconstruction than by using any one approach. Archaeological data recovery focused on examining the material remains deposited in the sheet refuse and discrete features at historical properties selected for mitigation. The architectural studies provided an understanding of the roles of both cultural geographical and temporal factors in building types, styles, and distributions, as well as identifying evidence of recycling and structural modifications, ethnic identity and social status. The use of dendrochronology aided in dating a number of structures which could be tied into existing local and regional tree-ring chronologies. The laboratory program focused on (1) detailed analysis of the artifacts and special samples recovered, (2) providing computer output which could be used to direct further fieldwork, and (3) interpreting the archaeological and architectural records of historic sites selected for mitigation. The archival, informant, and cemeteries research provided written, oral, and symbolic perspectives of historical events, trends, and social ties.

SITE 41DL181: HINTZE FARMSTEAD

4

by

Susan A. Lebo

Site 41DL181 is the former farmstead of Ernest Hintze, occupied between 1898 and 1973 (Figure 4-1). It is situated south of Ballweg Road near the edge of a hill overlooking the Walnut Creek floodplain to the north, and open fields to the west, east, and south. Three outbuildings were standing when mitigation began in 1985; a large barn and two sheds built during the early twentieth century. The main house, standing on the site in 1980, had since been burned to the ground. Site 41DL181 was selected for intensive investigations because of its potential for providing comparative data with the tenant occupation of site 41DL196, also owned by the Hintzes during the early to mid-twentieth century.

Previous work at 41DL181 included detailed photodocumentation, elevation renderings of the original house, and later additions; excavation of two backhoe trenches, and recovery of a general surface collection near the dwelling (see Figure 4-1). Removal of building materials after 1973 had significantly impacted the dwelling. Many reusable structural items and some building hardware had been removed. This activity stopped only after the dwelling burned to the ground.

The backhoe trenches excavated in 1980 indicated an absence of *in situ* deposits. No artifacts were recovered in the trench located east of the dwelling. The second trench, situated in a the dirt road west of the house contained recent secondary trash, rather than primary sheet refuse from activities. A total of 347 artifacts were recovered during testing (see Table 4-1), and indicated a late nineteenth to mid-twentieth century assemblage.

ORAL AND DOCUMENTARY INFORMATION

Site 41DL181 is located on the J. Gordon (B186) survey which was initially surveyed in 1841 (Table 4-1). Fred and Ernest Hintze migrated to Texas around 1878 - 1880 and initially worked as sharecroppers in the Mountain Creek area. They were eventually able to acquire equity in the land they were farming. According to Gwen Hintze, a grandson of Ernest, they were cheated out of this land. Fred and Ernest were immigrants (originally from Germany) and did not speak English. After this early experience they continued working as sharecroppers and were able to purchase several new tracts for homesteading (Table 4-1, Figure 4-2). At this time, they resided near Baggett Branch, on what later became part of the Anderson property (Gwen Hintze, 1979 interview). In 1887, they jointly acquired 21 acres from Napoleon Bonaparte Anderson, who owned and resided at 41DL190. This land was located in the southeast corner of the J. Gordon survey (B186), on the

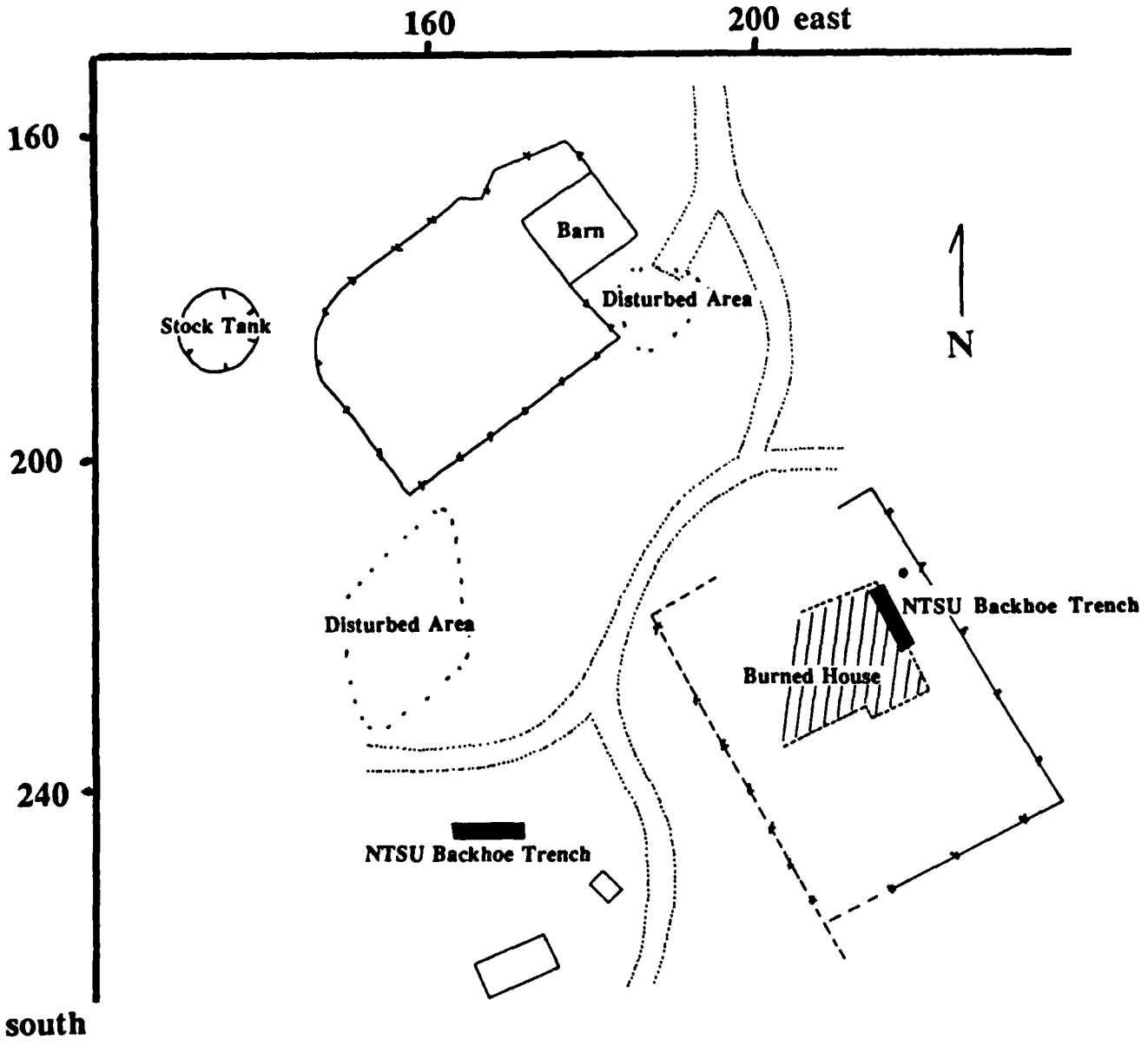


Figure 4-1. Map of the Hintze site (41DL181), showing excavations, major structures, features, and the location of the burned house.

south side of Mountain Creek. An additional 80 acres in the J. Gordon survey were acquired by Ernest in 1898, and together these 101 acres served as the homestead for Ernest and his family in 1898.

The Hintzes continued to acquire land. An additional 91 acres were acquired in the western segment of the McKinney and Williams survey S-1033 (surveyed in 1862), which remained part of site 41DL181 until 1930 when they were sold to Duncan F. Munn. In 1897 Fred and Ernest acquired two tracts of the George Wilson survey 3-657 (surveyed in 1851) which totaled 141.25 acres and included the land south of Walnut Creek. The smaller tract contained 66.25 acres, and abutted Walnut Creek. Fred and Ernest held this land in common, and built two tenant dwellings there at the turn of the century. One of these sites is 41DL196. The larger tract was located south of the other tract and contained 75 acres. A house was built on this land for Ernest's father's half-sister, Lilly and her family. Lilly occupied the house until her and her husbands deaths which occurred between 1915 and 1917. After these events, the house was then used as a tenant dwelling for the remainder of its occupation.

Fred and Ernest began work on a barn and dwelling at 41DL181 in December, 1898. A barn (not the present one) was built first, and then the house. Ernest's family resided at 41DL181 during the twentieth century, and his son, Fred J. lived there until it was purchased by the U.S. Army Corps in 1973. From 1898 up to 194? when Fred J. stopped farming and began working for North American Defense Plant, the Hintze family raised corn, cotton, wheat, and oats. A mortgage record for 1940 provided an overview of the farming activity at site 41DL181:

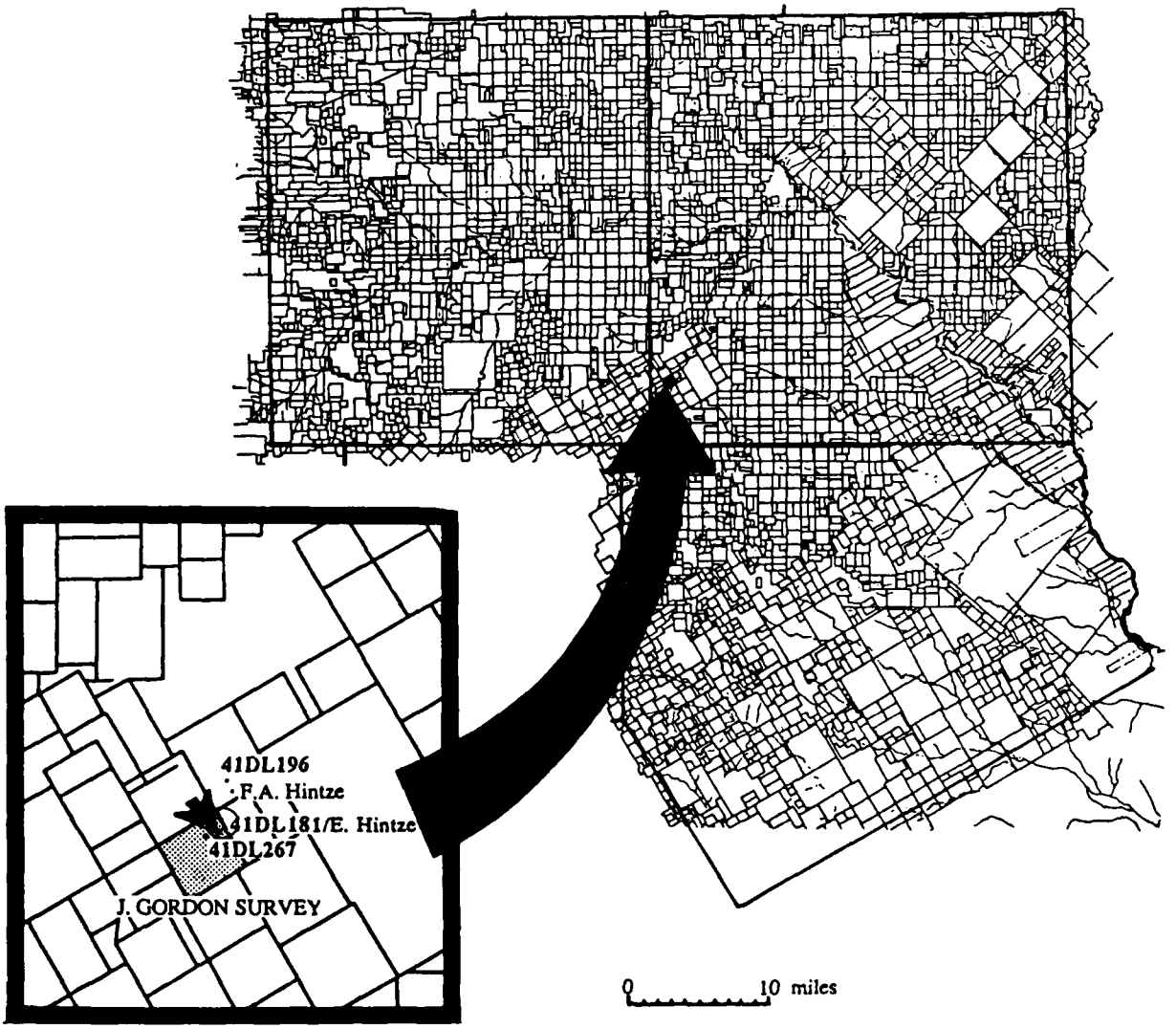


Figure 4-2. Location of site 41DL181, J. Gordon Survey, and the two Hintze brothers' houses.

> Two black horse mules 16 years old, 16 hands high, named Buck and Jim; two black horse mules 19 years old, 16 hands high, named Nigger and Mike; 1 white Jersey cow, 8 years old; 1 red Durham cow, 7 years old; 1 white Durham cow, 4 years old; 1 spotted cow, 3 years old; and increase there from this being all the stock owned by me...[also], 2 cultivators, 1 cotton planter, 1 binder, 1 drill, section harrow, lister, and the 1940 crop (Gwen Hintze, 1979 Interview).

Site 41DL181 was selected for homesteading by Ernest because of its proximity to a spring and a major wagon road. The stock tank located west of the large, north barn (see Figure 4-1) is located directly over a natural spring that served as the original water source. A windmill and above ground water tank were constructed off the western elevation of the dwelling during the early twentieth century. The existing, ca. 1920 - 1940 barn was built facing south, and the front of the dwelling faced southwest. Both were oriented towards a wagon road located about 300 yards due west of the house, and serviced the area before Ballweg Road was built (Gwen Hintze, 1979 Interview).

ARCHITECTURAL OVERVIEW

Documentation of the Hintze dwelling and its additions was conducted in 1980 by archaeologists from North Texas State University (Ferring and Reese 1982:156-157). This work entailed collecting and recording very detailed information on the structure. Field notes were made on construction techniques and materials, replacement of original or earlier architectural elements, changes in the original floor plan, as well as in the placement of doors, windows, and chimneys, room dimensions, and room function. Three periods of renovation or additions were identified.

Table 4-1
LAND TRACT HISTORY FOR SITES 41DL181 AND 41DL196

Date	Acres	Grantor	Grantee	Book
J. Gordon Survey A-529				
1846	320 patent	State of Texas	J. Gordon by H. G. Runnells	A:119
1874	320	O. A. Runnells	William A. Oberchain	Y:378
1874	160	William A. Oberchain	Jacob Boll	2:74
1875	160	William A. Oberchain	Jacob Boll	29:14
1884	320	William Boll	Robert Meier	56:20
1884	160	Robert Meier	Joseph Zimmerman	65:57
1885	160	Joseph Zimmerman	N. B. Anderson	77:87
1887	21	N. B. Anderson	Fred A. & Ernest Hintze	167:218
1898	160	Karl Scharegge & Krabbenschmidt (?)	George A. Titterington	228:103
1898	80 east seg.	George A. Titterington & wife	Ernest L. Hintze	225:522-524
1902	80 east seg.	George A. Titterington	Ernest L. Hintze	280:233
1927	21.4 s-east seg. south of Mt. Creek	Anna M. Hintze	Fred J. Hintze	
1927	80 east seg.	Ernest L. & Anna M. Hintze	Fred J. Hintze	225:522
1973	101 s & s-east segments	Fred J. Hintze & children	U.S. Army Corps	78233:2713
McKinney & Williams Survey A-1044				
1880	144	W. & W. Caruth	Charles Grimmett	55:112
1897	75	Macklin Grimmett	Olin M. Pool et al.	213:417
1930	91 west seg.	Matilda Hintze	Duncan F. Munn	
1953	91 west seg.	Duncan F. Munn	B. W. Burnett & L. L. Howard	
1954	91 west seg.	B. W. Burnett & L. L.	C. H. Wyche Howard	
1956	91 west seg.	C. H. Wyche	Donald V. Plattner	

The dwelling (Figure 4-3), built after the first barn (replaced by present north barn) was completed in 1898, faced southwest, and was comprised of two main rooms, front and rear porches, with part of the rear porch enclosed to form a small room (Figure 4-4). The main rooms measured 13.5 x 5 m, and were symmetrical with the exception of a single window. The front porch was 2 m wide, while the back was 3 m wide. This dwelling was constructed using the same floorplan and building techniques as the dwelling at 41DL196 (Hintze tenant site). The foundation consisted of hewn or sawn bois d'arc piers, some of which may have been supported by local limestone slabs. The upright members were roughly milled 1 x 12 inch (2.54 x 30.48 cm) boards without joints which were capped with stringers and joined with ceiling joists. The superstructure was of 2 x 4 inch (5.08 x 10.16 cm) or 3 x 4 inch (7.62 x 10.16 cm) rafters, and 1 x 4 inch (2.54 x 10.16 cm) lathing wooden shingles. The floors were constructed using tongue and groove boards. The windows and door frames were made with 1 x 4 inch (2.54 x 10.16 cm) boards, and machine cut nails were used throughout the dwelling. The windows were six over six, and included three windows in the north room, two in the south, and one in the small rear room. The ceilings were painted dark green, and twin chimneys were symmetrically located near the ends of the two main rooms. The exterior of the house was covered with horizontal clapboard over vertical planking, and was painted green (Ferring and Reese 1982:156).

The original floorplan was changed in 1915 by a T-shaped addition to the western end of the dwelling. The new rooms included a dining room with a kitchen at the end of the T. The old porch on this side of the house was enclosed to form a hallway and a small additional room. A new porch was built which connected the remaining portion of the original front (west) porch, and ran parallel to the T addition. Wire nails were used throughout the new section, and shiplap siding was used instead of clapboard. The 1915 addition was later altered when a rear porch was added off the kitchen door, and the area between this porch and the original dwelling was enclosed, forming two small rooms, including a bathroom. The third addition involved converting the original back porch on the east side of the house into a laundry room. Interior remodeling included linoleum floors or carpeting, linoleum wainscotting in the kitchen, and sheetrock on several interior walls. Indoor



Figure 4-3. Photograph of the dwelling at 41DL181, viewing the rear addition which had the roof removed.

plumbing and electricity had been added, and the original chimneys had been removed, and space heaters were in use when the house was documented during the 1979-1980 testing season (Ferring and Reese 1982: 156).

The first barn was built around 1898 but was replaced by the present transverse crib barn (Figure 4-5). The transverse crib style was not common in Texas until the twentieth century, but occurred earlier in the southeastern United States. It was constructed of cedar poles, with milled crossmembers and rafters attached to the poles with wire nails (typically post 1920 construction). The walls of the barn were made of unjointed upright 1 x 12 inch (2.54 x 30.48 cm) pine boards, and the original flooring of the hayloft had been replaced with plywood (Ferring and Reese 1982:158). The roof was made of wooden shingles, with the original shingles probably being of cypress, like the house. According to Gwen Hintze (1979 Interview), the cypress shingles on the dwelling were made from blocks of cypress brought from East Texas or Louisiana:

> They were sawed to the length, but they were in trunks of trees, and the guy came out there with a tool and split those off. He'd split off a few and then he'd climb up there and nail them on and then he'd split off some more. But he made the shingles on the spot [at the Hintze site, 41DL181], was the thing that impressed me.

The two outbuildings located in the southwestern portion of the site served as tractor barns/shops, stock shelters and storage buildings. They were recent structures built using poles, sheet metal, and scrap lumber (Ferring and Reese 1982:158). Both structures had partially collapsed before mitigation work began at the site in March, 1985.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation concentrated on retrieving a systematic sample of the sheet refuse midden around the dwelling and major outbuildings, isolating features, and examining the architectural debris under the former dwelling.

Mitigation fieldwork consumed 33 person days, involved hand excavation of 76, 50 x 50 cm units covering about 5000 m^2, and recovered 7441 artifacts. Earlier investigations indicated that the cultural deposits at 41DL181 contained disturbed or recent, post-occupation trash deposits. As such, limited excavations were scheduled unless intact and undisturbed deposits were located. A 16 m grid was excavated across the site which yielded some *in situ* deposits in the dwelling area and near the outbuildings. An 8 m grid was excavated in these three localized areas. These additional units yielded a low percentage of intact midden deposits and a high percentage of recent disturbed deposits around the outbuildings. Architectural remains from the different building episodes were recovered in units excavated in the dwelling area. Data recovery was halted after 8 m grid excavation in these three areas failed to produce significant intact midden deposits.

SOIL AND CULTURAL DEPOSITION

The soil matrix at 41DL181 was an eroded silty clay. Artifacts were found to a depth of 15 cm over most of the site, with greater depths between 30 and 40 cm recorded for units located under the dwelling, and 30 to 70 cm in disturbed deposits in both outbuilding areas (Figure 4-6). A disturbed soil matrix was located within and adjacent to the road that bisected the site, and in

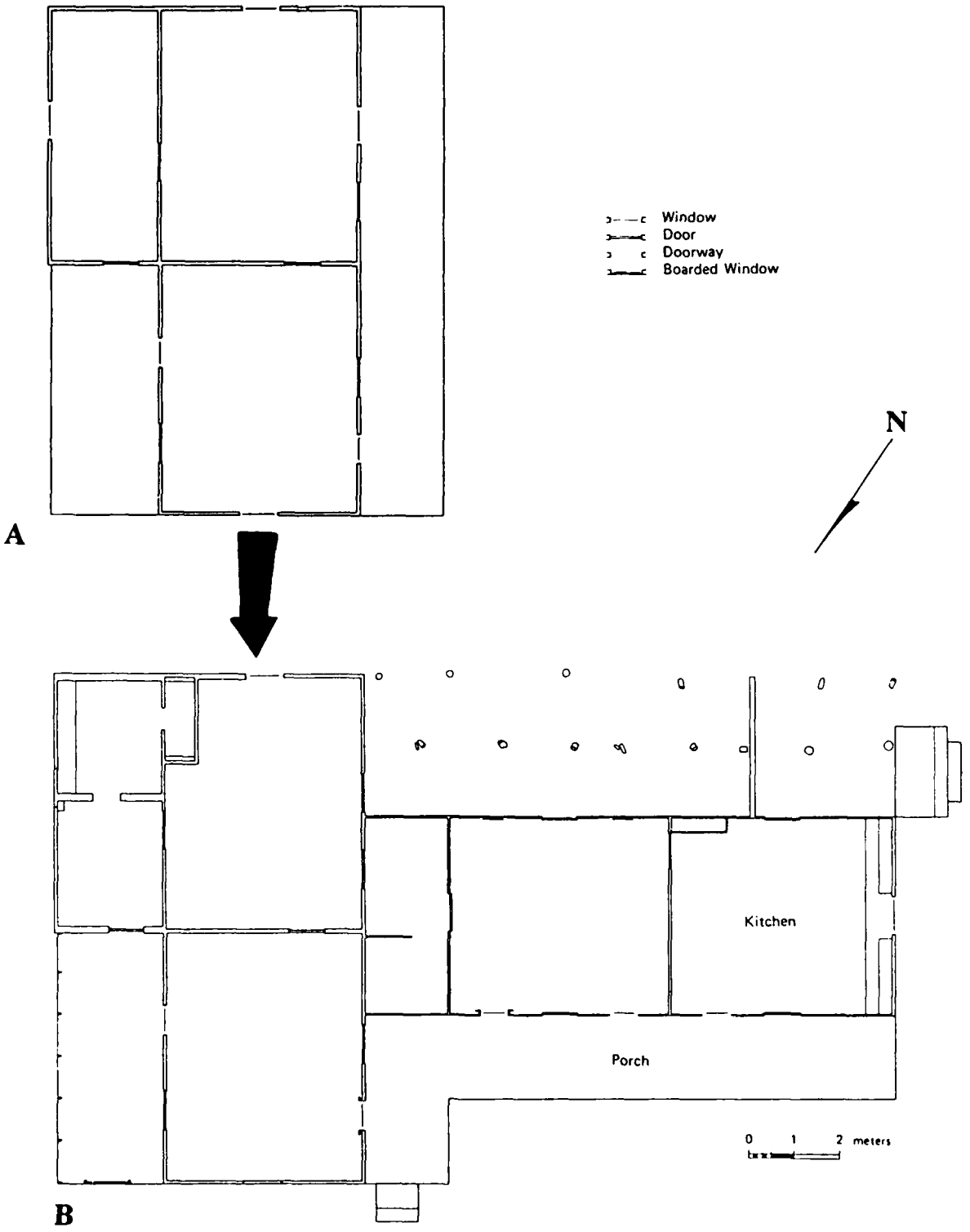
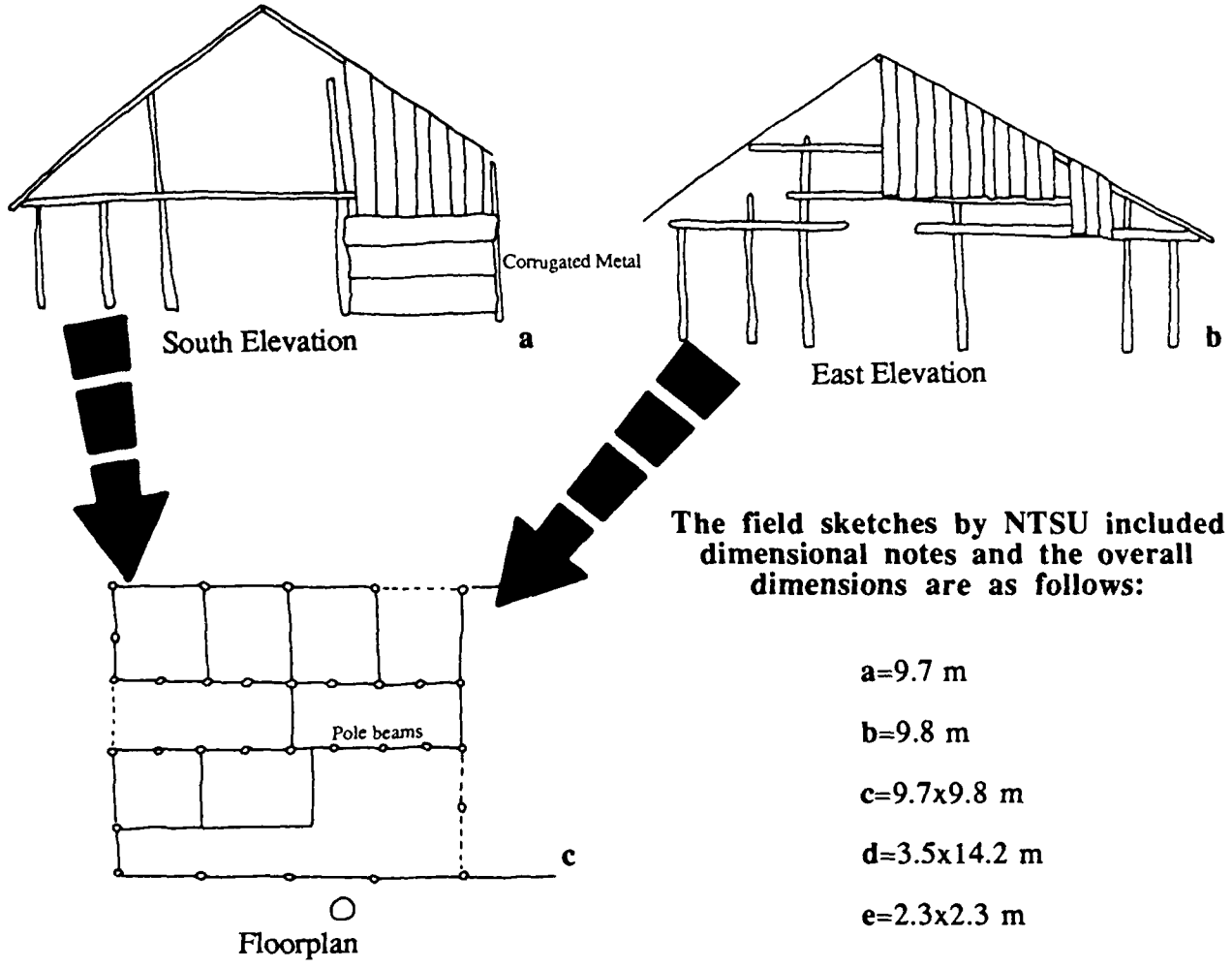


Figure 4-4. Floor plans of the house at site 41DL181 showing (a) original core, and (b) early twentieth century modifications (from Ferring and Reese 1982: 159-161).



The field sketches by NTSU included dimensional notes and the overall dimensions are as follows:

a=9.7 m

b=9.8 m

c=9.7x9.8 m

d=3.5x14.2 m

e=2.3x2.3 m

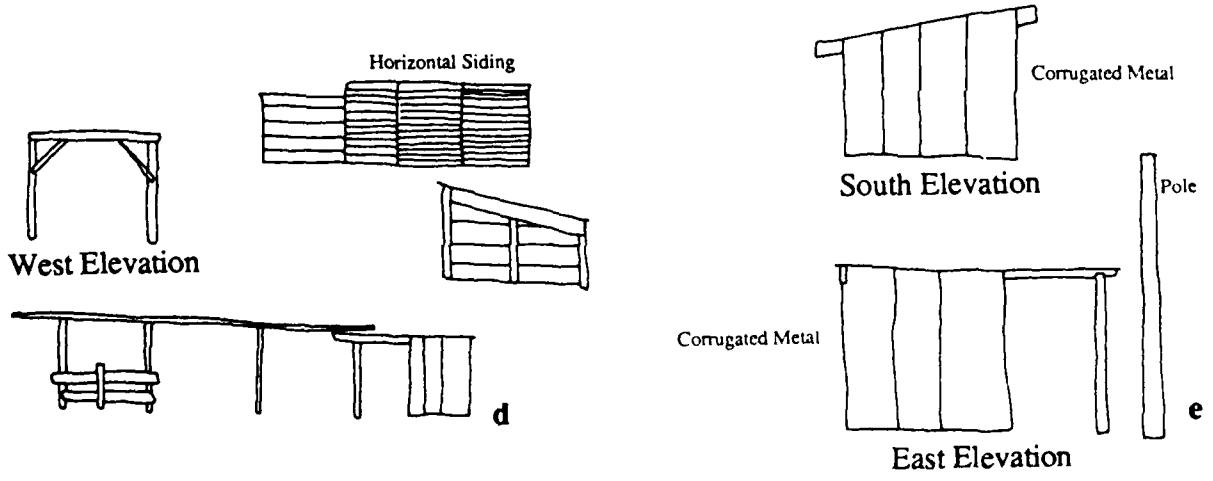


Figure 4-5. Field sketches (scale is approximate) of the elevations (a,b) and floor plan (c) of the Hintze barn (overall dimensions are 9.7 × 9.8 m). Construction elements of a large shed (d) and a small shed (e) on the north and south peripheries of site 41DL181. Ground surface is at the bottom of each sketch.

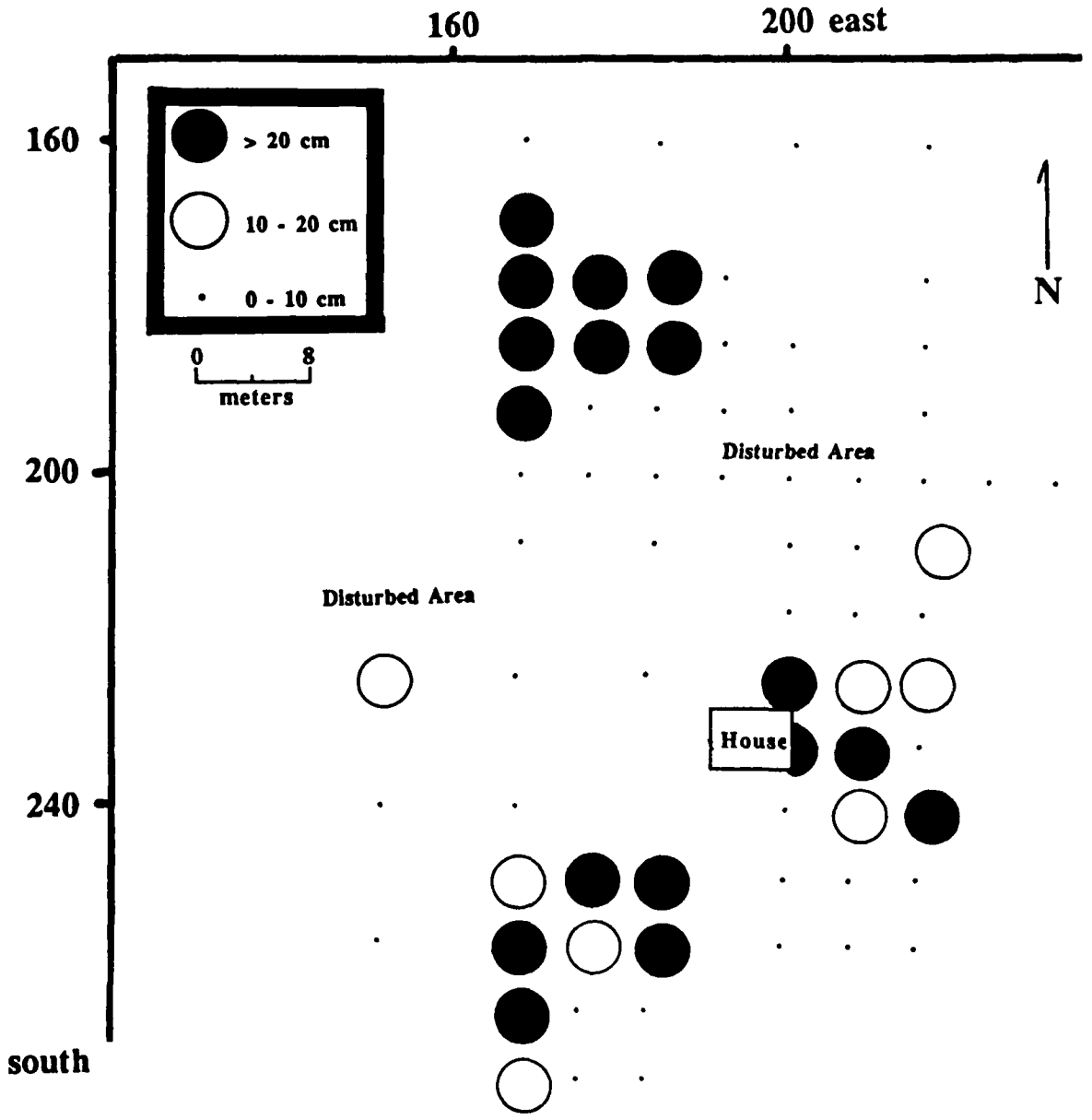


Figure 4-6. A Symbolic representation of the depth of sheet refuse deposits at the Hintze Site, 41DL181, based upon subsurface excavations. Shallow areas truncated by onsite bulldozing activities (see text for details).

several areas near the outbuildings, where the A horizon and sheet refuse midden had been truncated by heavy equipment during recent land clearing activities (Figure 4-6). In the northern outbuilding area, highly disturbed and churned soil was encountered in test pits placed in the hog pen attached to the large barn. Fragments of plastic garbage bags were uncovered and indicated that very recent trash disposal had transpired in the pen.

Artifact frequencies were low to moderate across site 41DL181, ranging between sterile to 80 artifacts, with a mean of 22.85, and a standard deviation of 16.58 items for 50 x 50 cm units located in the midden area. Similar units located in recent trash deposits, disturbed areas, and under the former dwelling contained between 89 and 2845 artifacts, with a mean of 369.19 and a standard deviation of 390.99 items (see Figure 4-5).

ARTIFACT ASSEMBLAGE

Excavations recovered 7,431 artifacts (Table 4-2). Another 347 artifacts were recovered during testing (Ferring and Reese 1982:159-165) and are included in Table 4-2. Overall, the sheet refuse assemblage, including units under the former dwelling contained items spanning the period from the 1880s to the 1950s. Dense artifact deposits were encountered in the vicinity of some outbuilding areas. Some of these areas contained disturbed deposits with many artifacts and

Table 4-2
ARTIFACT ASSEMBLAGE FROM SURFACE COLLECTION RECOVERED DURING TESTING, AND SHEET REFUSE, AND UNITS UNDER THE HOUSE RECOVERED DURING MITIGATION[1]

	Surface Collection		Sheet Refuse[1]		Under Dwelling[2]	
	N	%	N	%	N	%
Earthenware						
Coarse			6	.1		
Semicoarse			1	<.1		
Refined	95	27.3	99	2.4	8	.2
Stoneware	30	8.6	26	.6		
Porcelain	12	3.5	18	.4		
Bottle Glass	144	43.5	1781	44.0	111	3.3
Table Glass	9	2.0	14	.3	2	.1
Lamp Glass	5	1.4	67	1.7	1	<.1
Unknown Glass			17	.4		
Nails	6	1.7	398	9.8	186	5.5
Brick			10	.2	7	.2
Window Glass	26	7.5	178	4.4	122	3.6
Other Architecture			588	14.5	2854	84.3
Clothing Items			13	.3	1	<.1
Toys			2	<.1	2	.1
Other Personal	1	.3	17	.4	2	.1
Floral and Faunal	1	.3	74	1.8	15	.4
Thin Metal	2	.6	312	7.7	25	.7
Heavy Metal	6	1.7	78	1.9	25	.7
Fuel Remains			16	.4		
Hand Tools	3	.9	5	.1		
Firearms			11	.3	6	.2
Stable Gear			0			
Electrical Parts			4	.1	2	.1
Miscellaneous Other	1	.3	312	7.7	15	.4
Total	341		4047		3384	

[1] Cultural material from units excavated under the house were not included in these counts

[2] Units located under the dwelling and included here are S224 E200, S224 E208, S224 E216, S232 E200, and S232 E208

items (e.g., beer and liquor bottle sherds, beer cans, etc.) dating to the end of occupation or after the site was abandoned. Many of the most recent items represented litter probably left behind by kids out having a good time. The sheet refuse deposits located outside the former house (see Table 4-2) contained primarily bottle glass sherds (44.0%) and architectural remains (28.9%), followed by thin metal, miscellaneous other, and ceramic sherds. Units under the dwelling contained predominantly architectural remains (93.6%). Bottle glass accounted for 3.3% of the assemblage, while all other categories comprised only 3%. On the other hand, the testing assemblage was judgementally collected, and consequently contained more ceramic and glass items, with ceramic vessels accounting for 39.5% of the recovered material, and glass vessel sherds, another 46.9%. Because of the difference in sampling strategies and the data recovered, the testing and mitigation assemblages will be discussed separately.

TESTING

As mentioned earlier, the testing assemblage was recovered from two backhoe trenches, a grab sample of surface artifacts, and a localized surface collection east of the original dwelling. Based on the figures presented by Ferring and Reese (1982:164:Table 11-6), 98% of the artifacts recovered were from surface collections in the dwelling area.

Ceramics

A total of 95 refined earthenware sherds were collected, including 83 undecorated, three with underglazed transfer prints, six with relief molded rims, and three with maker's marks. Flatware accounted for 84.7% of the assemblage, and included primarily plates and saucers. Cups were less common and accounted for only 12.9% of the assemblage. Only two special vessels were found, a large platter and a tureen. Burned sherds accounted for only 11.6% of all refined earthenwares. Partial maker's marks recorded by Ferring and Reese (1982:163-164) identified two sherds which yielded late nineteenth century dates, with one dating after 1891.

A total of 13 porcelain sherds were recovered and included hollowware vessels. No decorated porcelains were identified. A total of 30 stoneware sherds were collected and included four major glaze combinations: natural clay slip interior with salt glaze exterior (3), natural clay slip interior and exterior (10), natural clay slip interior with bristol glaze exterior (4), and bristol interior and exterior (13). Using the seriation devised by Lebo (1987a), the stoneware assemblage dates from the 1890s up to the 1930s. No modern stoneware baking dishes or other kitchenware vessels were recovered.

Vessel Glass

The vessel glass assemblage was analyzed using morphological and functional attributes (Ferring and Reese 1982:159-160, Table 11-7), indicating that medicinal bottles predominated, followed by soda, fruit jars, and tableware vessels. Machine made bottles accounted for over 95% of the assemblage, while narrow mouth bottles accounted for over 75% of the rim sherds. A zinc fruit jar cap was also recovered.

Architectural Remains

The architectural remains recovered during testing included a white porcelain door knob fragment and 26 window glass fragments. The window glass ranged in thickness from 1.8 mm up to 3.6 mm. Two machine cut nails, and four wire nails were also collected, along with a piece of house siding, a copper washer, and a square-headed bolt.

Other Remains

A small number of miscellaneous items were collected and include three heavy iron remains which may be associated with the blacksmithing activities conducted at the site. In addition, a trace chain and

carriage bolt, a bone fragment, an electrical insulator, and several thin metal fragments were collected.

SUMMARY

The assemblage, judgementally collected during testing, represented a domestic assemblage from a late nineteenth to mid-twentieth century farmstead at 41DL181. Only three items were recorded for the two backhoe trenches, since no soil was screened.

MITIGATION

SHEET REFUSE

The frequency of ceramic and glass vessels in the general sheet refuse at 41DL181 mirrored the pattern identified at other Reservoir sites which did not contain disturbed deposits. The high percentage of architectural items reflected the dwelling having burned *in situ*, while the low percentage of thin metal and tin can remains reflected the abundance of bottle glass recovered from recent trash deposits.

Ceramics

The ceramic assemblage was dominated by refined earthenwares (69.6%), followed by stonewares (15.5%) and porcelains (10.7%). The refined earthenwares dated primarily to the late nineteenth and early twentieth century. Whiteware fragments comprised the largest percentage of the assemblage (59.3%) and included both pure white and light bluish tinted whiteware sherds. Bluish tint ironstones accounted for only 16.7%, while twentieth century ivory tinted and Fiestawares comprised 20.4%. Blue, green, pink, and yellow Fiestawares were represented, and were similar to those in the assemblages from other sites in the Project area. Most of the refined earthenware sherds were undecorated (84.3%). Decorated sherds reflected primarily twentieth century motifs, or nineteenth century motifs on twentieth century bodies. Three partial maker's marks occurred: *K.T. & K. GRANITE* on a light bluish tinted whiteware, dating between 1872 and 1931; *flower with U*[SA] on an ivory tinted body; and *Royal Arms with WARR*[ENTED] on a bluish tinted whiteware. Most of the identifiable vessels were flatware, including plates and saucers. Few cups and bowls occurred, and no special vessels were recovered.

Both white and bluish tinted porcelain fragments were evident in the sheet refuse assemblage. A total of 11.1% of the sherds were decorated, and included two cups with Japanese motifs. One had a hand painted over the glaze floral decoration with a thin band below, while the other had an under the glaze pictorial scene. Most of the porcelain fragments were from cups and bowls rather than plates and saucers.

Stoneware sherds with a natural clay slip glaze on the interior and exterior (20), and bristol glazed interior and exterior sherds (23), accounted for 74.1% of all stoneware fragments. Natural clay slip glazed interior and salt glazed exterior (6), and natural clay slip glazed interior and bristol exterior (7) also occurred. The stoneware assemblage at 41DL181 dated from the 1890s up until after wheel-thrown stoneware vessels were replaced by mass produced press-molded stonewares, and later, by tin cans and glass vessels. Four fragments from a twentieth century unglazed flower pot were also found.

Vessel Glass

A total of 1,892 bottle glass fragments were recovered from 50 x 50 cm units during the 1985 season. A breakdown of these sherds by glass color indicated that clear fragments (1,415) and brown (298), accounted for over 90% of the assemblage. In addition, all identifiable sherds were from machine made bottles produced during the twentieth century. Clear bottles included a variety of narrow and wide mouths which were primarily comprised of medicinal, soda, and fruit jars. Brown bottles included a single snuff bottle fragment, a continuous thread wide mouth prescription bottle, and two narrow neck liquid prescription bottles (i.e., post 1960). The remaining brown glass (over 290 fragments) were from modern beer bottles. A total of seven olive glass fragments (.4%) from wine or champagne bottles were found. Bright green soda bottle fragments, and light green soda, medicinal and fruit jar fragments accounted for 4.3% of the glass. Dark blue glass included sherds from a single milk-of-magnesia bottle. White milk glass fragments included several unidentifiable bottles, including one with a red painted exterior, and 13 fruit jar inset caps, which included *MASON*, and *GENIUNE BOYD* varieties.

Over 90% of all bottle fragments were plain. Relief decoration occurred on 150 (7.9%), a corrugated pattern along the base, post dating 1940, on 60 (3.1%), makers marks on 60 (3.1%), and enamel marks (2) and painted decoration (1) occurred on less than 0.1% of all bottles.

Burned bottle glass included 62 fragments, of which 54 or 87.1% were clear. Other colors included three light green, two aqua, two opaque milk, and one brown.

The tableglass assemblage primarily included clear fragments, followed by pink, opaque milk, green milk, and yellow glass plain and pressed sherds. Lamp glass fragments included plain sherds and a few hobnail rim examples. Only unburned tableglass and lamp glass fragments were found.

Architectural Remains

Architectural remains were recovered from the burned dwelling area, and both the north barn and south outbuilding areas. Other architectural remains accounted for 79.3% of the architecture assemblage, and included 2,758 items from a single 50 x 50 cm unit (S232 E208) located under the dwelling. Among the building construction material recovered from this unit were tar paper (153 fragments), wallpaper (180 fragments), asphalt shingle (818 fragments), and plaster fragments (1613 fragments). These remains were related to the 1915 addition to the dwelling and were recorded and then redeposited in the unit.

The nail assemblage from the entire site included 31 machine cut, 547 wire, and 6 unidentifiable nails. Whole sizes for cut nails indicated a range from 3.2 cm to 7.6 cm in length, with major peaks at 4.4 (42.9%), 6.3 (14.3%), and 7.0 (14.3%). Whole sizes for wire nails ranged from 1.0 cm tacks to 13.3 cm spikes. Major nail sizes included 3.2 cm (20.2%), 5.1 cm (13.6%), 6.3 cm (19.9%), 3.8 cm (10.0%), 4.4 cm

(8.2%), and 7.6 cm (7.9%). Other nail sizes included 1.0 cm, 1.9 cm, 2.5 cm, 7.0 cm, 8.3 cm, 8.9 cm, 9.5 cm, 10.2 cm, 10.8 cm, and 13.3 cm.

A total of 300 window glass fragments were recovered and yielded a mean thickness of 2.0 mm with a standard deviation of 0.7 mm. Sherds ranged in size from 1.2 mm to 3.2 mm, with major peaks at 2.0 mm (26.7%), 2.3 mm (17.7%), and 2.4 mm (20.4%). A total of six fragments of specialized flat glass (i.e., sherds thicker than 3.2 mm) and 28 melted window glass sherds were also recovered.

The brick assemblage at the site included one hand made brick fragment and sixteen machine made brick fragments, probably from one of the two original chimneys in the dwelling. These chimneys were removed when the house was remodeled.

Other Remains

Low frequency items, including personal, household, and farm items accounted for only 1.4% of the artifacts recovered at 41DL181. Personal remains included 13 clothing, 15 recreation and leisure, two grooming, and two miscellaneous personal items. A total of nine household items were found, and included one kitchen gadget, one cast-iron stove part, one clothespin part, one furniture piece, and four electrical remains. Farm items included 16 cartridges and shotgun shell remains, 34 pieces of miscellaneous hardware, two hand tools, three horse and stable items, and one wagon, and four machine parts. Other remains included 89 floral and faunal items, 337 tin can fragments, and 314 nondescript remains, such as plastic (4.2%).

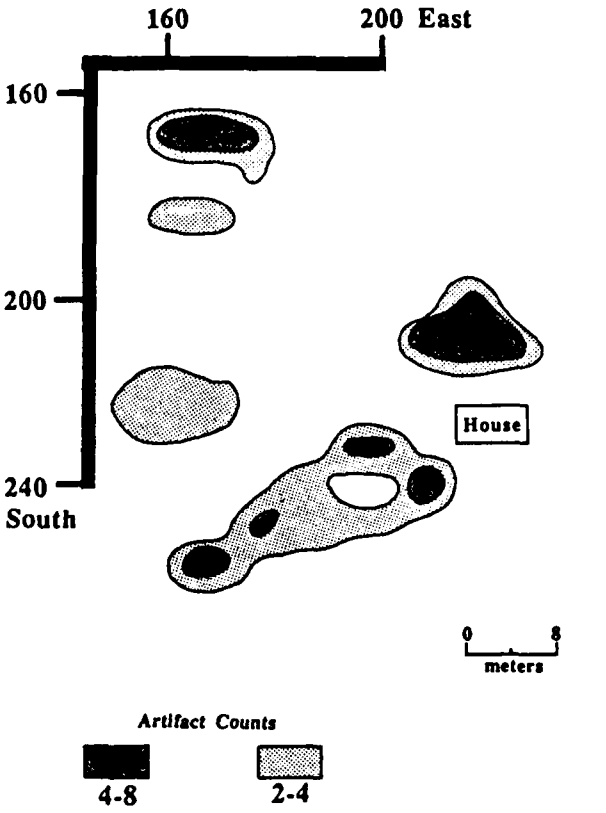


Figure 4-7. Rendition of SYMAP distribution of refined earthenware from 50 x 50 cm units on an 8 m grid.

INTRASITE PATTERNING

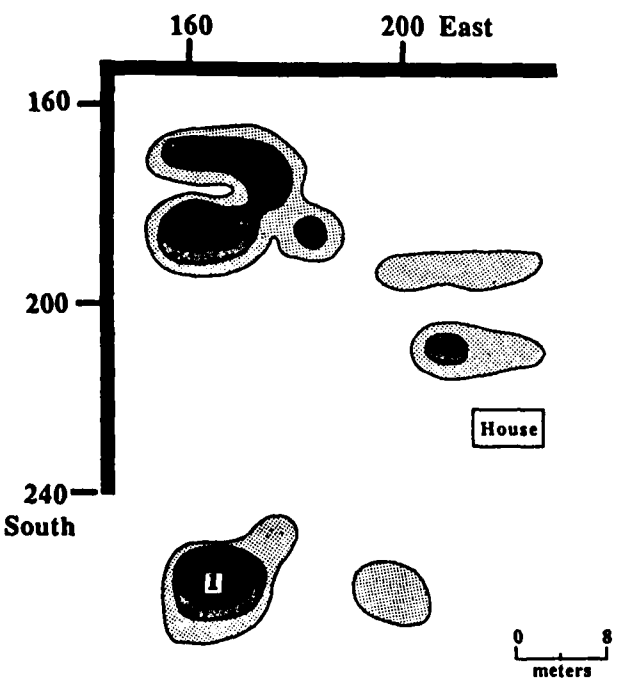
Artifact frequencies for 50 x 50 cm units excavated during the 1985 season (see Figure 4-6) indicated low to moderate counts in undisturbed areas located north and south of the dwelling. Moderate to high counts occurred in all disturbed areas which included the dwelling, barn, south outbuildings, and units situated along the western extent of the site. Maximum counts in these areas ranged up to 438 items per 50 x 50 cm unit in the barn, 757 in the south outbuilding area, and 2845 under the dwelling. Many of the items recovered from these contexts dated after 1950.

SYMAP distributions of specific artifact categories indicated patterning although areas had been disturbed by the post-occupation activities mentioned earlier. The deposits were highly clustered in the barn, and south outbuilding areas, while architectural remains were clustered in the house area. The distribution of ironstones and whitewares (Figure 4-7) did not exhibit the expected linear banding across the backyard, probably due to the focus of activities northward (downslope). While ceramics clustered around the house, they also occurred in several units located in the barn, and the south outbuildings in high density, trash deposits. In the dwelling area, these items were most frequent in the original backyard, northeast of the dwelling, and near the stone lined well which dated to the early occupation of this site. A small number were also recovered in the front yard, and a second cluster occurred off the southwest corner of the 1915 addition, in the more recent backyard of the house.

Stoneware vessel fragments (Figure 4-8) occurred as very low frequency items, ranging between 1 and 7 sherds per 50 x 50 cm unit, when found. Only 13 units contained stonewares. Most stonewares were found in the barn and south outbuilding areas. Stonewares were largely absent around the dwelling yard, except for several recovered in the surface collection made in 1979 - 1980, and several others in units located off the northeast corner of the dwelling.

Bottle glass fragments were scattered across the entire site, with the highest densities in units located in the barn, the south outbuilding area, and units containing disturbed deposits along the roadbed that bisected the site (Figure 4-9). Manganese decolorized glass occurred in units between the dwelling and barn areas. Few fragments of manganese decolorized glass occurred in units located in the south outbuilding area. Brown and amber colored glass which consisted of over 99% beer bottle fragments occurred in all three areas, with the highest densities in the barn and south outbuilding area, and units containing disturbed deposits. Low counts were evident for the dwelling area.

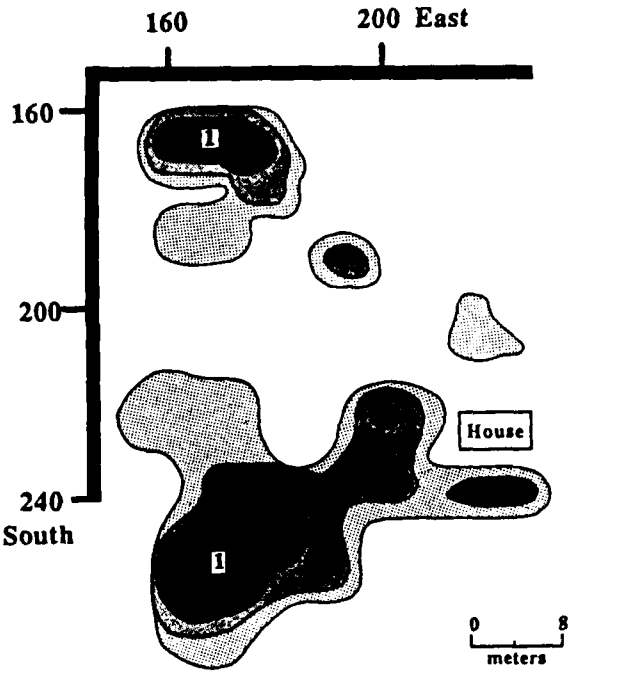
Few machine cut nails were recovered at this site, with all but three nails being found in units located within the dwelling area. Two units, S216 E208 and S224 E216, both located under the original house together contained 21 cut nails (67.7%). Wire nails occurred in the dwelling and outbuilding areas, with the



Artifact Counts

1 5+ | 2.5-5 | 1.2-2.5 | 1-1.2

Figure 4-8. Rendition of SYMAP distribution of stoneware from 50 × 50 cm units on an 8 m grid.



Artifact Counts

1 90+ | 48-90 | 28-48 | 15-28

Figure 4-9. Rendition of SYMAP distribution for bottle glass from 50 × 50 cm units on an 8 m grid.

highest density associated with the 1915 house addition, and other remodeling episodes. Window glass fragments were tightly clustered in the dwelling area, and were over-represented in several units in the barn and south outbuilding area which contained disturbed deposits.

SUMMARY

Site 41DL181 was the homestead of Ernest J. Hintze's family from the turn of the century, until his son Fred J. sold the property to the U.S. Army Corps of Engineers in 1973. The sheet refuse and disturbed deposits at the site were comprised primarily of bottle glass, architectural remains, tin can fragments, and ceramic vessel fragments. The densest deposits were in disturbed areas in and near the barn and south outbuildings, the dwelling, and the roadbed which bisected the site. While recent, post-occupation disturbances have reduced the integrity of large portions of the sheet refuse midden, temporal and spatial information were still evident in the distribution of several major artifact categories, especially including architectural remains, bottle glass and ceramic vessels. Although major elements of the dwelling had been scavenged and recycled, some of the architectural remains were recovered in the house area, and added greater information on the construction of the dwelling. The bottle glass assemblage revealed much post-occupation disturbance. Recent beer bottle sherds were recovered across many units, while manganese solarized bottles exhibited a more limited distribution. Manganese solarized sherds were absent in all units containing major trash features. Ceramic tablewares were very infrequent and exhibited a broader spatial distribution than expected due to the heavy disturbances evident at this site. Stonewares and tableglass vessels occurred primarily away from the dwelling area, and closer to the barn and south outbuilding areas. This is similar to the pattern found for farmsteads in Navarro County (Moir 1982a; Jurney 1983; Jurney and Moir 1987; Moir and Jurney 1987a). Beyond these points, Site 41DL181 yielded few additional insights and excavations were terminated when few intact deposits predating 1940 were found.

SITE 41DL183: HOLVECK FARMSTEAD

5

by

Susan A. Lebo

Site 41DL183 is the former homestead of the Holveck family, occupied between 1882 and 1978 (Figure 5-1). Although documentary records indicated that the most frequent foreign immigrants to Dallas County in the 1860 - 1880 period were French, the Holvecks are the only known French family to have settled in the Joe Pool Lake Reservoir area. Site 41DL183 is located on the slope of the breaks overlooking Mountain Creek to the north. Two house areas were located at 41DL183, and included the original dwelling and a well situated on the western extent of the site, and an early twentieth century farmstead on the eastern. This later complex of structures included a house which was removed by the Holveck family before the 1979 - 1980 season, a garage, several sheds, and a large barn at the base of the slope below the dwelling. A small shed, corral, and concrete stock pond associated with the barn remained. The large barn at this site was selected for detailed architectural documentation because of its potential for contributing to our knowledge of barn construction styles in the area, paricularly for comparison with the barn at the Anderson Farmstead (41DL190) which appears to exhibit certain parallels in construction. No archaeological investigations were recommended for this site.

Previous work at 41DL183 included architectural documentation of all extant structures, including the original dwelling and the large barn. Both house areas were mapped, and all major trash features were recorded

ORAL AND DOCUMENTARY INFORMATION

John Baptist Holveck brought his family, including seven children to the United States in 1872, where he settled in Waxahachie. He moved his family again in 1882 to Cedar Hill where he received a 100 acre government land grant, and purchased an additional 365 acres.

Site 41DL183 is located on the John S. Jones survey, granted to Jones in 1849 (Table 5-1). This land was transferred as a single, 320 acre block four times before J. J. and J. B. Holveck acquired approximately 1/2 of the survey tract in 1882, which included segments 2, 3a, and 3b (Figure 5-2). Both the original and later Holveck housesites located at 41DL183 were situated on segment 3a. This segment was owned and occupied by the Holveck family over several generations from 1882 to 1978 when it was acquired by the U.S. Army Corps of Engineers.

ARCHITECTURAL OVERVIEW

Documentation of the original dwelling, and the large barn was conducted during the 1979 - 1980 testing season (Ferring and Reese 1982:176). The house was a plank, board and batten single pen dwelling built on stone and cedar piers (Figure 5-3).

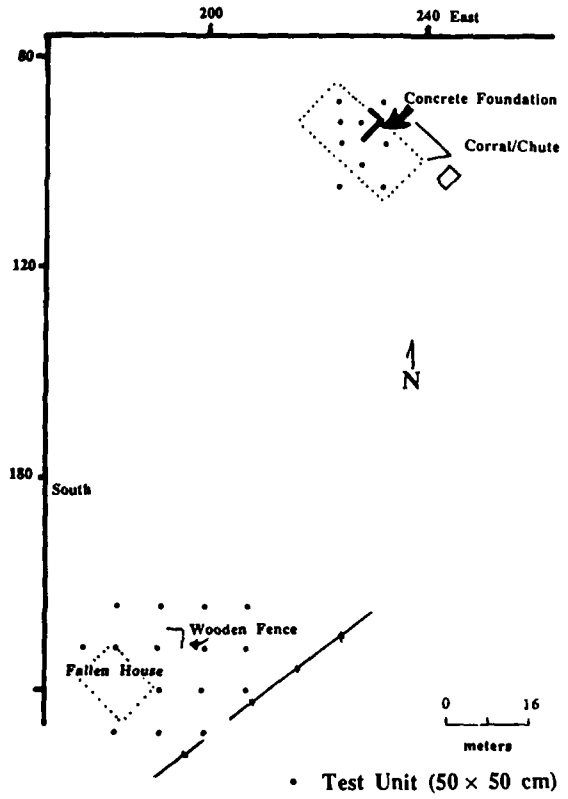


Figure 5-1. Map of site 41DL183 showing excavations, major structures, and features.

Stone piers were used on the front and cut cedar on the back. A brick chimney was offset to the north on the west wall (Figure 5-4). The exposed portion of the chimney, above the roof line was plast[illegible]d and indicated that the whole fireplace was plast[illegible] the house was built. The lap-jointed sills and joists were 2 × 6 inches (5.08 × 15.24 cm) and formed the base for the upright 1 × 12 inch (2.54 × 17.78 cm) planks and 1 × 8 inches (2.54 × 20.32 cm) with flat joints. The 1 × 8 inch (2.54 × 20.32 cm) and 2 × 4 inch (5.08 × 10.16 cm) ceiling joists and 2 × 4 inch (5.08 × 10.16 cm) rafters were constructed using rough cut lumber. Odd sized lumber was evident for several interior members including 3 × 3 inch (7.62 × 7.62 cm) pieces for corner posts and door frames, and 2 1/2 × 3 inch (6.35 × 7.62 cm) rafters. Machine cut nails dominated throughout the structure, and large cut spikes were used for the major framing.

This single pen dwelling measured 4.49 m × 5.83 m with a single window on the east and west faces, two on the south, and a door on both the north and south. The front of the dwelling faced south. A second room and an east facing porch were added on the north side of the house, enclosing the plastered brick fireplace. This room measured 5.15 × 6.07 m and was supported by cedar piers.

All of the rooms were wall papered in a floral pattern, along with the ceiling in the front room. No evidence of electrical wiring or gas hookup were found.

The large barn was situated at the bottom of a slope (see Figure 5-1), northwest of the more recent dwelling area. Based on the work done by Ferring and Reese (1982:176-177), this structure was an excellent example of a transverse crib barn with a nuclear

Table 5-1
LAND TRACT HISTORY FOR SITE 41DL183

Date	Acres[1]	Grantor	Grantee	Segment	Book
John S. Jones Survey B-957 (1860)					
1849	320	State of Texas	John S. Jones		E:420
1854	320	John S. Jones	R. N. White		E:421
1864	320	R. N. White	Elijah Anderson		M:575
1871	320	George M. Hogan (attorney for E. Anderson)	A. Baker		O:149
1878	320	A. Baker	John C. Downs		42:367
1882	170	John C. Downs and wife	J. J. and J. B. Holveck	2, 3a, 3b	64:306
1918	172	J. B. and M. Holveck	J. E. Holveck	2, 3a, 3b	724:695
1927	89.3 (90)	J. E. Holveck	A. J. Anderson	2 only	
1940	70.6 (80)	Heirs of J. B. Holveck	P. C. Holveck	3a, 3b	724:696
1978	89.1 (80)	P. C. Holveck et al.	USA	3a,3b	

[1] Acreages in brackets ( ) reflect rounded off estimates of holdings after subdivisions were made of the original 170 acres acquired by the Holveck family in 1882

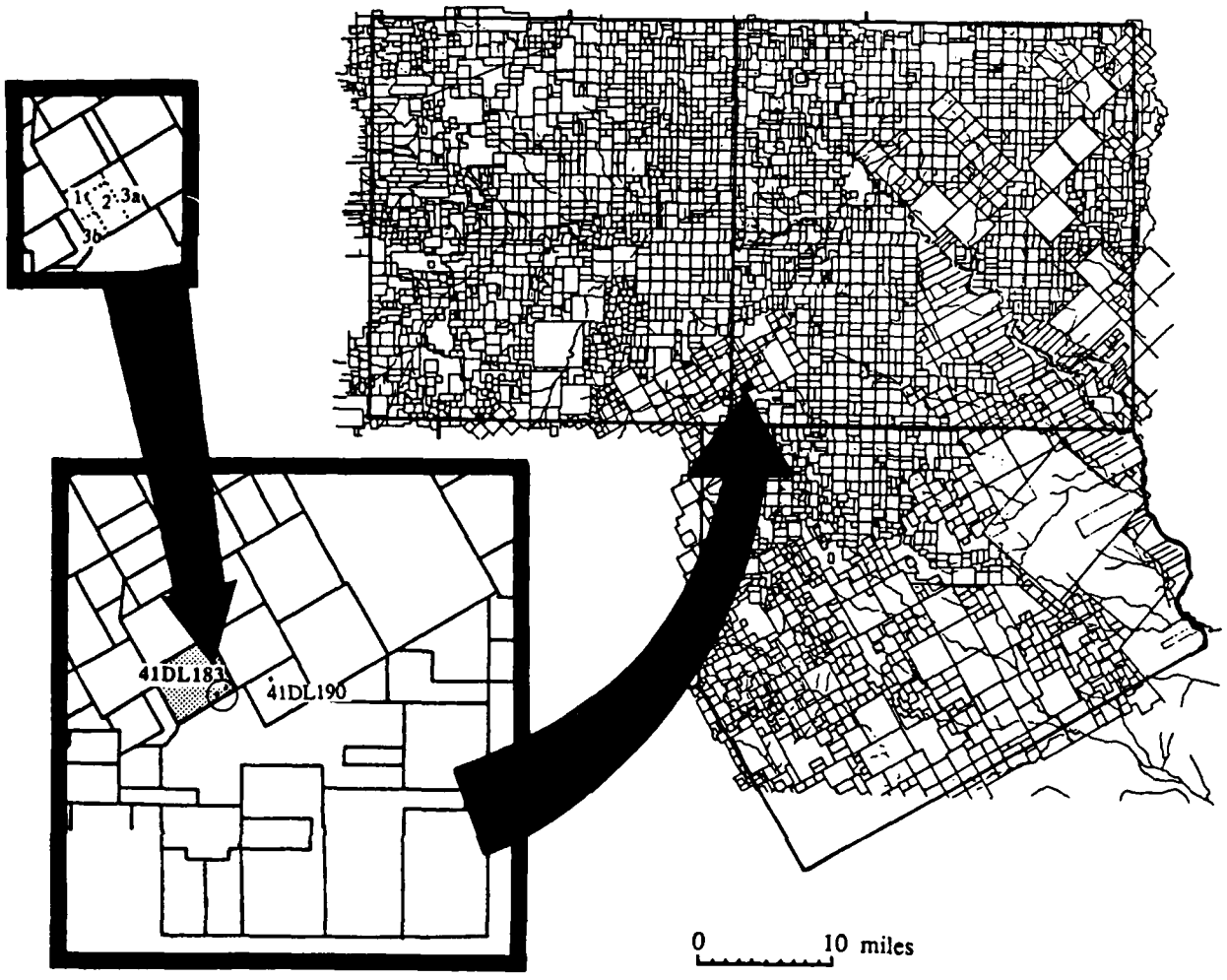


Figure 5-2. The location of site 41DL183 on the John S. Jones survey and the subdivision of the Holveck family's land holdings as tracts 2, 3a, and 3b.



Figure 5-3. Photograph of the Holveck House (41DL183) taken in 1976 during initial survey.

structure in the form of a double crib granary with a high salt box roof (Figure 5-5). It measured 18 m × 13 m, and was constructed with 8 × 8 inch (20.32 × 20.32 cm) floor sills and 4 × 6 inch (10.16 × 15.24 cm) longitudinal sills in the middle of the cribs. The major structural members were transverse joists constructed using alternative 3 × 12 inch (7.62 × 30.48 cm) and 2 × 12 inch (5.08 × 30.48 cm) pieces for the entire length of each crib. The cribs were not partitioned and the uprights consisted of 2 × 8 inch (5.08 × 20.32 cm) studs using a balloon frame construction with central studs extending 18 to 20 ft (5.4 to 5.9 m) from floor to ceiling. The foundation consisted of huge 10 × 12 inch (25.4 × 30.48 cm) or 12 × 12 inch (30.48 × 30.48 cm) square or round pine piers, with a concrete base under the crib walls. Massive 8 × 8 inch (20.32 × 20.32 cm) sills and 4 × 6 inch (10.16 × 15.24 cm) floor joists were used along with lap joints at the corners and midsections. Large machine cut spikes were used for joining, other large nail sizes were cut, while the smaller nails were wire. Mortise and tenon construction was evident for the large corner posts, studs, and sills.

A hay mow was evident above the cribs, creating a balloon type effect to the framing. Two grain chutes occurred in the interior walls of both cribs. Hinged,

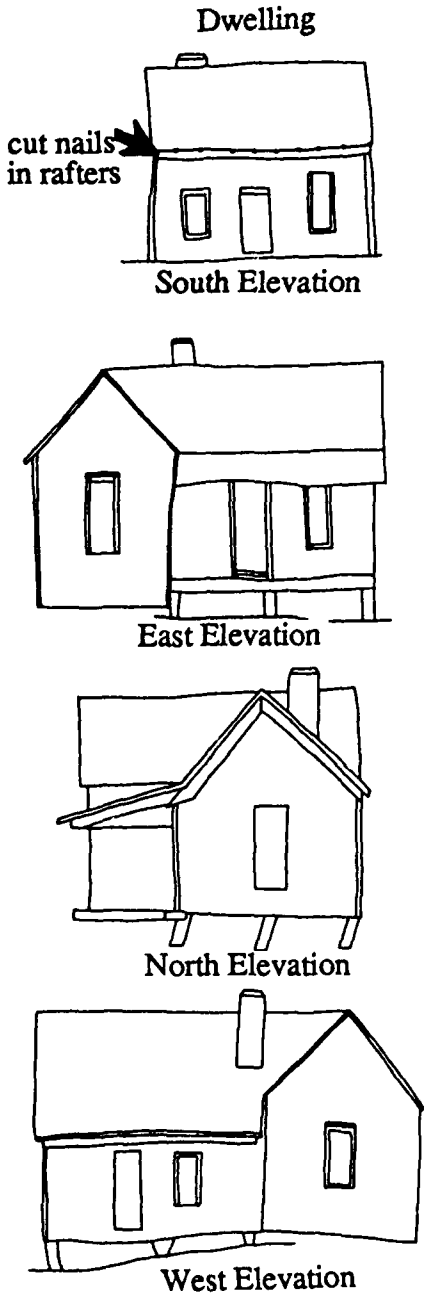


Figure 5-4. Elevations (a-d) of the older dwelling at site 41DL183 as recorded by NTSU in 1980. Figure taken from Ferring and Reese (1982:Figures 11-36 and 11-37).

offloading platforms (to stand on while unloading wagons) folded down into the wings. The main structure was capped by a salt box roof, with the short end facing north. The roof extended beyond the south crib,

Table 5-2
ARTIFACT ASSEMBLAGE RECOVERED FROM SHEET REFUSE IN THE OLDER DWELLING AREA AND UNITS IN THE LARGE BARN

	Older Dwelling #	Older Dwelling %	Large Barn #	Large Barn %
Semicoarse Earthenware	0		1	.1
Refined Earthenware	18	8.1	3	.4
Stoneware	6	2.7	8	1.1
Bottle Glass	88	39.5	205	28.6
Table Glass	1	.4	1	.1
Unknown Glass	0		2	.3
Nails	38	17.0	341	47.6
Brick	1	.4	0	
Window Glass	14	6.4	5	.7
Other Architecture	41	18.4	45	6.3
Clothing Items	0		2	.3
Faunal/Floral Remains	4	1.8	35	4.9
Thin Metal	6	2.7	13	1.8
Heavy Iron	1	.4	15	2.1
Firearms	2	.9	27	3.8
Miscellaneous Other	0		14	1.9
Total	220		717	

1 Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, handtools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on additional analyses

2 Categories that were not represented in these assemblage included coarse earthenwares, porcelain, toys, other personal, fuel remains, hand tools, horse and stable gear, and electrical parts

providing covered shed space at the rear of the barn. Additional sheds were added on the sides of the barn, some of which were partitioned into storage rooms with a roof height of about 3 m. These sheds were arranged in a symmetrical pattern on an east - west axis at the south end of the barn. At the north end, larger sheds were built which may have been used for both stock and storage.

The original siding was clapboard while the shed additions exhibited either vertical or horizontal planking of 1 × 12 inch (2.54 × 30.48 cm) boards with flat joints. The roof was shake, and the entire exterior was painted red. A concrete stock tank is still evident south of the burned barn.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation work at site 41DL183 focused on assessing the age and integrity of the cultural deposits in the older house area and recovering a representative sample of the architectural rain associated with the burned barn. Fieldwork consumed 12 person days and involved hand excavation of sixteen

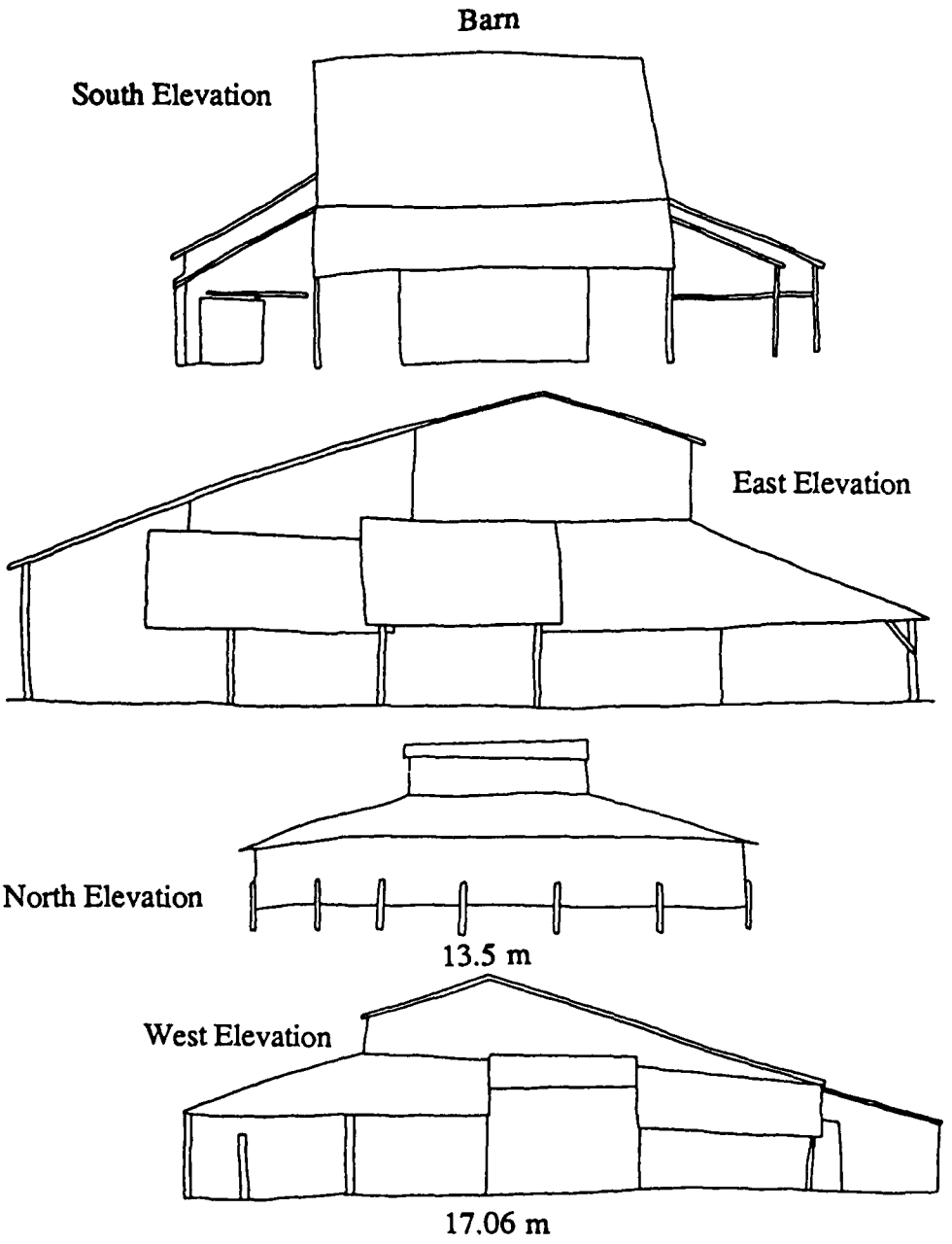


Figure 5-5. Elevations (a-d) of the large barn at site 41DL183 as recorded by NTSU in 1980.

50 × 50 cm units in the original dwelling area which resulted in the recovery of 220 artifacts, and nine 50 × 50 cm units in the burned barn area producing another 717 artifacts.

SOIL AND CULTURAL DEPOSITION

The soil matrix in the barn and dwelling areas at site 41DL183 was Heiden clay which occurs on 1 to 3% slopes. The remainder of segment 3a includes Heiden clay (2 to 5% eroded slopes), Trinity clay (occasionally flooded) and Ovan clay (frequently flooded). Segment 3b, also owned by the Holveck family was located on Heiden clays (1 to 3% slopes), and Ovan clays (Coffee et al. 1975).

Artifacts were found to a depth of 25 cm, with most artifacts occurring in the upper 12 cm in both the dwelling and barn areas. No evidence was found of disturbed deposits in either of these areas.

ARTIFACT ASSEMBLAGE

The sheet refuse at 41DL183 contained 3.8% ceramic vessels, 31.9% vessel glass, 42.4% architectural remains, 3.7% miscellaneous thin and heavy metal, and 18.2% other items (see Table 5-2).

Ceramic vessels were more common in the dwelling area, while floral and faunal remains, firearms, heavy metal and miscellaneous other items were more frequent in the barn area. Architectural remains predominated in the barn area, followed by vessel glass, while these two categories were equally common in the dwelling area. The following discussion includes all artifacts recovered from sheet refuse deposits in the dwelling and barn areas, including those from the 50 × 50 × 2 cm units located inside the barn.

CERAMICS

A total of 21 refined earthenware sherds were collected, and included three high fired bluish-tinted Mason ironstone, 12 light bluish-tinted whitewares, two white whitewares, and one burned sherd from the house area, and three light bluish-tinted whitewares from the barn. Four decorated sherds were found in units in the dwelling area, and include three light bluish-tinted whitewares with relief molded decoration, one with relief molding and a scalloped rim, and one with a thin gilded band. No decorated sherds occurred in the barn. Flatware predominated, accounting for 16 sherds, with the remaining fragments including cups and bowls, and one special vessel. A base to a large platter was also recovered. None of the sherds had maker's marks, and no porcelain sherds were found.

Fourteen stoneware fragments were recovered including natural clay slip interior with salt glazed exterior (4), natural clay slip interior and exterior (2), natural clay slip interior and bristol exterior (1), and bristol interior and exterior glazed sherds (7). The stoneware assemblage dated from the 1890s up to the 1930s, and did not include any early salt glazed sherds or any modern stoneware baking dishes or kitchenware vessels. A total of 12 stoneware vessels were identified, and their distribution indicated that seven were from the barn area (58.3%), and five were from the dwelling area. No temporal variability was evident between the stonewares in the barn and dwelling areas.

VESSEL GLASS

A total of 300 vessel glass sherds were collected and included 294 jar and bottle fragments, and only two table glass, two lamp, and two unidentifiable fragments (see Table 5-2). The table glass included a manganese decolorized vessel with a pressed floral pattern, and a clear, ribbed tumbler, while the lamp glass was all plain. Among the bottle glass assemblage, 268 were plain, while only 17 were relief decorated, eight had maker's marks, and two had a corregated pattern near the base.

A breakdown of the bottle glass by glass color (Table 5-3) indicated that clear (149) and brown (107) fragments accounted for over 80% of the bottle glass assemblage. In addition, all identifiable sherds were from machine made bottles produced during the twentieth century. Represented in the clear bottle glass assemblage was a variety of narrow and wide mouth containers which included several small medicinal, condiment, and beverage bottles, three continous threaded wide mouth rims, which may be from fruit jars, and two fruit jar bases. Manganese vessels included two narrow mouth rims, of which one was from a medicinal bottle with a cork closure, and the other was a liquor bottle with a brandy finish. Light green and aqua bottles were primarily fruit jar sherds, although several soda bottle fragments were also found. One continous threaded, aqua fruit jar rim and one fragment marked *AS* [MASON or ATLAS] were collected, along with a single fruit jar inset cap marked [BO]*YD*. Recent beer bottle fragments accounted for 107 of the brown bottle sherds. The remaining two sherds included one well rounded snuff bottle base (1920 to present) and one chamfered corner snuff bottle base (1870 - 1920). A single white milkglass bottle or jar fragment with a ribbed exterior was found. A variety of bottle colors recovered from other farmsteads in the Reservoir were not represented in the assemblage from 41DL183. Among these were Depression Era pinks, greens, yellows, and colored milk glass.

Table 5-3
VESSEL GLASS ASSEMBLAGE RECOVERED FROM SHEET REFUSE IN THE OLDER DWELLING AREA AND UNITS IN THE LARGE BARN

	Older Dwelling		Barn	
	#	%	#	%
Glass Color:				
Clear	52	59.1	97	47.3
Manganese	8	9.1	1	.5
Light Green	1	1.1	9	4.4
Aqua	7	8.0	8	3.9
Brown, Honey	18	20.4	89	43.4
Purple	1	1.1		
Translucent Milk	1	1.1		
Clear with gray ash tint			1	.5
Total Glass				
Unburned	74	84.1	179	88.3
Burned, Melted	14	15.9	26	12.7
Total	88		205	

In summary, the vessel glass assemblage from 41DL183 dated primarily between the early twentieth century and the present (beer bottles), and included a more limited range of vessel types and colors than identified for other farmsteads in the Reservoir.

ARCHITECTURAL REMAINS

A total of 94 architectural remains were recovered in the dwelling area, and an additional 391 were collected in the barn (see Table 5-2). Nails accounted for 87.2% of the architectural assemblage in the barn, while other architecture accounted for 43.6% in the dwelling area, followed by nails (40.2%). Divergent patterns were also evident among the window glass, brick, and other architecture. A single brick fragment was collected in the dwelling area, and was associated with the house chimney. Window glass fragments were also predominantly from the house area, where they were three times more frequent than in the barn.

The nail assemblage included both machine cut (18) and wire nails (16). An examination of nails from 50 x 50 cm units on the 8 m grid, which included both the barn and dwelling area, indicated that wire nails overwhelmingly predominated at the site. A total of 272 wire nails were recovered, while only 25 machine cut nails were found. Units excavated in the barn to recover data on the architectural rain deposited when the barn burned yielded an additional 42 wire and 38 machine cut nails. Based on these figures, divergent patterns were evident between the frequency and ratio of wire and machine cut nails in the dwelling and barn areas. When the nail assemblage for the dwelling, barn and architectural rain units were examined separately, these patterns were more apparent.

A relatively equal number of cut and wire nails were recovered in the dwelling area. All of the cut nails were broken fragments, indicating that they may represent nails that had been pulled when the north room and porch were added, or when the original front porch on the south face was removed. The wire nails ranged in size from 3.2 cm to 15.9 cm.

The distribution of the cut and wire nails supported this dwelling's architectural documentation from the 1979-1980 season. All but one of the cut nails were from the original portion of the house, in the area of the front or south wall, and the former porch. Wire nails were recovered north of the dwelling, as well as from units located adjacent to the original house and the addition. As such, these figures indicate a mixed assemblage, with the original dwelling containing primarily cut nails, and the addition, wire nails.

Units excavated on the 8 m grid in the barn area were located to recover a representative sample of the sheet refuse and architectural rain deposited when the barn burned in the early 1980s. Three additional units (see Figure 5-1) were excavated in the barn to examine the rate of vertical movement of artifacts through the soil (see Chapter 29), as well as to compare the architectural rain from the two cribs and several sheds encompassed in the barn superstructure.

The nail rain collected from units on the 8 m grid included 254 nails, of which seven were cut, and 247 were wire. The architectural rain units recovered 38 cut nails and 42 wire. Based on these figures, and the distribution of the cut and wire nails, several patterns were evident. Units on the 8 m grid were primarily situated under the wings of the barn, and because of the spacing interval, only one unit (S96 E232) fell within one of the former cribs. This unit was located inside the south crib. One architectural rain unit (S92 E228) was also located within the interior of the barn structure in the north crib. These two units contained all but one of the cut nails recovered in the barn. One cut nail was found in S100 E228, situated adjacent to the west wall of the south crib. Seven cut nails were recovered from S96 E232, and 37 from S92 E228. The wire nails were found predominantly in the remaining units which were located under the barn wings, with only one in S96 E232 and 21 in S92 E228.

A total of 18 window glass fragments, and one piece of speciality flat glass which was 3.5 mm thick were recovered at the site. Window glass fragments were three times more frequent in the house area, with those found in the barn. A breakdown of these sherds by thickness in millimeters indicated a range in size from 1.7 to 3.0, with a mean of 2.29 and a standard deviation of ± .42.

A total of 41 other architectural remains were collected in the house area, and 45 in the barn area. A breakdown of these remains for each of these structures indicated that asphalt shingles were the most frequent remains in the dwelling area, while wire, boards, and wood shingles were most common in the barn.

OTHER REMAINS

A total of 37 low frequency items, including personal, household and farm items were recovered at 41DL183 and accounted for 3.9% of the assemblage. These remains were found in only six units, two in the dwelling area, and four in the barn. In the dwelling area low frequency items accounted for .3 items per 50 x 50 cm unit, and represented 10.8% of the total low frequency remains found at the site. A metal toy vehicle axle was found at S104 E232, and a shotgun shell marked *REM-UMC NEW CLUB NO. 12* and a .22 caliber rimfire cartridge marked *P* were found. Low frequency items found at 41DL183 were predominantly recovered in the barn area (89.2%), and were primarily represented by recent vandalism or target shooting. An axle cap to a toy vehicle was recovered at S96 E224 along with 21 .22 caliber rimfire cartridges marked *F*, one chain hook, and a nut. Unit S88 E232 contained two bolts, one nut, two leather rivets, and a .22 rimfire marked *SUPER X*. Surface finds in the barn included one 2-hole shell button, and a *FC .32 AUTO* centerfire cartridge, and two shotgun shells; *WINCHESTER REPEATER NO. 12*, and *PETERS REPEATER NO. 12*.

SUMMARY

The large barn at site 41DL183 was recommended for architectural documentation because of its potential for providing information on barn construction styles in the area, including detailed comparisons with the barn at the Anderson farmstead (41DL190). However, because this structure was burned by vandals before the 1985 mitigation season began, the architectural significance of ths site was destroyed. Limited excavation was conducted to recover archaeological and architectural information from this structure, and the original dwelling.

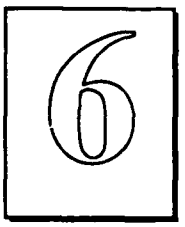
The Holveck family owned and occupied site 41DL183 from 1882 until it was purchased by the U.S. Army Corps of Engineers in 1978. The oldest structure was a small board and batten dwelling located in the southwestern portion of the site. It was originally built as a single room house set on stone piers, with the front door and porch facing south. A second room and a new front porch were added to the north side of the house at the turn of the century altering the dwelling to a T-floorplan. The original front porch was removed. A more recent house area was situated in the eastern portion of the site, which was largely removed when the Holveck family sold the property in 1978.

The large barn was built after the turn of the century and was associated with the more recent dwelling. It was situated downslope and to the northeast of the original dwelling and northwest of the new house.

Units excavated in the yard around the original dwelling indicated a low density sheet refuse midden

containing primarily late nineteenth century fine ceramic tablewares, stonewares, twentieth century bottle glass, window glass, and other architectural remains related to the original dwelling and its later additions (see Table 5-2). Units in the barn area recovered a higher percentage of architectural remains associated with the barns wing portions, including a number of small storage sheds. Two architectural rain units were located to sample deposits within the cribs of the barn and yielded substantially higher percentages and ratios of machine cut nails than wire nails compared to units in the wing areas. In addition, strong spatial separation of domestic and farm components was evident with ceramic and glass vessel sherds occurring primarily in the dwelling areas (excluding recent bottle glass in trash deposits), while farm items including horse and stable gear (leather rivets), firearms, and other farming related remains were found in the barn area.

SITE 41DL190: THE ANDERSON PLANTATION



by

David H. Jurney

Napoleon Bonaparte Anderson built his plantation house in 1887 on a broad flat landform about midway between the top of the Cedar Ridge Escarpment and nearby Mountain Creek. This setting consisted of Ellis Clay soils, and was selected by at least two other prominent landholders in the area. In addition to Anderson, both John W. Penn (41DL192) and Phillip Rape located their large farmsteads on these native bench prairies. The Anderson house was quite large and at the time it was built it was referred to as a plantation house because of its size and status.

ORAL AND DOCUMENTARY INFORMATION

Previous investigations have produced conflicting information on the history of the Anderson site. Skinner and Connors (1979:29) reported from two independent informants that the house burned in the 1940s. This is the only inference which has held up under further investigation. Apparently someone also reported that the dwelling was a two story, 14 room structure, built in 1848. Subsequently, this interpretation changed, with the original structure reported to be a log cabin built in 1859, later replaced by a larger plantation house (Ferring and Reese 1982:187). These dates appear to have been derived from a mixture of sources, including confusion about the two Robert Ground Survey tracts, conflicting verbal accounts, and indirect references to inheritances from the Penn Estate.

A re-examination of the deed records, however, reveals a more accurate scenario for the N. B. Anderson tract history. Robert Ground was granted 640 acres in 1848, which he sold unlocated. Two tracts are listed in Dallas County with his name, one a 200 acre parcel for which the title was traced by North Texas State University in 1979. The other was a smaller, 150-180 acre tract on which 41DL190 was located. This property was owned, and apparently operated by George W. Laws from 1865 to 1872. Then, the property was lost to a sheriff sale, and purchased by C. C. Slaughter in 1878, who finally sold it to N. B. Anderson in 1881.

Anderson did possess land in the lower Robert Ground survey, several miles south of 41DL190. Apparently, this was the location of the original homestead, reported by informants to have been built ca. 1859. Based on all deed/title information and our archaeological investigations, Anderson did not move to 41DL190 until 1885, nor did any substantial occupation occur prior to that time. This movement occurred during a period of substantial land speculation, during which N. B. Anderson accrued over 2,000 acres in the Mountain Creek valley and other counties as well. This includes a 160 acre tract in the J. Gordon



Figure 6-1. Photograph of the entrance of the Anderson's brick cellar built between 1887 and 1892.

Survey (on which site 41DL267 is located) that he bought in 1885, and sold a 21 acre portion to F. A. and Earnest Hintze in 1887.

An examination of the N. B. Anderson family plot in the Pleasant Valley Cemetery (see Appendix C) provides a greater understanding of the family's history. Three children, Laura J. (October 6, 1869/October 11, 1886), Martha J. (December 20, 1864/May 9, 1888), Robert C. (February 13, 1861/October 1, 1889), and Mary Lee and an infant son (both no date) were buried prior to their parents. The birth dates indicate that the family was in the area by the early 1860s. N. B. Anderson (November 30, 1826/January 28, 1892) was a Freemason, and the children's stones bear several motifs indicative of popular nineteenth century concepts of afterlife. N. B. shares a stone with Mary J. Anderson, nee Penn (March 9, 1842/September 10, 1911), which is a large granite block apparently erected by their surviving children. The remaining family members in this plot are Andrew J. Anderson (June 3, 1876/October 10, 1936) and his wife Phena E. Anderson October 23, 1898/September 26, 1959). Thus a large majority of the occupants of 41DL190 are well documented, providing absolute dates on births and deaths which help to substantiate the archaeological and archival records for the Mountain Creek area of North Central Texas.

ARCHITECTURAL OVERVIEW

The Anderson Plantation house burned in the 1940s, but piers and plumbing pipes still clearly define its former location. The original structure was described in a November 29, 1887 *Dallas Daily Herald* newspaper article "as a neat two-story dwelling "having just been completed. Analysis of nail sizes confirm that the structure consisted of large beams, possibly with mortise and tenon joinery, and was a two story frame. Two components of the main dwelling were noted (see Chapter 24 for details), which exhibited differential remodeling episodes. The northern portion contained 80% cut nails, with minor twentieth century remodeling. The southern portion was substantially remodeled, possibly with the addition of paneling as evidenced by 55% wire nails. Roofing (3.8 cm) and large framing cut nail sizes (6.3 and 5.5 cm) dominate the assemblage.

Several other ancillary structures are adjacent to the former dwelling. The most recent of these is a ca. 1940 garage built near the ravine in the northeastern portion of the site. Both electrical and gas fixtures were present and wooden shingles were used for the roofing (Ferring and Reese 1982:191). The original architectural description was re-evaluated and differs slightly from the

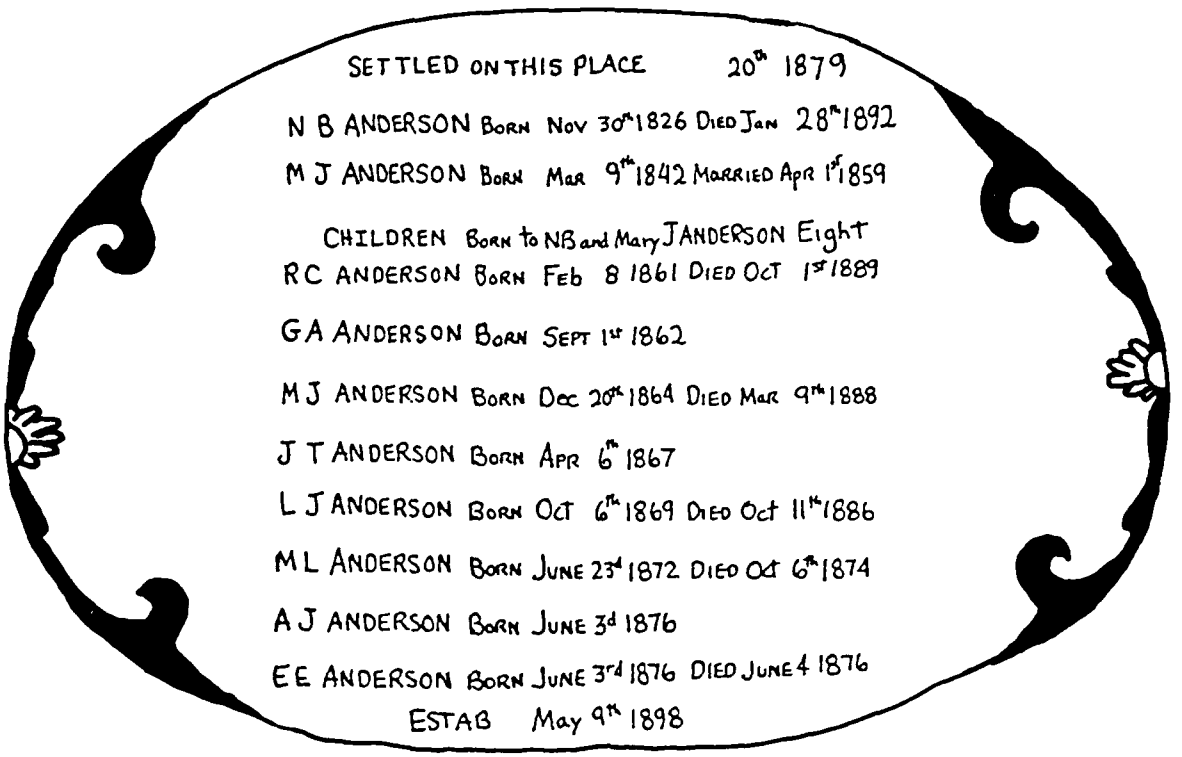


Figure 6-2. Sketch of the Anderson family genealogy found on the rear wall of the brick cellar.

initial assessment. The garage was built of commercial milled pine, using box and strip exterior walls, and pine joists. All wire nails were used. This style is typical of those used for automobile and light mechanical work just prior to WWII.

Several other structures also associated with twentieth century occupation were the water tower and pump house southwest of the main house. Several water faucets and gas lines were also located near the area.

A substantial early transitional pressed brick cellar (Figure 6-1) was located 10 m beyond the house with another brick feature (firebox?) 10 m beyond over the yard fence. These structures were built of a brick that was originally termed handmade "slave" bricks, thought to confirm the ca. 1859 date for the complex (Ferring and Reese 1982:187). The bricks were produced by a semiautomated press and are dense and highly fired. *Portland* cement was used to bond them and was not used in rural areas prior to the railroad. All of this information clearly indicates a late nineteenth century construction for both brick structures. A family genealogy was painted on the rear wall of this cellar near a ventilator shaft (Figure 6-2). This shaft was originally thought to be a fireplace, but there is no hearth or evidence of burning or smoke accumulation. The ending date of the genealogy was 1898, which is near the estimated date of the cellar construction.

The foundation of a firebox located further west of the cellar, was also constructed of the early commercial brick. It consisted of two brick courses and was plastered. Ash beds and gravel fill were the major matrix with some burned pig bones (Ferring and Reese 1982:191).

Beyond the firebox was a large spring house also built of the early commercial brick and *Portland* cement. This feature had been leveled by a bulldozer. A circular concrete tank was present just below the tank in the spring itself.

The only remaining structure from the turn of the century farm was the double crib barn located on the western periphery of the site (Figure 6-3). This structure had been knocked down and much of its lumber robbed before our investigations began. It consisted of large pine sills joined by full dovetails, which had been sawn, with sawn pine stud walls. The barn served as a granary and stabling area. The foundation consisted of limestone slab piers with bois d'arc piers under the interior. Several graffitti (initials "AJA") indicated that Andy Anderson frequented the barn. Although several tree-ring specimens, over 180 years old were collected, none crossdated due to complacent growth patterns. Based on our architectural evaluation, the double crib barn was constructed ca. 1910.

Several concrete structures, dating to the early twentieth century were also present on the farm. A large horse stable was located just south of the main farm complex. Another structure, subsequently used as a tenant dwelling, was located several hundred meters north of the main complex. In addition, another concrete watering tank was located near a collapsed wooden barn on the northern site boundary.



Figure 6-3. Photograph of the turn-of-the-century double crib barn at the Anderson site.

The last structure investigated was a ca. 1920 double pen tenant dwelling, located 100 m southeast of the concrete horse barn. This may have been the residence of Mr. Tidwell, a tenant of Andy Anderson, who found the large fossil *Elasmosaur* near the Anderson spring in the 1920s. The fossil is currently on loan from the Institute of the Study of Earth and Man, Southern Methodist University, to the University of Colorado Museum. The dwelling had a copper lightning rod system, and its yards were investigated with several excavation units in order to check for pre-twentieth century deposits. No older materials were identified.

DATA RECOVERY INVESTIGATIONS

During the 1979 testing, three trenches (.5 m wide x 4 m long) and three 1 m^2 units were excavated in the area of the main house. These were located to examine the expected wall lines near the piers and collapsed chimney. The piers suggested one phase of construction whereas the nail distributions indicated two phases of construction (Ferring and Reese 1982:191). Charcoal and kitchen related artifacts were the most common archaeological remains. The only other excavations were the clearing and profiling of the firebox, discussed previously. A total of 3,763 artifacts were recovered in these artifact dense areas. They are summarized by category in Table 6-1. As these artifacts were recovered from the burned dwelling, 30% were nails, and 52% were unidentified, primarily burned objects.

The material culture assemblage recovered during mitigation was divided into the major site areas (Table 6-1, Figure 6-4). A total of 55 units were excavated in the sheet refuse surrounding the main house (8 m grid), 15 units under the house itself (4 m grid), 11 units around Barn 1 (8 m grid), and 9 units around the collapsed Barn 2 (8 m grid). A total of 10, 701 artifacts were recovered. Only trace amounts of artifacts were recovered in the barn areas. Although only 20% of the units were excavated under the main dwelling, 62% of the artifacts were recovered from this area with many of the items providing little additional information. The artifact percentages listed in Table 6-1 indicate the proportion of the total assemblage recovered recovered by area or context.

ARTIFACT ASSEMBLAGE

Considering the entire site, bottle glass (40.4%) comprised the largest artifact category, followed by window glass (10.6%), nails (10.1%), and other architecture (9.9%). Thin metal comprised 7.5%, brick 6.7%, faunal remains 4.0%, and refined earthenware 3.1%.

When the site components are considered separately, however, a different picture emerges. Bottle glass continues to dominate in the sheet refuse and

Table 6-1
MATERIAL CULTURE ASSEMBLAGE FROM THE ANDERSON FARM, 41DL190, RECOVERED DURING TESTING AND MITIGATION

	MITIGATION									TESTING	
	Sheet Refuse		Dwelling		Barn 1		Barn 2		Total	Entire Site	
	N	%	N	%	N	%	N	%	%	N	%
Coarse Earthenware	5	<1	7	<1					<1	24	<1
SemiCoarse Earthenware			1	<1					<1		
Refined Earthenware	102	1.0	235	2.2					3.1	88	2.3
Stoneware	76	<1	39	<1			1	<1	1.1	11	<1
Porcelain	9	<1	9	<1					<1		
Bottle Glass	1538	14.4	2761	25.8	12	<1	10	<1	40.4	136	3.6
Table Glass	7	<1	13	<1					<1		
Lamp Glass	7	<1	19	<1					<1	11	<1
Nails	262	2.4	724	6.8	51	<1	41	<1	10.1	1105	29.4
Brick[1]	369	3.5	344	3.2					6.7	118	3.1
Window Glass	265	2.4	864	8.1	1	<1			10.6		
Other Architecture	311	2.9	682	6.4	40	<1	29	<1	9.9	7	<1
Clothing Items	12	<1	12	<1					<1	7	<1
Toys	2	<1	32	<1					<1		
Other Personal	18	<1	11	<1					<1	10	<1
Floral and Faunal	348	3.3	73	<1	6	<1			4.0		
Thin Metal	344	3.3	431	4.0	26	<1			7.5	51	1.4
Heavy Metal	74	<1	47	<1	4	<1	2	<1	1.2	105	2.8
Fuel Remains	3	<1							<1		
Hand Tools	1	<1	5	<1					<1		
Firearms	5	<1	5	<1					<1	9	<1
Stable Gear			1	<1					<1		
Electrical Parts	4	<1	13	<1					<1	3	<1
Miscellaneous Other	79	<1	310	2.9						105	2.8
Unidentified										1973	52.4
Total %		35.9		62.0		1.3		.8			
All Total	10,701									3763	

[1] Brick and mortar are combined for Testing

dwelling assemblages. Nails and window glass are relatively more abundant in the dwelling area due to the dominance of the burned structure. Refined earthenwares are evenly distributed in general sheet refuse and in the dwelling area, and stonewares are far less abundant in the burned remains of the house. The barn assemblages are quite different in composition in comparison to either the sheet refuse or burned dwelling assemblages. Nails, other architecture, and thin metal dominate. Bottle glass, although present, is much less frequent. Refined earthenwares are conspicuously absent.

CERAMICS

The ceramic assemblage (Table 6-2) consisted of twelve classifications, plus a burned and unidentified category, totaling 338 sherds. The largest category was the "burned unknown" consisting mostly of refined earthenwares from under the dwelling. The only remaining categories of any importance under the dwelling were dark fiesta (3.0%), pure white whiteware, and fiesta (each 1.9%). Traces of ironstone/whiteware, blue tinted vitrified whiteware, light blue tinted whiteware, pearlware, and incised were also recovered. The ceramic assemblage (n=134) provided a beginning date of 1886, which accurately pinpoints the initial occupation based on all other considerations.

In general sheet refuse, pure white whiteware dominated (9.5%), followed by light blue tinted whiteware and light ivory tinted whiteware (both 3.7%). Burned sherds comprised much less of the assemblage (1.9%) than in the burned dwelling. Blue tinted nonvitrified whiteware (2.8%) and deep ivory comprised most of the remaining sherds. Fiesta, dark fiesta, and gilded comprised less than 1% each of the remaining sherds. The majority of the sherds were undecorated. Relief molded (11) and incised sherds (1) were recovered under the dwelling. Floral decalcomania (2), relief molded (3), and gilded (5) sherds were recovered from sheet refuse.

Seven categories of stonewares (n=116) were identified plus several unidentifiable sherds. Only a few sherds were from the dwelling. These included gray salt/dark interior (3.7%), and greenish alkaline (2.7%) along with traces of brown slip and unknown categories (both less than 1%).

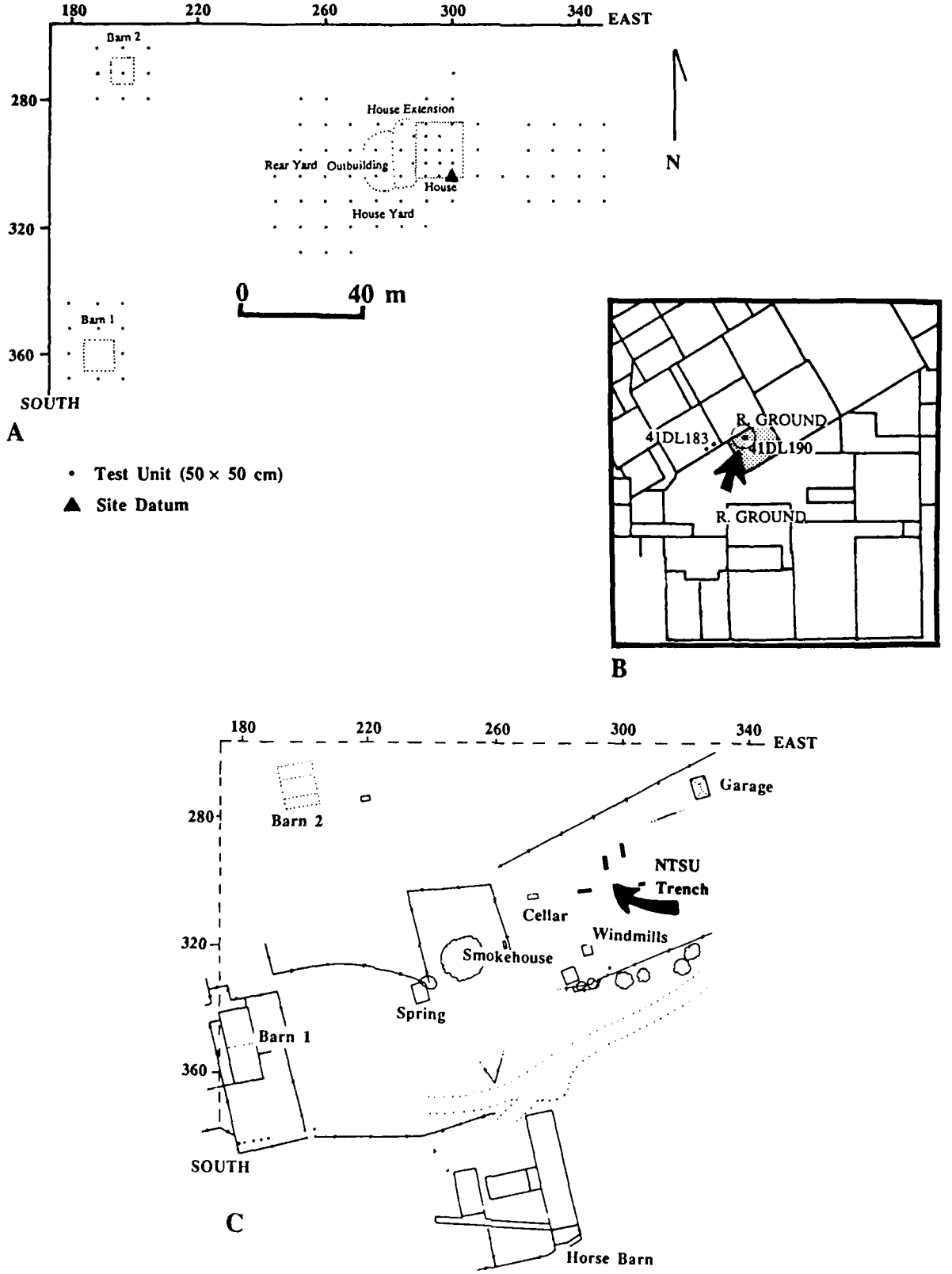


Figure 6-4. The Anderson site, 41DL190, showing the 1985 excavations in plan view (a), the excavations superimposed on a general map of the entire site (b), and the location of the plantation house on the R. Ground Survey (c). Figure (b) base map adapted from Ferring and Reese (1982:188).

Table 6-2
CERAMIC ASSEMBLAGE FROM THE ANDERSON SITE, 41DL190

	Sheet Refuse N	Sheet Refuse %	Dwelling N	Dwelling %
Refined Earthenware:				
Ironstone WW			2	<1
Blue Tint Virtrified WW			1	<1
Blue Tint NonVitrified WW	13	2.8		
Light Blue Tint WW	17	3.7	5	<1
Pure White WW	44	9.5	9	1.9
Light Ivory Tinted WW	17	3.7		
Unknown (burned)	9	1.9	130	26.3
Fiesta	5	<1	9	1.9
Dark Fiesta	5	<1	14	3.0
Deep Ivory	9	1.9		
Pearlware			5	<1
Gilded	5	<1		
Incised			1	<1
Decorative Types for Refined Earthenwares noted above:				
None	(114)		(221)	
Floral Decalcomania	(2)			
Relief Molded	(3)		(11)	
Gilded	(5)			
Incised			(1)	
Stoneware:				
Salt Glazed	12	2.7		
Bristol Slipped	25	5.3		
Dark Slipped	15	3.6		
Clear Glaze	28	6.0		
Brown Slip	8	<1	4	<1
Greenish Alkaline	10	1.9	12	2.7
Gray Salt/Dark Interior	14	2.8	18	3.7
Unknown	7	<1	7	<1
Porcelain:	11	2.2	6	<1
Coarse Earthenware:			12	2.3
Ceramic Total (excludes counts in parentheses)			489	

The majority of recovered stonewares were from the sheet refuse. These included clear glaze (6.0%), bristol slipped (5.3%), dark slipped (3.6%), gray salt/dark interior (2.8%), salt glazed (2.7%), and greenish alkaline (1.9%). The remaining stoneware consisted of less than 15 brown slip and unknown sherds.

Eleven sherds of porcelain were recovered from sheet refuse and six from under the dwelling. Twelve coarse earthenware flowerpots were recovered from under the dwelling.

BOTTLE GLASS

The bottle glass assemblage (n = 4344) was fairly evenly distributed between the sheet refuse and dwelling areas (Table 6-3). Traces of clear (36), manganese (1), brown (3) and other (40) were recovered from the Barn 1. Traces of clear (5) and other (50) were recovered from Barn 2. The derived beginning date of this assemblage was 1915, clearly biased by the abundance of twentieth century bottle glass.

The dwelling produced the most homogenous assemblage, with 37.7% clear. Traces of emerald green (38), light green (20), aqua (68), brown (16), opaque milk (1), and other (6) were also recovered.

The bottle glass from sheet refuse was more variable. The majority of this was clear (43.3%), followed by brown (139), aqua (128), and light green (104). Traces of other colors were recovered, including manganese (23), medium olive (12), emerald green (7), dark blue (15), translucent milk (12), light purple (2), opaque milk (6), red/purple (5), light brown (32), light olive green (1), and other (2).

Plain glass comprised the vast majority of the assemblage. In the sheet refuse, decoration consisted of relief (102), enamel labels (9), maker's marks (32), and corrugated (49). Under the dwelling, decoration consisted of the same categories, with 32, 9, 16, and 14 sherds respectively. Single occurrences of relief and enamel label sherds were recovered from Barn 1. The only identifiable maker's marks were from the yard, including *Owens Illinois* (1925-1954) and *Knox Glass Bottle Co.* (1917-1956).

Diagnostic attributes were extremely limited. Machine blown bottle sherds were the most common temporal attributes encountered. Owen's rings and valve marks were frequent. A single finely tooled applied lip (1850-1890) was recovered from the yard along with more recent Depression pressed table glass (1920-1950).

NAILS

The nail assemblage from 41DL190 is discussed in greater details in Chapter 24. A total of 874 nails was measurable out of the 1,078 recovered from the entire site. The nail subassemblage provided greater details upon the site formation and individual components. An outbuilding was identified near the cellar, and the house was divisible into several smaller components including a rear extension and a southern core structure (Table 6-4). The yard was also divisible into several spatial components such as the far rear yard near the firebox and the closer inner yard surrounding the house.

A majority of the nails was recovered from the burned dwelling location. However, they were not homogeneously distributed within this burned feature. The ratio of cut to wire nails indicates quite different patterns between the back extension of the house and its front portion. This difference is best attributed to differential remodeling where the front was heavily paneled, while the rear was left essentially as originally constructed. This varies from the original interpretations of the nail rain, based on testing data, which attributed the difference to an earlier and later structure (Ferring and Reese 1982:191) This was a perfectly plausible explanation, but based on the relatively equal numbers and sizes of the cut nails, it appears that the original structure was built in a single episode with subsequent remodelling.

The nail sizes indicate that the house was a heavy frame structure. Due to the high numbers of nails, this

Table 6-3
BOTTLE GLASS ASSEMBLAGE FROM THE ANDERSON FARM, 41DL190

	Sheet Refuse		Dwelling		Barn 1		Barn 2		Total
	N	%	N	%	N	%	N	%	%
Color									
Clear	1861	43.3	1711	37.8	36	<1	5	<1	84.0
Manganese	23	<1			1	<1			<1
Medium Olive	12	<1							<1
Emerald Green	7	<1	38	<1					<1
Light Green	104	2.4	20	<1					2.9
Aqua	128	3.0	68	<1					4.6
Dark Blue	15	<1							<1
Brown	139	3.2	16	<1	3	<1			3.7
Translucent Milk	12	<1							<1
Light Purple	2	<1							<1
Opaque Milk	6	<1	1	<1					<1
Red/Purple	5	<1							<1
Light Brown	32	<1							<1
Light Olive Green	1	<1							<1
Other	41	<1	6	<1	40	<1	50	<1	2.3
All Total	4338								
Decoration									
Plain	2151		1789		78		55		
Relief	102		32		1				
Enamel Label	9		9		1				
Maker's Mark	32		16						
Corrugated	49		14						
Diagnostic Attributes									
None	2274		1847		80		55		
Owens Ring	4		2						
Valve Mark	4		1						
Corrugated Base	12		10						
Machined Lip/Base	49								

was probably a two story, central hall type of dwelling. The roofing was probably wooden shingle using 3.2 cm nails. After remodeling, wooden shingles were still used, but the wire nail size 3.8 cm was used in this episode. Heavy framing nails (5.1 and 6.3 cm) dominated both wire and cut nail categories.

The yards reflected the general architectural trend shown under the burned dwelling, but with less detail and a greater range of sizes. Cut nails dominated around the dwelling, but wire nails dominated in the rear yard. Wire framing and roofing nails dominated at each of the barns and the former outbuilding near the cellar.

WINDOW GLASS

The window glass assemblage was dominated by sherds from the burned dwelling. Based on the nail evaluation, this was a large dwelling with large windows, and typical of the owner's status. The house assemblage revealed a primary mode in glass thickness at 2.4 mm. The yard assemblage revealed minor modes at 2.0, 2.2, 2.3, and 2.4 mm and contained most of the older window glass sherds. This trend reinforces the interpretation of extensive twentieth century remodeling to the house.

SUMMARY

The Anderson Plantation, 41DL190, was occupied from the early 1880s until the 1940s. This date is later than previously thought, thus not permitting us to address the antebellum research questions originally formulated for mitigation. However, the site does contain a high dominance of architectural remains indicating the substantial building style and status of the original dwelling. Samples from the sheet refuse also help document the above average socioeconomic position of the Anderson family.

The ceramic assemblage closely supports the archival data which indicates an 1887 initial occupation. The ceramics contrast with the bottle assemblage which reflect the adoption of mass consumption patterns. The brick structures and artifacts

Table 6-4
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS AMONG THE ARCHAEOLOGICAL COMPONENTS OF THE ANDERSON SITE (41DL190)

	Mid-points in centimeters for Nail Sizes																					
	1.3		3.2		3.8		4.4		5.1		5.7		6.3		7.0		7.6		8.3		8.9	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w
Barn 1						22		18				2		42		2		9				100		4
Barn 2				1		3		8				33				3		26				10				15
Far Rear Yard				27		5		25		18		2		5		14		32		39		14		5		2				5		3
Outbuilding				9		2		23		23		7		23		13		9		26		42		3		11				17		2
House Extension[1]		23		22			7		31			4		15		20		19		16		17		4		3				2		
House[2]		4		24		3		5		23				2		15		23		1				42		29				2		
House Yard				31		10				17		8		3		14		23						20		40		2				6						10								

[1] The house extension also includes 2 wire 11.4 cm nails at .2 percent
[2] The house also includes 1 wire 1.9 cm nail at .2 percent

KEY:
c = cut nail w = wire nail

| | mid-point Nail Sizes (cont'd) | | | | | | | | | | | | | | | | | | |

SITE 41DL191: POOL FARMSTEAD

7

by

Susan A. Lebo

Site 41DL191, the former farmstead of the Charles Burke Pool family, was located at the edge of a high terrace overlooking Mountain Creek Valley (Figure 7-1). This tract was occupied by the Grimmitt family beginning in 1881. After Charles Pool's marriage to Cordelia Grimmitt, he resided at 41DL191 (Ruby Pool, 1979 Interview). The Pool family continued to occupy this property until it was purchased by the U. S. Army Corps of Engineers in 1978.

The Pool farmstead was partially documented by North Texas State University (Ferring and Reese 1982:201-211) during their Testing Phase in 1980 (Figure 7-2). The central portion of the site consisted of a main dwelling, a second, smaller dwelling, two root cellars, a concrete chicken coop, two windmills, a single car garage, and a concrete stock tank. The main dwelling was burned to the ground by vandals in the early 1980s. South of this area was a tin covered outbuilding used as a workshop and family blacksmithing area. A horse stable and a hay barn were located further east of the main house area.

This site was selected for further investigation because of its architectural history and excellent potential to yield information about the growth of a farm complex operated by a single family for over 80 years. The main dwelling was hypothesized to have undergone considerable changes in floorplan and style. Fieldwork in 1979-1980 focused on deed title research, architectural documentation of standing structures, and an interview of Miss Ruby Pool, a daughter of Charles Burke Pool.

ORAL AND DOCUMENTARY INFORMATION

Site 41DL191 is located on the McKinney and Williams Survey, and is bounded on the north by Camp Wisdom Road, and on the west by Beltline Road. The Joe Pool Lake Dam bisects the northern half of this survey, and directly abuts the main house and barn complexes of site 41DL191. The entire 320 acre survey changed ownership several times between 1845 and 1881 when Cordelia Grimmitt acquired the property (Table 7-1). Charles Burke Pool moved to Texas from North Carolina and settled on Walnut Creek around 1885. According to Ruby Pool (Ferring and Reese 1982:21), "it is noteworthy that his unique property came to him with the marriage of his first wife, Cordelia Grimmitt. It was in this manner that he acquired the tract of land upon which 41DL191 is located." Based on this information, the main house at the site was hypothesized to date to the 1880s. However, other historical information indicates that while Charles Pool lived on this tract, it is not clear that this house was built before the late 1890s, or that he lived on this portion of the tract. According to Hill (1909:217), Charles Pool settled on the Macklin Grimmitt farm in



Figure 7-1. The location of Pool homestead (41DL191) on the McKinney and Williams Survey, south of the Joe Pool Lake embankment.

1885, which included "a vast estate along Walnut and Fish creeks." Together this property included portions of the George Wilson, McKinney, Williams and Thomas J. Tone surveys. Also, Macklin Grimmitt, Cordelia's father, continued to live on his estate until 1896. As such, it is likely that Charles Pool did not acquire this property outright until after Macklin Grimmitt or Cordelia's deaths in 1896.

A short time later, Charles Pool married Orienta Wolff, with whom he had three more children, twins Raymond and Ruby, and a younger son, Clint. His children by his first marriage were Olin, and twin daughters, Laura and Lora.

Oral history of the Pool family and their occupation of the farmstead at 41DL191 was provided by Miss Ruby Pool who was interviewed by Dr. Kathleen Gilmore and Ms. Nancy Reese of North Texas State University in August, 1979. According to Miss Pool, the primary activity conducted by the family was farming. While corn and oats were regularly planted, a major emphasis appeared to be cotton. Mr. Pool engaged tenants or sharecroppers to help farm his vast estate.

> He had, let's see, four rent houses. And he would have men and families live in those rent houses, and they had places for their own cattle...their own cow or...garden or whatever ...They rented the land and they raised cotton and corn and oats...He rented to them on thirds and fourth. He would furnish all the teams and all the equipment and they would do the work and give him so much (Ruby Pool, 1979 Interview).

Several other structures were identified on land owned by Charles Pool. South of the main house, was a large barn that burned down in 1913, and a small barn. According to Miss Pool, the smaller barn was called "the cow barn, where they used to milk. Then over here,

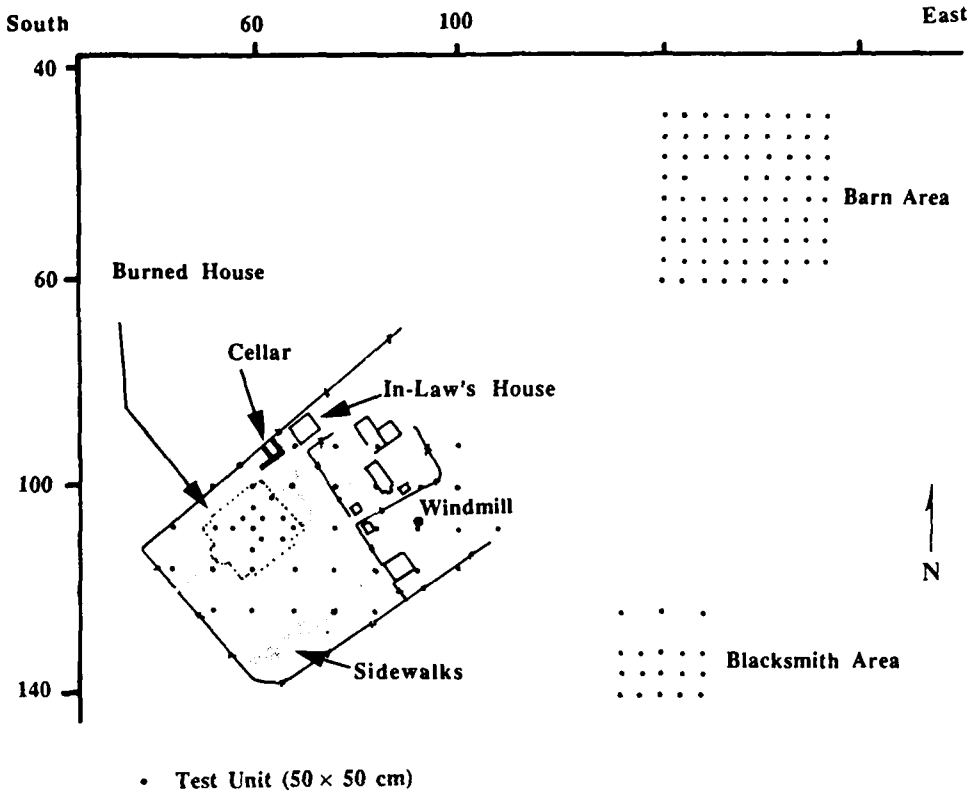


Figure 7-2. Map of the Pool homestead (41DL191) showing excavations, major structures, and features.



Figure 7-3. Photograph of the dwelling at 41DL191, showing outbuildings and windmill in the rear.

Table 7-1
LAND TRACT HISTORY FOR SITE 41DL191

Date	Acres	Grantor	Grantee	Book
McKinney and Williams Survey A-1063				
1845	320	Republic of Texas Land script no.70/164	McKinney and Williams	K:108
1857	320	State of Texas Land issued to McKinney and Williams in 1845 and Transfered to Joseph Tynes; filed Aug. 2, 1861	Joseph B. Tynes	K:108
1861	320	State of Texas	Joseph B. Tyus (Tynes)	K:108
1867	320	Joseph B. Tyus (Tynes)	Fredrick Karner	K:109
1881	24.1	Fredrick Karner	John Karner	53:141-2
1881	320	John Karner	Cordelia Grimmitt	53:141
1912	320	Raymond, Ruby & Clint Pool	Orienta Pool	1591:388
1929	320	Orienta Pool (Clint Pool's interest listed under father)	Clint Pool	
1932	320	Clint Pool (Clint Pool's interest listed under mother)	Orienta Pool	
1933	320	Orienta Pool	Raymond and Ruby Pool	
1967	320	Raymond and Ruby Pool	Ruby Pool as Trustee	
1978	339.86	Ruby M. Pool (includes part of Thomas Tone Survey A-1460)	U.S. Army Corps of Engineers	78191:2261

there was another barn and at one time it was a dairy." Several other outbuildings had formed an earlier part of the farm complex. Miss Pool recalled that one had, "I guess you [would] call it...a crib,...they didn't even put nails in it, it was notched cedar logs." This structure was recycled, and sold in the mid-1970s. In addition, before 1900, "There was another little log house [or barn] that had been moved around."

ARCHITECTURAL OVERVIEW

The Pool site, a dynamic landowner farmstead, is best characterized by the modification and later recycling of older structures and the addition of new buildings and building styles as the size and needs of the family changed. One structure which exhibits this long history of architectural change is the main dwelling (Figure 7-3). Since it burned to the ground before the 1985 - 1986 season, it is necessary to draw from the information gathered previously (Ferring and Reese 1982:203-209). This information has been re-examined, and together with the architectural debris recovered in a number of units excavated under the house, it is argued here that this house was originally a central hall floorplan which was probably built in the 1890s. This information is discussed below.

A number of support structures (e.g., garage, chicken coop) and outbuildings were also documented by North Texas State University in 1980. All of these structures date to the twentieth century. They were built primarily between 1930 and 1960.

MAIN HOUSE

The original central hall dwelling (originally identified as a dogtrot; Ferring and Reese 1982:210) was built on cottonwood (?) piers (Figure 7-4). Massive beams were set on the row of piers along the long axis of the house, and roughcut sleepers were set across these beams against the axis of the house. The fireplace was made of handmade bricks which rested on the ground, below the floor of the house. This was supported in the archaeological record. This fireplace was located on the interior wall of the southern room, and resulted in the doors opening onto the hall not being symmetrically located. While the placement of windows in this early structure is not known, it appeared likely that two windows occurred on each of the exterior walls. The floor boards were cut from single pieces of ash or possibly heart-of-pine which did not exhibit evidence of knots. The walls in both rooms were approximately 11 feet tall and were covered with beaded tongue and groove boards, over 2 x 4 inch (5.08 x 10.16 cm) studs. The exterior walls were covered with clapboard and painted white. Machine cut nails were used throughout this dwelling.

The original dwelling was doubled to form a four room central hall, sometime after the turn of the century (Figure 7-4). Wire nails were used throughout the modified sections of the house, which included the addition of two rooms on the front of the dwelling, and the use of machine made brick piers. The new rooms measured 16 x 16 feet (4.8 x 4.8 m), matching the size and placement used in the original structure. The central

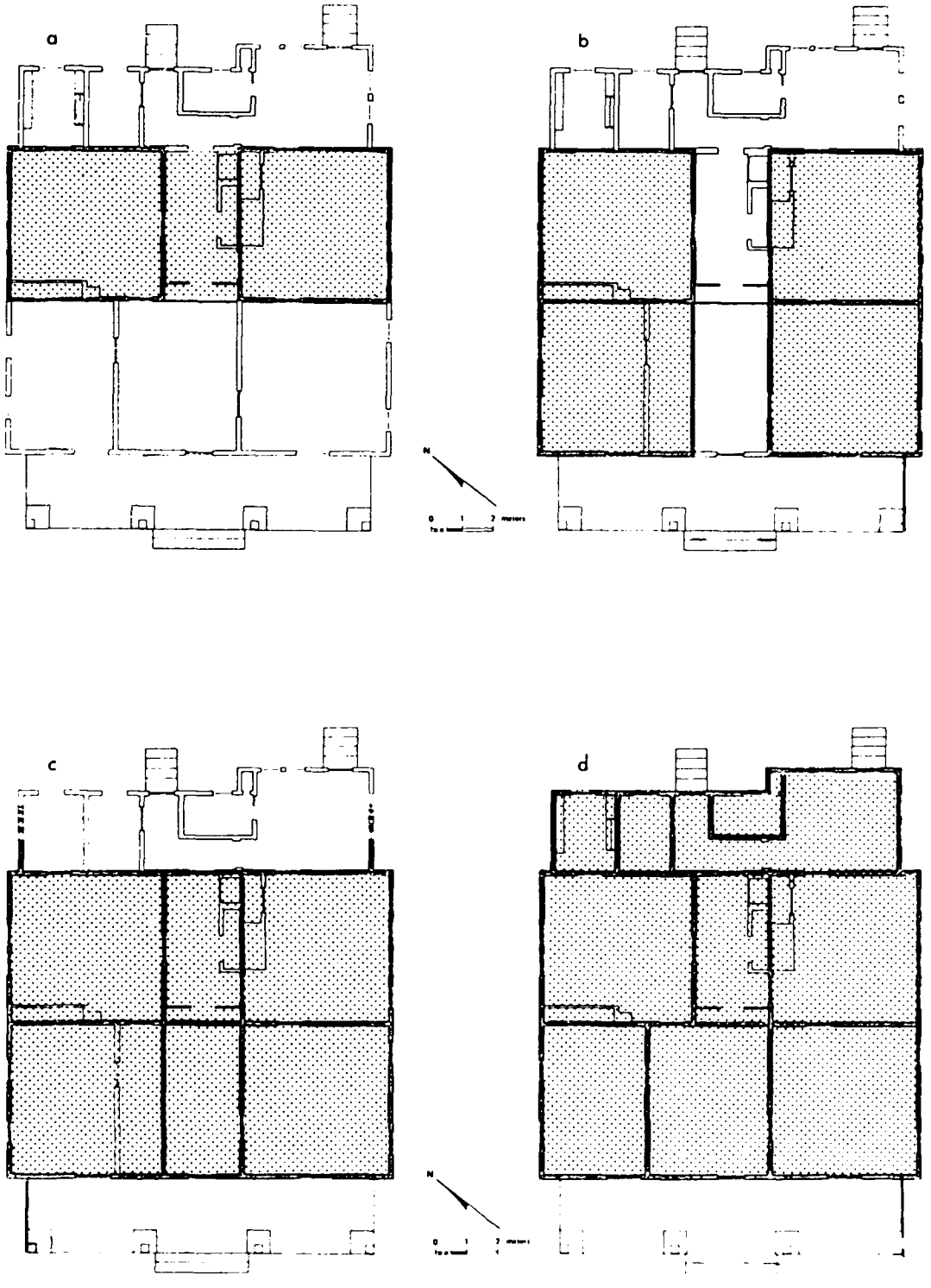
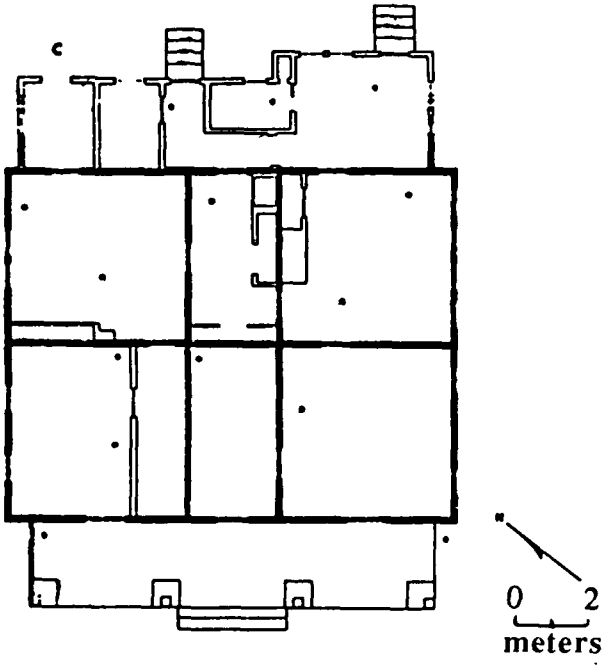


Figure 7-4. Architectural evolution of the main house at site 41DL191 (a) initial double room structure (dogtrot), (b) modified central hall structure, (c) expanded central hall structure with further modifications, and (d) final structure with back additions (From Ferring and Reese 1982: figure 11-55).



• Test Unit (50 × 50 cm)

Figure 7-5. Location of fourteen test pits (50 x 50 cm) excavated in the burned house area.

hall was extended, but only the south room opened onto this hall. Both rooms could be entered from the original two rooms, and from the front porch.

Several modifications were made to the house during the early twentieth century. At one point, according to Miss Pool, "it [the house] used to go back as far as the back fence [the fence located between the garage and small "In-Law's" house]...You see, the rooms were 16 x 16 feet [4.8 x 4.8 m] and so I cut off the dining room and kitchen. We had a back porch that was 30 x 15 feet [9 x 4.5 m], I think, screened in at the back. And we'd always eat out there. The bathroom was back there and the utility room. I just had them whack all that off and we still had three bedrooms...[In addition] It had a big porch on the north, a big porch on the south, and a big porch on the front."

Other additions or modifications included converting the original fireplace to accommodate a stove chimney in the kitchen and enclosing it behind a wall. Also, an adjoining closet was added to the south room. Two phases of electrical wiring occurred, and gas lines and space heaters were installed to service the entire house. When the house was documented in 1980, the exterior was done in a 1930s style with exposed rafters, a flat sloping front dormer, pedestaled porch pillars, and multipaned front windows. The floorplan (Figure 7-4) showed considerable modification from the original structure and included a front dining room, several bedrooms, bathrooms, a kitchen, and a pantry. Two of the porches had been removed, and concrete steps provided access on the back side of the house.

Table 7-2
ARCHITECTURAL ASSEMBLAGE RECOVERED FROM UNITS LOCATED UNDER THE MAIN DWELLING

	Nails	Brick	W. Glass	Other
S100 E60	47		9	7
S102 E64	68		14	2
S104 E60	65	15	1	14
S106 E58	95	4	19	10
S106 E62	178	3	1	11
S106 E66	296	2	1	144
S108 E52	126	3	1	155
S108 E56	155		24	
S108 E60	227		3	3
S108 E68	224		4	31
S110 E62	285	2	1	32
S110 E66	116			2
S112 E60	60	1	3	28
S116 E60	95	1		1016
Total	2037	31	81	1455

The main house burned to the ground several years before mitigation work began in 1985. A total of 14 units were excavated under this dwelling which provided substantial architectural information related to the construction and modification of this structure (Figure 7-5). A total of 3,605 architectural items were recovered, and accounted for 64.1% of the assemblage located under the dwelling. Nails accounted for the highest percentage of architectural remains (Table 7-2), followed by other architecture, window glass, and brick which was least frequent. However, considerable variability was evident between units. In addition, a backhoe trench (see Figure 7-2) was excavated off the northeast corner of the house in order to expose one of the exterior walls of an abandoned root cellar located between the two dwellings. This trench yielded evidence of the foundation to the former back portion of the main house, removed by Miss Pool.

NAILS

Four units contained over 200 nails, all of which were located under the original central hall house (see Figure 7-5). S106 E66 and S108 E68 were located under the backporch, and included nails deposited when the back portion of the structure was removed by Ruby Pool. Excavation Unit S108 E60 was located along the south wall of the northern room of the central hall, while S110 E62 was located in the southern room. Both machine cut and wire nails were recovered in nine units (Table 7-3). Machine cut nails predominated in S108 E52 and S108 E62, both located under the backporch of the original central hall. Other units containing machine cut nails included S100 E60, S106 E58, and S106 E62 which were located near walls or under the front porch of the central hall.

A breakdown of nail sizes by unit (Table 7-3) indicated major peaks at 3.2 cm and 7.0 cm. In addition nails clustered within the house. Small roofing,

Table 7-3
MACHINE CUT NAILS AND WIRE NAIL ASSEMBLAGES FROM UNITS LOCATED UNDER THE MAIN DWELLING

	S100 E60	S104 E60	S106 E58	S106 E62	S106 E66	S108 E52	S108 E56	S108 E60	S108 E68	S110 E62	S110 E66	S112 E60	S112 E64	S116 E60
Machine Cut:														
2.5 cm									1					
3.8									1					
4.4									1					
5.7					1									
6.3			5	4	5		4							
7.0	10											1		
Broken	1		16	7	18		2		28	4	1			
Wire:														
1.0 cm			3	16	14					12				
1.6							15							
1.9					1			11		19				
2.5	4			1				1			1			1
3.2	3	16	1	18	36	9	18	25	28	41	16	24	4	26
3.4			4		1									
3.5													1	
3.8	2			3	11	2	3		7	18	9	3	4	17
4.4		4		9	8	6	6	11	6	13	17	1	4	9
5.1	8	10	18	5	11	5	9	7	1	7	3	1	9	4
5.7					8	14	3			2				
6.3	2	1	10	12	11	6	23	2	9	8	3	2	2	9
7.0	11	2	1	2	5		1	17	37	25	2	15	16	
7.6			1		1			1						
8.3			1		1		1							
8.9		7	1	5	5	12	2		6	3	1	1		1
9.5			1	3	2		2	7		3			1	
10.2		1	1	1	5		1	9		2		4		
10.8					4			3		11				
10.9													7	
11.4														1
12.1										1				
Broken	6	24	32	92	148	72	50	133	99	116	63	8	20	23
Unidentifiable:							15							4

wallpaper, and light sheathing nails ranging in size from 1.0 cm to 2.5 cm clustered in S106 E62, S106 E66, S108 E56, S108 E60, and S110 E62. Four of these units were associated with the original central hall and included S106 E62 which was located under the breezew- between the two rooms. Units S108 E60 and S110 I were located inside the original central hall, near windows, and S106 E66 was located under the back porch. Unit S108 E56 was located off the front porch, and in the front room of the modified central hall. This room was remodeled during the early 1900s, and an interior wall was added to divide the room into two smaller rooms. Roofing nails, including sizes 3.2 cm to 3.8 cm in size, and major construction nails (3.2 cm to 3.8 cm) were common in all units. Large nails ranging in size from 7.0 cm to 12.1 cm which were used for casing, base, joists, and sills, as well as heavy framing were common in eight units (S100 E60, S102 E64, S104 E60, S106 E66, S108 E60, S108 E68, S110 E62, S112 E60). With the exception of S104 E60 and S112 E60, these units were located near major exterior walls, in areas where extensive modifications occurred during the twentieth century. Three units were located under the back section which was modified at least three times.

BRICK

While the original central hall was set on wood piers, the modified central hall, and all of the later additions including the front, side, and back porches, and the back extension which was removed, were set on brick piers. *CORSICANA BRICK CO.* bricks were used under each porch. The chimney and fireplace in the original central hall were built using transitional handmade brick. During the twentieth century, common red bricks and yellow firebrick were used to replace crumbled handmade, early commercial bricks. Among the common machine made bricks were *COLE, DALLAS*, and

Table 7-4
WINDOW GLASS SHERD ASSEMBLAGE FROM UNITS LOCATED UNDER THE MAIN DWELLING

	S100 E60	S104 E60	S106 E58	S106 E62	S106 E66	S108 E52	S108 E56	S108 E60	S108 E68	S110 E62	S110 E66	S112 E60	S112 E64	S116 E60
1.4 mm								1						
1.6												1		
1.7	1						1							
1.8							1							
1.9	1							1						
2.0	2	1				1	2							
2.1												1		
2.2	3							1						
2.3									1					
2.4	1													
2.6							3							
2.8							3	4						
2.9												1	14	
3.0							2							
3.2							10							
>3.3			2				1							
Unknown			17	1	1									
Total	8	1	19	1	1	1	23	3	5	1	0	3	14	0

ATLAS, as well as a number without maker's marks. The yellow firebrick included *EVENS AND HOWARD ST. LOUIS* and *ST. LOUIS A.B.* bricks. Brick fragments associated with the chimney fall were recovered in S104 E60, and S110 E62, while bricks from piers were found in several other units.

WINDOW GLASS

Window glass sherds were recovered from 12 units under the main house (see Table 7-2). A small number of sherds from panes in the original central hall were recovered (Table 7-4) and included sherds found in S100 E60 and S108 E60. Units located outside the central hall (S106 E66, S108 E52, S116 E60) and inside the house, but not close to window locations (S106 E62, S110 E62, and S110 E66) did not contain any window pane fragments associated with the original central hall. Several units located near windows in later additions (S102 E64, S108 E56, and S108 E68) contained a large number of recent window glass.

OTHER ARCHITECTURE

Other architecture remains recovered under the main house included an assortment of building hardware associated with the several episodes of modification and additions made to the original structure. Units located along exterior wall lines contained a high percentage of exterior shingles, mortar, tiles, and the like. Electrical and plumbing remains were evident under the back extension, and included a water heater, water pipes, and bathroom fixtures.

In addition, a wood pier was identified in the unit at S110 E62, which was located under the west corner of the south room. This pier was evident at 2 cm below the surface, and was approximately 35 cm in diameter.

In summary, the architectural remains recovered from units located under the burned house provided information which enhanced the informant and staff architectural documentation conducted when the house was still standing by archaeologists from North Texas State University (Ferring and Reese 1982:203-209).

MAJOR SUPPORT STRUCTURES AND OUTBUILDINGS

Major structures located behind the main house included a second, smaller dwelling, a single car garage, two root cellars, and a chicken coop. In addition two windmills, one above ground water tank, and a concrete stock tank were located in this area (see Figure 7-2).

According to Miss Pool, the little house was called the "In-Law's" house and was part of the main house (Ruby Pool, 1979 Interview). When the large house was cut in two, one half of the removed portion was set in the backyard, and converted into a second dwelling. This house included a bedroom, large walk-in closet, and a little entry room. It was occupied by a Black man who worked as a live-in companion and household help for Ruby and her brother Raymond, who was ill. This house was occupied for six years during the 1960s. The other portion of the back of the main house was sold for use as a small dwelling on another site.

A single car garage was added by Charles Pool to house his first automobile, probably between 1915 and 1925 (Ferring and Reese 1982:206). It was located just east of the house, and access was provided by a narrow driveway which extended from Beltline Road. Small gravels were imported to line this driveway and the floor

of the garage. Large hinged wooden doors provided access for vehicles, and a window was present on the west side of the garage. A hogwire fence extended from both the west and east sides of the garage, which served to divide off the yard directly around the house, and in front of the garage, and the support structures located behind the house.

The concrete block chicken coop was added in the 1950s. Two windows were built into the south face, and a single window and door were located on the west face. The interior floor was poured concrete, and access was provided by a walkway constructed of dry laid machine made *FERRIS* bricks. A chain link fence provided an enclosed pen area in front of the coop (see Figure 7-2).

A tin barn was built south of the main house by Ruby's twin brother, Raymond, sometime around the 1930s. According to Miss Pool, "Raymond used the barn to repair stuff [equipment], and people would come to do a little bit of blacksmithing."This structure was sheathed with corrugated metal, and had been removed before the 1985 season.

Two root cellars were constructed during the early 1900s, and were probably abandoned by the 1940s or 1950s. One was located directly between the main house and the smaller (In-Law's) dwelling. Based on the location of this root cellar, it is probable that it was built after the back portion of the main house was removed. The second cellar was located further away from the house when the site was visited in 1980. However, if it was built before the back portion of the main house had been removed, it would have been located within 8 m of this house (see Figure 7-2). These structures are discussed in more detail in the section on features.

Only two farm outbuildings remain at the site (see Figure 7-2), and both are recent in age. The north crib may correspond to the feed barn built by Charles Pool (Ruby Pool, 1979 Interview). On the other hand, the south crib appears to have been built after 1950. The north crib is a 5 × 1 m, two room shed with two doors, and gable loft doors. The large sills are fastened together by metal rods, and the structure was probably originally used for hay and fodder storage, along with equipment. The south crib is a 7 × 9 m shed with low, 5 m wide pole wings which have been added on the east and west sides. A corral and stabling area has been constructed around this structure.

DATA RECOVERY INVESTIGATIONS

Archaeological investigations at site 41DL191 also concentrated on retrieving a systematic sample of the sheet refuse from around the main dwelling and major outbuildings, and examining two twentieth century root cella... Mitigation fieldwork comprised 47.5 person days, and was accomplished in two phases. The first phase was directed towards excavating a series of 50 × 50 cm units on an 8 m grid across the main yard area, an 8 m grid in the eastern barn area, and a 4 m grid in the south workshop and blacksmithing barn. These units indicated (1) that the main house area contained primarily 1890s to present sheet refuse with no evidence of the Grimmitt occupation, (2) a possible earlier house area under the present east barn and stables, and (3) little substantive evidence of the 1930s workshop/blacksmithing activity south of the house. The second phase was directed towards recovering a larger sheet refuse sample from the east barns area using a 4 m grid; examining the architecture rain under the main dwelling; and intensive investigation of the two root cellars associated with the former main house.

A total of 38 person days were spent hand excavating 29 50 × 50 cm units in the main house area, 18 in the workshop/blacksmithing area, and 78 in the eastern barn area, covering 31.25 m^2 and recovering 2,387 artifacts. Nine person days were spent excavating Features 1 and 2 (a brick and a concrete cellar respectively), and nine judgmentally placed 50 × 50 cm units under the former house. A total of 44 artifacts were recovered from Feature 1, 292 from Feature 2, and 5,629 from units under the house.

SOIL AND CULTURAL DEPOSITION

The soil matrix at site 41DL191 was primarily clay and clay loam. The high percentage of clay in the soil may partially account for the shallow cultural deposits identified at 41DL191. Although this site has been occupied for over 100 years, which includes both the Grimmitt and Pool homesteads, few cultural remains occurred deeper than 12-15 cm below the ground surface. Variability in the density and vertical movement of cultural remains was also evident across the site. In the eastern barn area, extremely shallow deposits occurred. Less than 50% of the units contained cultural material deeper than 8-10 cm below the surface. Several units in heavily trampled areas, particularly within the horse stable contained material between 25-35 cm deep. Very shallow deposits were also evident in the workshop and blacksmith barn, and under the house. The greatest density of cultural material, and deeper deposits occurred in the yard surrounding the main house and in the backyard complex.

ARTIFACT ASSEMBLAGE

Excavations conducted at 41DL191 during the 1979-1980 Survey and Testing Season recovered 42 artifacts including 2 clear embossed medicinal bottle sherds, 1 turn-molded champagne bottle (1880-1910), 1 beer, and 2 tableware sherds, 9 ceramics including 1 stone-ware, 5 refined earthenwares, and 3 Japanese porcelain sherds, 1 hole-in-top metal can, 4 rimfire cartridges, 16 newspaper sections, 2 silk handkerchief fragments, 1 shell button, and 3 window pane fragments. These remains were recovered from two backhoe trenches and from exposed deposits under the main house. With the exception of the complete champagne bottle (1880-1920) and the hole-in-top metal can, all of the material recovered, as well as the material observed in the field, dated to the twentieth century. This also included material deposited up to, and after, the site was abandoned.

The artifact assemblage recovered during mitigation in 1985 included material from six major deposits or yard areas: (1) sheet refuse in the main dwelling area, including the enclosed backyard, (2) architectural remains associated with the main dwelling deposited when the house was burned to the ground, (3) sheet refuse and architectural remains associated with the removed workshop/blacksmith barn, (4) sheet refuse

Table 7-5
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE IN THE MAIN DWELLING AREA, THE EAST BARN, AND THE WORKSHOP/BLACKSMITH AREAS, UNDER THE MAIN DWELLING, AND FEATURES 1 AND 2[1]

	Main Dwelling Sheet Refuse[2]		Under Main Dwelling		Workshop/ Blacksmith		East Barn Sheet Refuse		Brick Cellar Fe1		Concrete Cellar Fe2		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Coarse Earthenware	11	.8									1	.3	12	.1
SemiCoarse Earthenware									1	2.3			1	<.1
Refined Earthenware	64	4.6	2	<.1			31	3.9	3	6.8	33	11.3	97	1.2
Stone ware			1	<.1	4	2.1	19	2.4			3	1.0	46	.6
Porcelain	6	.4	3	.1			3	.4			8	2.7	20	.2
Bottle Glass	158	11.3	111	2.0	7	3.7	204	25.4	3	6.8	80	27.4	563	6.8
Table Glass	3	.2	2	<.1			3	.4			6	2.1	14	.2
Unknown Glass			54	1.0			1	.1					55	.7
Nails	199	14.3	2037	36.2	36	19.1	136	16.9	2	4.5	102	34.9	2512	30.2
Brick	7	.5	41	.7			2	.2			9	3.1	59	.7
Window Glass	70	5.0	81	1.4			33	4.1	30	68.2	6	2.1	220	2.6
Other Architecture	570	40.8	1455	25.8	32	17.0	151	18.8	2	4.5	17	5.8	2227	26.8
Clothing Items	8	.6	1	<.1			1	.1			3	1.0	13	.2
Toys	1	.1	2	<.1									3	<.1
Other Personal	13	.9	1	<.1			2	.2	1	2.3	3	1.0	20	.2
Faunal/Floral Remains	45	3.2	6	.1	5	2.7	3	.4	1	2.3	2	.7	52	.6
Thin Metal	179	12.8	1726	30.7	21	11.2	178	22.2			7	2.4	2111	25.4
Heavy Iron	15	1.1	1	<.1	52	27.7	17	2.1	1	2.3	4	1.4	90	1.1
Fuel Remains					1	.5							1	<.1
Hand Tools					7	3.7	1	.1					8	.1
Firearms	5	.4					1	.1					6	.1
Stable Gear													0	<.1
Electrical Parts	2	.1	6	.1	3	1.6							11	.1
Miscellaneous Other	40	2.9	99	1.8	20	10.6	17	2.1			8	2.7	184	2.2
Total	1396		5629		188		803		44		292		8325	

[1] Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, handtools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on additional analyses.

[2] Cultural material from Features 1 and 2, and units excavated under the dwelling were not included in these counts

deposited in the east barn area, (5) a turn of the century brick root cellar (Feature 1) located adjacent to the main house, and (6) a 1940s concrete root cellar (Feature 2) in the enclosed backyard (Table 7-5).

Considerable variability was evident in the frequency and distribution of major artifact categories recovered from these six deposits. In terms of correlating to other documentation, the most representative samples of the material deposited at the site were recovered from the sheet refuse middens associated with the main dwelling, and from the east barn. Both of these assemblages represented very late nineteenth to mid-twentieth century domestic components. Units located under the main house and in the workshop/blacksmith area primarily recovered architectural remains and metal. The two root cellars largely contained ceramic and glass vessels associated with food storage, and architectural remains deposited when these structures were abandoned and collapsed. In addition, the brick root cellar (Feature 1) adjacent to the house also contained a high percentage of window glass associated with the back third of the main dwelling which had been located in this area before it was removed and recycled.

CERAMICS

A total of 132 refined earthenware sherds were collected at 41DL191, with 48% occurring in the sheet refuse midden associated with the main house. Another 23% was recovered in Feature 2 (concrete root cellar), and 23% in the sheet refuse midden associated with a domestic component in the east barn area (see Table 7-5). Similar ceramic types were represented in each of these areas (Table 7-6), and indicated that twentieth century types and styles predominated. In addition, several important post 1930 types were absent at the site, including Fiestaware and dark ivory tinted whitewares.

Stoneware sherds were extremely uncommon and were recovered primarily from a domestic component in the east barn area. No stonewares were found in the sheet refuse midden associated with the main dwelling.

Table 7-6
CERAMIC ASSEMBLAGE FROM SHEET REFUSE IN THE MAIN DWELLING AREA, THE EAST BARN AND THE WORKSHOP/BLACKSMITH AREAS, UNDER THE MAIN DWELLING, AND FEATURES 1 AND 2

	Main Dwelling Sheet Refuse[1]		Under Main Dwelling		Workshop/ Blacksmith		East Barn Sheet Refuse		Brick Cellar Fe1		Concrete CellarFe2		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Ceramic Type:														
Ironstone WW	6	9.4					4	12.9					10	7.6
Blue Tint Vitrified WW	2	3.1											2	1.5
Blue Tint NonVitrified WW	5	7.8					2	6.5			3	9.1	10	7.6
Light Blue Tint WW	3	4.7	1	50.0			4	12.9			2	6.1	10	7.6
Pure White WW	34	53.1	1	50.0			19	61.3	1	50.0	24	72.7	69	52.3
Light Ivory Tinted WW	3	4.7					1	3.2					4	3.0
Imitation Flow Blue	2	3.1					1	3.2	1	50.0	1	3.0	5	3.8
Unknown (burned)	9	14.1									3	9.1	12	9.1
Total	64		2		0		31		2		33		122	
Decoration:														
None	51	79.7	1	50.0			30	96.8	1	50.0	28	84.8	101	76.5
Transfer Printed	6	9.4							1	50.0	3	9.1	10	7.6
Floral Decalcomania	2	3.1									1	3.0	3	2.3
Relief Molded	2	3.1	1	50.0							1	3.0	4	3.0
Hand Painted Rim	2	3.1					1	3.2					3	2.3
Maker's Mark	1	1.6											1	.8
Total	64		2		0		31		2		33		122	

[1] Cultural material from Features 1 and 2, and units excavated under the main dwelling were not included in these counts

Several storage vessels were recovered in Feature 2 and in the workshop/blacksmith area. Cylindrical open crocks and churns predominated, along with late nineteenth century natural clay slip interior and exterior and twentieth century bristol interior and exterior glaze styles. Several unglazed flowerpots as well as modern stoneware kitchenware vessels were found in Feature 2 at the Pool Site.

Porcelain tableware vessels including plates, cups, and saucers were recovered primarily in the sheet refuse associated with the main house, in the east barn area, and Feature 2. Most of these sherds were decorated and included imitation flow blue, floral decalcomania, and Japanese motifs.

VESSEL GLASS

The vessel glass assemblage from 41DL191 included 563 bottle sherds, 14 table, 8 lamp glass, and 55 unidentifiable burned fragments (see Table 7-5). The highest percentage of bottle glass sherds occurred in Feature 2 (root cellar), followed by the sheet refuse middens associated with the main house and the east barn areas. Low bottle glass frequencies were recorded for units under the main house, the workshop/blacksmith area, and Feature 1 (unexcavated root cellar). Table glass sherds reflected a similar distribution as bottle glass, while unknown or burned sherds were recovered primarily under the main house. Lamp glass was extremely uncommon, and was found only in the main yard.

A breakdown of the bottle glass assemblage by sherd color (Table 7-7) indicated a limited range of vessel colors and types. Clear bottle glass predominated in each yard area, followed by manganese decolorized. Light green, aqua, and brown bottle glass sherds were also common in the sheet refuse associated with the main house and east barn area. Soda, medicinal and fruit jars were the primary vessel types represented among the light green and aqua bottle glass, while the majority of the brown glass sherds were for liquids such as Clorox, as well as beer. Fruit jars and inset caps were most common in the sheet refuse midden associated with the main house, and Feature 2. They were extremely infrequent in the sheet refuse midden in the east barn area. Few snuff bottle fragments were recovered, and with the exception of the champagne bottle found during the 1979 - 1980 season, olive green liquor bottles were not represented. Clear and manganese colored brandy finish bottles were also poorly represented.

The bottle glass assemblage primarily consisted of plain glass sherds. This pattern was evident for each yard area. Decorative motifs were generally associated with maker's marks or labels. Major temporal attributes indicated that the bottle glass at 41DL191 dated from the turn of the century to the present, with less than 1% of the assemblage containing earlier vessels.

Table 7-7
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE IN THE MAIN DWELLING AREA, THE EAST BARN, AND THE WORKSHOP/BLACKSMITH AREAS, UNDER THE MAIN DWELLING, AND FEATURES 1 AND 2

	Main Dwelling Sheet Refuse[1]		Under Main Dwelling		Workshop/ Blacksmith		East Barn Sheet Refuse		Brick Cellar Fe1		Concrete Cellar Fe2		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Glass Color:														
Clear	136	45.9	93	83.8	6	85.7	105	51.5	3	100.0	22	27.5	365	52.1
Manganese	33	11.1	2	1.8	1	14.3	34	16.7			20	25.0	90	12.8
Emerald Green	2	.7											2	.3
Light Green	27	9.1					25	12.3					52	7.4
Aqua	40	13.5	2	1.8			14	6.9			23	28.6	79	11.3
Dark Blue							3	1.5					3	.4
Brown, Honey	33	11.1	11	10.0			20	9.8			2	2.5	66	9.4
Translucent Milk	14	4.7					1	.5			7	8.6	22	3.1
Opague Colored Milk	8	2.7	3	2.7			1	.5			5	6.3	17	2.4
Vaseline Colored Milk	2	.7					1	.5			1	1.3	4	.6
Clear Gray Ash Tint	1	.3											1	.1
Total	296		111		7		204		3		80		701	
Decoration:														
Plain	255	86.1	105	94.6	7	100.0	190	93.1	3	100.0	54	67.4	614	87.6
Relief	18	6.1	4	3.6			7	3.4			18	22.5	47	6.7
Milled	2	.7					2	1.0			2	2.5	6	.9
Enamel Label			1	.9							1	1.3	2	.3
Maker's Mark	21	7.1	1	.9			5	2.5			5	6.3	32	4.6
Total	296		111		7		204		3		80		701	
Diagnostic Attributes:														
None	262	87.8	111	100.0	7	100.0	194	95.1	2	66.7	62	77.5	637	90.7
NonEmbossed Panel							1						1	.1
Owens Ring	4	1.4									1	1.3	5	.7
Valve Mark	1	.3									1	1.3	2	.3
Corrugated Base	1	.3											1	.1
Machine Made Lip/Base	12	4.1					3	1.5	1	33.3	5	6.3	21	3.0
Machine Made Cork Lip							1	.5					1	.1
NonApplied Turn Molded Lip	1	.3									1	1.3	2	.3
Brown Snuff							2	1.0					2	.3
Interior Ribbed Clear Snuff							1	.5					1	.1
Milled Rim							1	.5					1	.1
Continous Thread Fruit Jar Lip							1	.5					1	.1
Fruit Jar Inset Cap	15	5.1					1	.5			10	12.5	26	3.7
Total	296		111		7		204		3		80		701	

[1] Cultural remains from Features 1 and 2, and units excavated under the main dwelling were not included in these counts

ARCHITECTURAL REMAINS

Architectural remains comprised the largest percentage of cultural material recovered from each yard area, including Features 1 and 2. Nails were the most common architectural remains recovered under the dwelling, in the workshop/blacksmith area, and in Feature 2, while other architectural items predominated in the sheet refuse around the main house area and the east barn. Window glass predominated in Feature 1. Based on these data, the frequency and distribution of architectural remains exhibited several important spatial patterns.

NAILS

Wire nails predominated in each yard area, and accounted for 92% of the nail assemblage at 41DL191 (Table 7-8). These figures indicated that all of the structures, with the exception of the original mid to late 1890s central hall, were constructed during the twentieth century. Major peaks in nail sizes differed considerably between machine cut and wire nails within and between structures. Broken nails accounted for 59.6% of all machine cut nails, and only 41.3% of all wire nails. This pattern also held for each yard area or structure.

Table 7-8
MACHINE CUT AND WIRE NAIL ASSEMBLAGES FROM SHEET REFUSE IN THE MAIN DWELLING AREA, THE EAST BARN, AND THE WORKSHOP/BLACKSMITH AREAS, UNDER THE MAIN DWELLING, AND FEATURES 1 AND 2

	Main Dwelling Sheet Refuse[1]		Under Main Dwelling		Workshop/ Blacksmith		East Barn Sheet Refuse		Feature1		Feature 2		All Units	
	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire
Whole Nails:														
1.0 cm				45										45
1.6				15										15
1.9				31				1						32
2.5		3	1	8									1	11
3.2	2	27		265		2		13			6	1	4	312
3.4				5										5
3.5				1										1
3.8		19	1	79				2					1	100
4.4		9	1	94		6		5			1	2	2	115
5.1		18	1	98		1		13			1	3	3	132
5.4		1												1
5.7	1	3		27				2				2	1	34
6.3	4	40	18	100				19			6	16	28	175
7.0		24	11	134		6		11			3	14	14	189
7.6		1		3				6	1		1	1	2	11
8.3				3		1		2				1		7
8.9		4		44		8		6		1		7		70
9.5		9		18		8		3				2		40
10.2		1		24		1		3				5		34
10.8				18								3		21
10.9				7										7
11.4				1										1
12.1				1				1						2
13.3								1						1
Broken Nails:	11	17	77	886		3	13	33			11	16	56	1361
Unidentifiable:	5		19				2						26	
All Total	18	176	110	1907	0	36	13	121	1	1	29	73	112	2722

[1] Cultural material from Features 1 and 2, and units excavated under the dwelling were not included in sheet refuse counts

Within the main house 70% of the machine cut nails and 46% of the wire nails were broken , and within the sheet refuse around this dwelling, the ratio was even higher, with 61% for cut nails, and 10% for wire nails. In the sheet refuse around the east barn, all of the machine cut nails were broken.

Machine cut nails (see Table 7-8) ranged in size from 2.5 cm to 8.9 cm, with 74.6% ranging between 6.3 cm and 8.9 cm in size, while only 41.0% of the wire nails were over 5.7 cm in size (see Chapter 18 for a more complete discussion of architectural trends reflected in nail sizes and frequencies). In other words, a more limited range of nail sizes were recovered for machine cut nails, and included primarily major construction nails (frame, superstructure, flooring, ceilings, and wainscot), and subflooring nails (joists and sills, as well as ceiling, and siding). Nails recovered under the main dwelling included nail sizes which ranged from 1.0 cm tacks to 12.1 cm spikes, of which 53.2% were small nails that ranged from 1.0 cm to 4.4 cm which were used for light framing, shake roofs, finish work, as well as flooring, windows, and door jambs. Major construction nails (5.1 cm to 6.3 cm), and subflooring and heavy framing nails (7.0 cm to 12.1 cm) accounted for 46.8% of the wire nails. Roofing nails (3.2 cm) were predominantly wire nails in each yard area, except for Features 1 and 2.

BRICK

Very few brick sherds were recovered at 41DL191 (see Table 7-5), with the majority occurring within the remains of the main house. Brick fragments were also recovered in Feature 2, which included a small number of fragments which may have been associated with the brick walkway that extended off the back of the main

Table 7-9
WINDOW GLASS ASSEMBLAGE FROM SHEET REFUSE IN THE MAIN DWELLING AREA, THE EAST BARN AND THE WORKSHOP/BLACKSMITH AREAS, UNDER THE MAIN DWELLING, AND FEATURES 1 AND 2

	Main Dwelling Sheet Refuse[1] N	Under Main Dwelling N	Workshop/ Blacksmith N	East Barn Sheet Refuse N	Brick Cellar Fe1 N	Concrete Cellar Fe2 N	All Units N
1.4 mm	1	1					2
1.6		1					1
1.7		2					2
1.8	6	1					7
1.9		2					2
2.0	3	6		1	1	2	13
2.1		1					1
2.2	3	4		2	11		20
2.3	2	1		1	2	2	8
2.4	21	1		1	11	1	35
2.6	11	3			5		19
2.8	5	7		1			13
2.9	3	15					18
3.0	4	2		1			7
3.1				1			1
3.2		10					10
>3.2	2	3		25		1	31
Unknown	9	21					30
All Total	70	81		33	30	6	220

[1] Cultural material from Features 1 and 2, and units excavated under the main dwelling were not included in these counts

house (before it was removed) to the concrete chicken coop/dog house. This walkway was probably constructed in the 1950s, and contained primarily *FERRIS* bricks. Feature 1 was constructed using commercial bricks. A brick pier associated with the back section of the house that was removed in the 1900s was also recorded in the backhoe trench excavated between the main house and the smaller dwelling. No bricks were found in the workshop/blacksmithing area, and only several very small fragments were recovered in the east barn.

WINDOW GLASS

Intrusive window glass fragments were recovered in Features 1 and 2, while none were found in the workshop/blacksmithing area (Table 7-9). A small sample was recovered from the domestic component represented in the sheet refuse midden in the east barn area. This sample does not meet the required criteria recommended by Moir (1987a) for window glass dating. Units located under the main house yielded 57 unburned window pane sherds measuring less than 3.3 mm thick, with a mean thickness of 2.043 mm for a construction date of 1880. On the other hand, the sample recovered from the sheet refuse midden in the main yard, included a mixture of pane sherds from several structures and building episodes associated with the main house.

Overall, the window glass assemblage recovered from 41DL191 was extremely small, suggesting that many of the windows in the main house had been removed before the dwelling was burned by vandals. Based on the placement of units under and directly around the house (see Figure 7-4), a representative sample of the window areas was obtained.

OTHER ARCHITECTURE

Other architectural remains included cement, mortar, and concrete fragments, along with an assortment of building hardware which included siding, tar paper, and asbestos shingles. These remains were highly clustered in units directly around the main dwelling. A small number of wire fragments were also recovered in the main house area.

OTHER REMAINS

Low frequency items, including personal, kitchen and household items, and farm items comprised less than 4% of the assemblage in any yard area at 41DL191. Clothing remains included one button, three jean rivets, two suspender buckles, one garter part, and four shoe/boot parts. In addition, a comb fragment, one smoking item, and one child's toy part were recovered. Household remains included three electrical parts, three furniture parts, one clothes pin part, and one stove part. Miscellaneous hardware (e.g., nuts, bolts, washers) accounted for 69% of the farm items, along with nine horse and stable gear, eight wagon and machine parts, four ammunition, and seven miscellaneous tools.

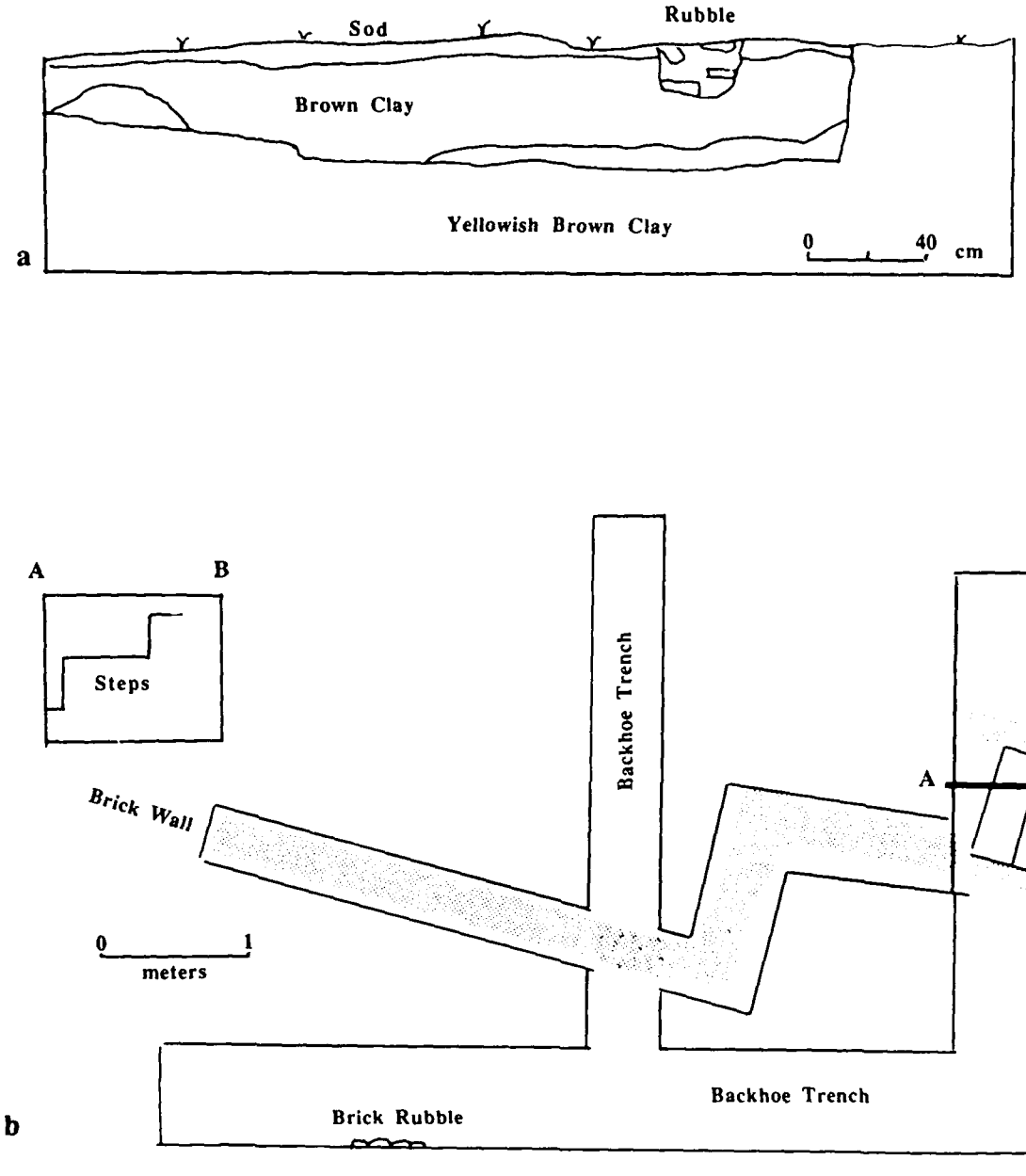


Figure 7-6. Profile (a) and plan view (b) of trench excavation of Feature 1, an early twentieth century root cellar located northeast of main house at 41DL191.

FEATURES

Two cultural features associated with the Pool occupation at 41DL191 were intensively investigated, and included Feature 1 (brick root cellar) and Feature 2 (concrete root cellar). Feature 1 was constructed after the back portion of the main house had been removed. According to Ruby Pool, Feature 2 was constructed much later, after the original root cellar deteriorated and was subsequently abandoned. The earlier cellar "had big shelves on each side and Mama would can a lot of stuff," and "it was filled in many years ago when snakes began to inhabit it" (Ruby Pool, 1979 Interview).

FEATURE 1

Feature 1 was initially encountered during the Survey and Testing Phase in 1979 - 1980. A backhoe trench was placed at the end of a small portion of concrete sidewalk which appeared to end abruptly near the small dwelling (In-Law's house) behind the main house. The upper portion of a root cellar was exposed along with a small number of ceramic and bottle glass

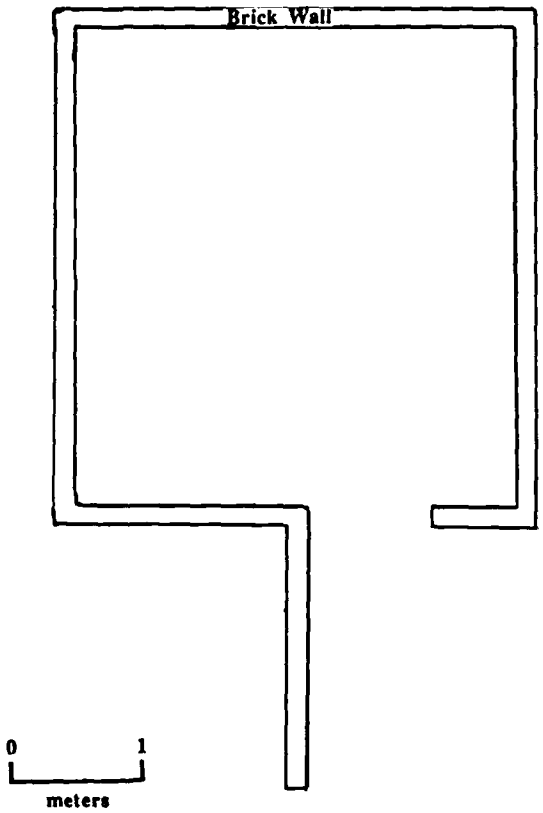


Figure 7-7. Plan view of Feature 1 (root cellar) based on wall lines exposed during excavation.

sherds. The walls of the cellar remained intact, but the roof had collapsed.

During the 1985 season several trenches were excavated between the main house and smaller dwelling to further expose this root cellar (Figure 7-6). A backhoe trench was placed 40° E of N which extended from the northeast corner of the house to the concrete sidewalk at the entrance of the root cellar. This trench was approximately 70 cm wide and between 40 and 70 cm deep, and revealed evidence of the back portion of the main dwelling which had been removed by Miss Pool after her father's death. Architectural remains associated with the removed section included brick rubble, concrete, and plaster from the foundation. This material was recorded in the field and reburied when the trench was backfilled.

Several smaller hand excavated trenches were extended off the backhoe trench to expose a section of the exterior walls and the entry steps. Once the entrance had been located, approximately 50 cm wide trenches were hand excavated through the center, and along the backwall, and southern side wall to allow us to determine the shape and size of the cellar. The entire length of the south wall of the root cellar was exposed, along with the top two concrete steps, the entryway, and a portion of the back wall, and west side wall.

The stairwell and entrance to the root cellar was located at the northwest end of the sidewalk. The stairway into the cellar was constructed entirely of concrete, and the top step was level with the sidewalk. The orientation of the doorway was from southeast to northwest. The first two steps were uncovered, and each measured 17 cm high and 29 cm wide. The staircase was 80 cm wide. The walls were constructed of machine made *ATLAS* bricks which measured 20 cm wide. The inside wall was covered with 3 cm of concrete and was 20 cm thick, consisting of brick and mortar. The inside of the cellar was 242 cm wide, running southwest to northeast, and 348 cm running southeast to northwest. Interior dimensions are for locations shown in Figure 7-7. However, although the entire cellar was not exposed, it appeared to be asymmetrical in design. The entryway was located off center, and slightly towards the northern side of the root cellar. In addition, the corners of the cellar were not completely square, and the walls were not straight. The roof had been vaulted and appeared to be similar in design with the root cellar identified at the Anderson Plantation (41DL190).

No artifacts were recovered from the bottom of the cellar. However, a number of architectural items related to the construction of Feature 1, along with ceramic and glass vessel sherds associated with the entryway of the cellar were recovered.

FEATURE 2

Feature 2, a root cellar constructed by the Pool family less than 10 m behind the main house, was reduced in size. It was located west of a 1950s concrete chicken coop, and north of a gate. The hogwire fence which enclosed it, a small dwelling, a windmill, and the chicken coop.

A backhoe trench was excavated along the long axis of the cellar during the 1985 season. Two smaller hand excavated trenches were dug within the cellar to expose a section of the west wall from the ceiling line to the floor, and the stairwell (Figure 7-8). The backhoe trench was excavated to a depth of 56 cm below ground surface. A small number of fruit jar caps, rubber seals, and glass sherds were found in this trench, along with nails, several pieces of ceramics, and other bottle glass. These remains indicated that the root cellar had not been filled with trash after it was abandoned. The hand excavated trench, which extended west from the backhoe trench to the cellar wall, revealed important information on the construction of the cellar (Figure 7-8). This trench was excavated to 1.17 m below the ground surface, until the floor of the cellar was exposed. No evidence of metal reinforcements for a roof were found, and the bottom of the poured concrete wall was visible. The floor was dirt, and no evidence was found that it had been covered with concrete at one time. In addition, the thickness of the walls varied between 14 cm and 25 cm, with thinner walls on the west side, and thicker walls on the south side.

The stairwell and cellar entrance was located on the southeast wall, just inside the gate in the hogwire fence. The stairs have collapsed but appeared to have been constructed of concrete. The trench through the stairwell

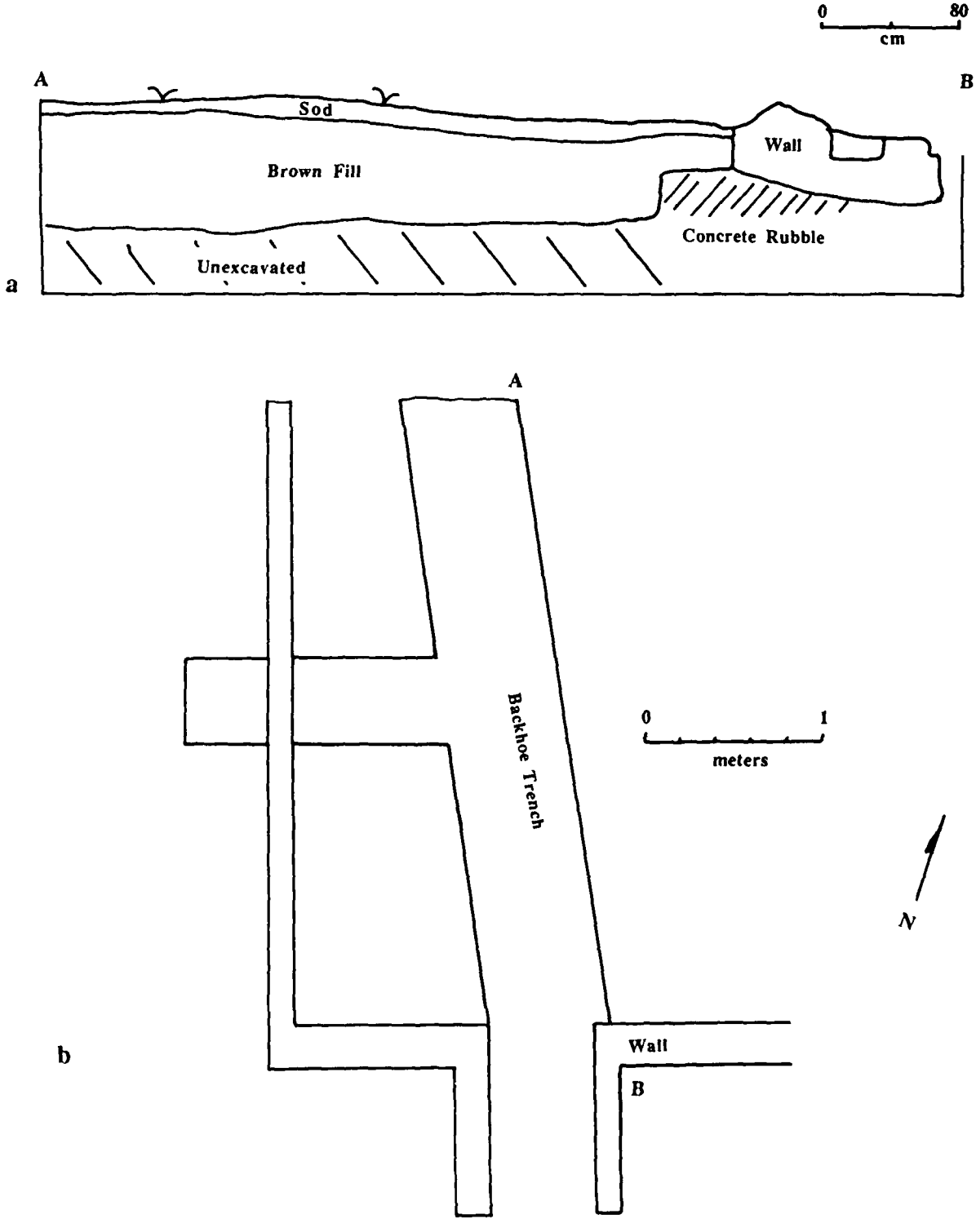


Figure 7-8. Profile (a) and Plan (b) of excavations of Feature 2, a twentieth century root cellar at 41DL191.

area was excavated to 40 cm below the ground surface and yielded concrete, stone rubble, and architectural remains from the wood door to the cellar (see Figure 7-8). The staircase was approximately 60 cm wide, and the entrance walls, like those which formed the remainder of the root cellar, were of poured concrete. The roof of the cellar had been removed. No evidence of roof fall was found in the interior fill of Feature 2.

INTRASITE PATTERNING

The spatial layout of farm and support structures at 41DL191 changed considerably while the site was occupied by the Pool family. Around the main house, the extent of sheet refuse midden fluctuated in area, decreasing as the house was modified and rooms were added on, and as support structures were built in the backyard throughout the twentieth century. While the house was still occupied, a wrought iron fence was erected in front of the house with similar hogwire fences dividing the backyard into major activity areas. In addition, recent roads have been cut outside the fences to provide access for personnel associated with the construction of the Joe Pool Dam which surrounds the house area. This has further reduced the size of the sheet refuse midden. All of these activities have served to reduce the spatial integrity of the sheet refuse midden in the main house area. For example, the addition of the smaller dwelling (In-Law's house), the 1940s root cellar, and the 1950s chicken coop in the backyard, all mask the sheet refuse midden deposited from the late 1890s to the 1940s or 1950s.

In addition, the sheet refuse midden associated with the main house was extremely low density. A total of 1,396 artifacts were recovered outside the burned house, and included 537 architectural remains from two units (S92 E68 and S100 E76) which were located along the wall line of the back of the house before it was removed. When these remains are subtracted out, the sheet refuse midden contained only 859 items, for an average of 31.8 items per 50 x 50 cm unit.

The sheet refuse midden in the east barn area also contained an extremely low density assemblage, with 10.4 items per 50 x 50 cm unit. A comparison of the sheet refuse assemblages recovered from the main house and east barn areas indicates that a small domestic component was once located under the current hay barn and horse stables. This earlier component may have been a tenant occupation, and appeared to dated from the 1880s up to shortly after the turn of the century when Charles Pool built the hay barn and stables (1940 - 1950).

Units located in the workshop/blacksmith area south of the main house contained a lower percentage of domestic items (ceramics, bottle glass, and personal items), with heavy iron, and architectural remains accounting for the major portion of the assemblage. Overall, the assemblage was very disappointing and yielded few items of interpretable value (see Table 7-5).

Refined earthenwares were recovered in the light sheet refuse associated with the main house and in the domestic component in the east barn area. At the main house, they formed an arc around the removed back portion of the house and were absent in the front or side yards. In the east barn area, they exhibited a more restricted distribution and were recovered from 14 units around the hay barn and stables.

A few stonewares were recovered in the sheet refuse in the backyard of the main house area. These were located further from the house than refined earthenwares. Three stoneware sherds were recovered from Feature 2. In the barn area, stonewares clustered on the west half of the site, and especially around the stables. This pattern differed from that seen for refined earthenwares, which clustered slightly east of the stonewares. In the workshop/blacksmith area stonewares occurred north of the shop, between it and the main house area.

Bottle glass sherds were more widely distributed in each yard area compared to both refined earthenwares and stonewares. In the sheet refuse midden around the main house, bottle glass sherds were recovered from units throughout the backyard, except Unit S100 E76 located along the former back wall line of the house. In addition, several units in the side yards also contained bottle glass. A small amount of bottle glass was found within the workshop/blacksmith shop. Bottle glass was distributed across the barn area, with the highest densities occurring around the hay barn and the stables. Fewer sherds were found in units along the southern or eastern sides of the site in this area.

Architectural remains were recovered from units located in the yards around the main house, including a small number in the front yard. The highest densities were recorded near wood structures, including the main house, fencelines, and windmills. In the barn area, architectural items clustered around the haybarn and stables, as well as along a barbed wire fence which enclosed the area on the west. Several units along the southern periphery also contained architectural items.

SUMMARY

The Pool farmstead (41DL191) was identified as significant because of its architectural history and potential for yielding information about the growth of a farm complex operated by a single family over 80 years. The main dwelling was of particular significance because of the number of changes in floorplan and style that were evident when the house was documented in 1980. However, the dwelling was burned by vandals before the 1985 season. As a result, our investigations focused primarily on the sheet refuse midden.

The archaeological assemblage reflected the substantial changes made in the layout of the main house, support structures, and activity areas in the farm complex. All of these structures were located within very close proximity to each other, contrasting greatly with the spatial patterns identified at other landowner sites. Almost no yard area remained around the dwelling, and numerous small structures comprised most of the immediate yard behind the house. This pattern was also evident at 41TR45, but was absent at all other landowner sites.

The original dwelling documented on the site was a two room central hall that had been extensively modified several times. A number of support structures were added during the occupation of the site including two root cellars, a single car garage, a second, smaller

dwelling, two windmills, a concrete chicken coop, and a concrete stock tank. Architectural remains predominated in units located under the dwelling, while low density sheet refuse deposits were recovered around the house and in the east barn area. A tin barn was located south of the main house, and was probably built in the 1930s as a workshop/blacksmith shop.

Six major deposits or yard areas were examined and included: (1) sheet refuse midden in the main dwelling area and its enclosed backyard, (2) architectural remains associated with different modifications to the main house, (3) sheet refuse and architectural remains associated with the removed workshop/blacksmith barn, (4) sheet refuse midden associated with a domestic component in the east barn area, (5) a turn-of-the-century brick root cellar, and (6) a 1940s concrete root cellar in the enclosed backyard. Considerable variability was evident in the assemblages recovered in each of these deposits. Domestic items, including refined earthenwares and vessel glass, as well as personal items, were most frequent in the light sheet refuse associated with the main house area, and a smaller, possibly tenant occupation in the east barn area. These remains indicated that this tenant occupation dated from the 1880s to shortly after the turn of the century. Units located under the main house provided archaeological information that enhanced the architectural documentation conducted in 1980. A wooden pier used to support the original central hall structure was uncovered in S110 E62. The distribution of other architectural items including machine cut and wire nails, brick piers, window glass, and asbestos shingles, among others, correlated well with major structural elements. Several trenches excavated between the main house and the In-Law's house, as well as two units at S92 E68 and S100 E84, yielded architectural remains documenting the back section of the main house removed by Miss Pool during the twentieth century. Feature 2 contained a high percentage of ceramic and glass vessels related to food storage, as well as a number of architectural remains associated with the roof and door of the collapsed superstructure. Units in the workshop/blacksmith area contained primarily architectural debris and heavy metal remains associated with the shop activity. In summary, site 41DL191 yielded an assemblage useful to examine a farmstead occupied by a single family for over 80 years.

SITE 41DL192: PENN FARMSTEAD

8

by

David H. Jurney, Susan A. Lebo, and
Michael V. Hazel

Site 41DL192 is the former farmstead of the John Wesley Penn family which was located on the southern side of Mountain Creek Valley, near its juncture with Walnut Creek. This site was occupied for over 100 years by the same family and represents the best example of a large landowner's farmstead in the Joe Pool Lake Area. Fourteen major structures remained standing when the site was acquired by the U.S. Army Corps of Engineers in 1975. These structures included at least two dwellings occupied by the Penn family between the 1860s and 1970, three barns, two granaries, a recycled log dwelling, a school house, a tenant house, a frame office, and corrugated metal sheds and two chicken coops. In addition, two brick and masonry cisterns, one cellar, and several support structures remained intact at the time of this survey.

This site was selected for intensive investigation because of the diversity and integrity of the extant structures which included building types and styles exhibiting local, ethnic, regional, and temporal significance. And, because of the tremendous potential for integrating the architectural and archaeological records, it is possible to examine functional and temporal variability within a single farmstead over a 100 year period.

The John W. Penn farm is located three miles northwest of Cedar Hill, Texas, a small community in southwest Dallas County, Texas (Figure 8-1). John W. Penn (1833 - 1888), son of Major John Anderson Penn (1804 - 1871), first settled on the property in 1859 building a modest hewn frame house just south of a flowing spring overlooking Mountain Creek. Shortly thereafter, he married Lucinda Moore (1837 - 1928), and together they raised seven children and expanded the farm operation to contain at least seven buildings by the beginning of the last quarter of the nineteenth century. John died after being bitten by a rattlesnake in 1888. The main portion of the farm, however, continued to be run by his wife Lucinda, and then was passed on to their son, Andrew Jackson Penn (1876 - 1964), in the early twentieth century. Another part of the farm passed on to Sidney Penn, Andy's younger brother who died in 1907.

The main farm complex continued to grow under Andy Penn and contained fourteen buildings by the 1920s. But nearly all of the older structures built by Andy's father John were also still in use and were well maintained, or were recycled into newer structures. Andy inherited his mother's portion of the farm after her death in 1928. Although he married twice, he had no children. After Andy Penn's death in 1964, his widow Deetta Hofford Penn moved off the property in 1970, ending a family farming operation that had continued for over 110 years. The buildings, however, remained in fairly good condition until time and vandalism over the next 5 years began to take their toll.

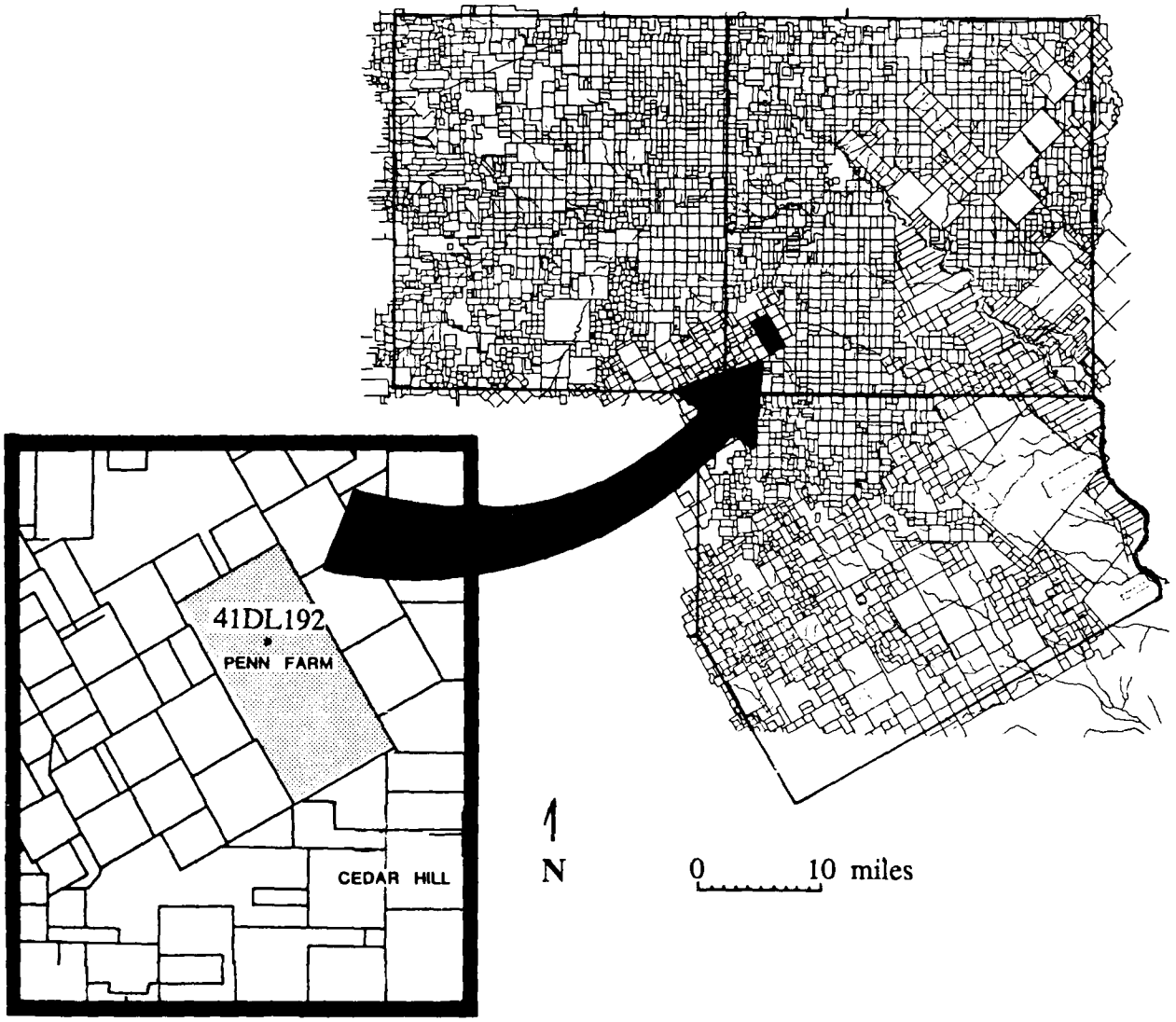


Figure 8-1. Location of the Penn Farm (41DL192) on the J. Hughes survey northwest of Cedar Hill, Texas.

Previous work at 41DL192 focused on reconnaissance surveys conducted in 1977, 1980, and 1981, as well as detailed HABS documentation of all structures which was conducted in 1982. Penn family members provided considerable oral history and family documents related to the site, and an oral history provided by Deetta Penn was taken by Dr. Wilson Dolman of Texas Parks and Wildlife in 1977. Archival research was undertaken during the 1979 - 1980 season by North Texas State University, and yielded a detailed chain of title history for the Penn farmstead. Interviews have continued with Lou and Lovell Penn, the oldest living members of the family with clear recollections about the original farmscape.

Today, the complex still contains two standing dwellings, numerous extant barns and outbuildings, and a dozen other ancillary farm structures and features (Figure 8-2). One dwelling, two granaries, a large double crib barn, and a stone and brick cellar were constructed during its first 15 to 20 years of occupation. These five structures are still located on their original sites and, as a consequence, still have intact archaeological deposits. Also, the complex has a single pen log house and a box and strip school house (in poor condition) that were built during this same initial period of occupation, but then were subsequently moved to their current locations in the early twentieth century. The Penn's second house was built at the close of this initial period of occupation (ca. 1876). It was burned to the ground by vandals in 1976. After 1876 and over the succeeding years, two more barns, one more house, several residential additions, two windmills, two garages, two more root cellars, a farm office, two chicken coops, a split rail animal pen, and a pump house were constructed. Only a chicken coop and some additions on the 1876 house were substantial improvements that date after 1940. For the most part, nearly all the buildings known to be constructed in the nineteenth century were still in active primary or secondary use on the farm in the early twentieth century. This remarkable technological frugality of structures and outbuildings, although common to some degree on every North Central Texas farmstead, is seldom found to the degree present at the Penn site.

ORAL AND DOCUMENTARY INFORMATION



a

Note: View is looking to the west. The Joe Pool Lake Dam is just visible at the top of the aerial photograph. Below it, a cleared area is visible encroaching from the right, where a water intake structure is located.



b

Figure 8-2. Aerial photograph (top) of the Penn Farm, showing barns, outbuildings, and exposed footings of the burned dwelling built in 1876. View is to the west. Photograph of 1859 Penn Farm house (bottom) showing yard compound and vegetation.

Site 41DL192 is located on the James Hughes survey, situated in the northeastern portion of the Joe Pool Lake area (see Figure 8-1). This survey was granted to James Hughes by the State of Texas, and was surveyed by B. J. Chambers in 1841. It included two-thirds of a league of land and was transferred to Moses Hughes in 1847. Deed records revealed that an agreement was made between Moses M. Hughes, a brother of James Hughes, and James E. Patton that Patton would survey and divide this survey into small lots for sale. In fact, between 1847 and 1852, Patton was responsible for negotiating over 46 transactions on the Hughes survey, and according to Ferring and Reese (1982:118):

> ...he had no legal right to negotiate transactions on what was at the time [Peters] colony property, [and] he was charging a much higher price than can be considered reasonable. The customary price was around $2.00 an acre, but Patton was asking $5.00 to $10.00 on the tracts he transferred. There is also some evidence to indicate that he sold more property than actually existed.

Although this apparent discrepancy was noted, it was common in Texas for land to be exchanged, particularly by surveyor/entrepreneurs such as J. E. Patton. Although Patton was a surveyor for the Franklin Land District, he also was a Peters Colonist. Also, once an original tract of land had been granted, it could be divided, sold, transferred as anyone wished since the Peters Colony no longer had title. Therefore, Patton was simply a land entrepreneur, operating within the Texas state (1847 - 1852) laws during most of this time. The lot acreages shown in Table 8-1 indicate heavy traffic in the J. Hughes Survey by Patton well into the 1880s when his estate was settled, clearly indicating that Patton was a legitimate land speculator. By subdividing land, particularly choice tracts could conceivably draw the prices cited above.

Major John Penn acquired two tracts (887 acres and 247 acres) of this survey in 1858 (Table 8-1) which remained unimproved until his son, John Wesley Penn acquired the land. Major Penn transferred this property to his sons John W. and Robert G. in 1859. John W. bought out his brother's share and settled on the land with his new bride, Lucinda Moore, in 1860. John W. continued to acquire additional acres and in 1888 the farmstead included 1,308 acres. In 1892 it had grown to 1,359 acres, and by 1905 it totaled 1,945 acres.

According to Hill (1909:219), John W. Penn "built a frame house of three rooms out of heavy cedar frame and boxing, and this sheltered them while they were establishing themselves during the war [Civil War] years and coming to a more independent life." This description matches one interpretation of the original construction of the old house, where evidence still exists for framing of three rooms.

By the time the census taker came around on August 17, 1860, John W. Penn had 225 acres improved, and 604 unimproved. He had not harvested any crops, but did own livestock which included 50 horses, 3 asses or mules, 4 oxen, 6 milk cows, 12 hogs, and 50 other cattle. In addition he placed the value of his livestock at

Table 8-1
LAND TRACT HISTORY FOR SITE 41DL192

Date	Acres	Grantor	Grantee	Book
James Hughes Survey A-539				
1846	2/3 league listed in Robertson Co.	State of Texas	James Hughes	B:33
1847	2/3 league	James Hughes	Moses M. Hughes	B:563
1849	2/3 league	Act of aggreement between Moses M. Hughes and James E. Patton that Patton will survey and divide 2/3 league into small lots to sell, and that both Patton and John Welch will act as agents in the sale of these lots		F:411
1849	2/3 league	Moses M. Hughes appoints James E. Patton lawyer for the transactions on James Hughes' 2/3 league		B:287
1849	1476 acres	Moses M. Hughes	John Welch	I:495
1849	1476 acres	John Welch	James E. Patton	F:496
1849	15.4 acres (not part of 1476)	Moses M. Hughes	Ambrose Powers	B:294
1850	1134 acres (2 tracts) (887 & 247 acres which were 2 tracts within 1476 section)	James E. Patton	Jefferson Weatherford	B:401
1851	22.38 acres	James E. Patton	George Wilson	C:296
1851	10 acres	James E. Patton	A. McCraken	B:471
1858	1134 Acres (2 tracts) (same land as above; Massey was from Kaufman Co.)	Fredric A. Massey	John Penn	G:85
1859	829 acres (part of the 1134 acre section)	John Penn	John W. & Robert G. Penn	F:636
1860	829 (?) acres	Robert G. Penn	John W. Penn	4:497
1861[2]	305 acres (NW corner of J. Hughes survey; within 1476 acre section)	Jefferson Weatherford	John W. Penn	4:738
1878	174 acres (NE corner)	Samuel E. Patton (Executor for J. E. Patton)	M. J. & C. C. Trousdail (also spelled Trousdale)	47:16
1880	15.4 acres	Ambrose Powers	John W. Penn	48:415
1881	2 acres (SW corner of J. Hughes survey; J. W. Penn gave land to Smith, G. Vinyard, and J. Penn as trustees of Hopewell Church & school)	John W. Penn	William M. Smith et al.	51:321
1881	174 acres	M. J. & C. C. Trousdale (also spelled Trousdail)	Robert G. Penn, Jr.	51:152-3
1883	10 acres	George Wilson	John W. Penn	63:365
1883[3]	10 acres	W. G. Massey	John W. Penn	59:601
1883	10 acres	S. E. Patton (Executor for J. E. Patton)	John G. Penn	51:629
1883	174 acres	Robert G. Penn, Jr.	J. H. Henderson	59:465
1885	5 acres	S. E. Patton (Executor for J. E. Patton)	John W. Penn, Sr.	72:164
1892	1185.4 acres (8 tracts -- 820, 305, 15.4, 10, 5, 10, 10, 10 acres)	Joseph O. Penn	Lucinda Penn	199:511
1893	10 acres (this tract	J. L. McCraken	John Penn	63:364

Table 8-1 — (*continued*)
LAND TRACT HISTORY FOR SITE 41DL192

Date	Acres	Grantor	Grantee	Book
	was held by McCraken between 1851 and 1893)			
1905[3]	586.5 acres (3 tracts --413.5, 48, 125 acres)	S. J. Penn	A. J. Penn	346:468
1940	?	A. J. Penn	Ed Balcom	2203:551
1966	286.927 acres	Deetta Penn	Willaim N. Oswald	727:2532
1978	7.16 acres (retained mineral rights)	Deetta Penn	U. S. Army Corps of Engineers	78249:4088

[1] Only tracts acquired by the Penn family within the James Hughes survey are listed.

[2] This deed record conflicted with the one recorded in 1850 in which Jefferson Weatherford acquired 1134, which was then sold by Frederic A. Massey to John Penn. No other record was found indicating Weatherford azquired an additional 305 acres within the James Hughes survey.

[3] Title chain history before tract was azquired by the Penn family was not researched.

$4,975, his real estate at $2500, and his personal property at $5,328 (Agricultural Census, 1860). Most of this wealth was probably a distributive share of his father's estate, $4,067, which he had received a month earlier. Although his father did not die for another eleven years, he distributed $15,000 between his four children. This estate division was apparently due to a dispute over political events preceeding the Civil War. Major Penn returned to Illinois after this estate division, leaving behind his wife and sons to manage in their adopted homeland.

John W. Penn joined the Confederacy in 1861, and after the war he worked to re-establish his farm and ranch, but on a reduced scale. According to the 1870 Agricultural Census he had only 45 acres of improved land, and 125 acres unimproved. His real estate was valued at $3,000, and he had only 30 horses, 12 milk cows, 1 working ox, 75 other cattle, and 15 hogs. He harvested 239 bushels of winter wheat, 116 bushels of rye, 500 bushels of corn, and 150 of oats. He estimated the total value of his farm produce at $707.

The farmstead included the house built in the 1860s, a double crib log barn, two granaries, and probably other outbuildings, including a root cellar. According to Deetta Penn (1977 Interview), John W. Penn built a new, larger house around 1876. The new house was a closed dogtrot or central hall floorplan with two rooms separated by a hall in the center. Both rooms had a fireplace on the end wall. The eastern room was used as the kitchen, and the other room and hall as bedrooms and sitting areas (Ferring and Reese 1982:214). This house was constructed of milled pine lumber, with machine cut nails used throughout. Two early transitional pressed brick and masonry cisterns were built at an unknown time (1880s ?) south and east of the kitchen.

An additional structure built on the farmstead in the 1870s was a small frame house which was used as a school. This school was originally situated north of the 1876 house, and was moved to another location in the early 1900s (Deetta Penn, 1977 Interview). In fact, this structure was incorporated into the 191? barn built by Andy Penn. John W. hired Professor Allen who lived with the Penn family until 1877, when he returned to Virginia. A new teacher, Professor Benjamin Franklin Moore from Tennessee was hired, and lived and taught at the Penn Hill School. The school continued to operate until John Penn's death in 1888. Children from the Vinyard, Wilson, Grimmet, and Anderson families attended this school along with Penn children. Two daughters later attended the Cedar Hill Institute for Girls (Plummer and Penn, n.d.)

By 1880 John W. Penn's real estate totaled 800 acres, and included 200 improved acres, and 400 devoted to meadows or orchards, and the rest (200 acres) was unimproved woodland. The value of the property was still $3,000. However, by this time he had hired a tenant laborer which cost him $200 for a year (including board). He had only 20 horses, but now owned 20 milk cows and had sold 62 cattle. He slaughtered three cattle and had lost 30 through death, stealing, or straying. He had ten hogs, 73 barnyard chickens, and 100 "other poultry." During the year 200 pounds of butter had been produced on the farm. His largest crop was 800 bushels of oats, followed by corn and wheat. He had planted 10 acres of cotton compared to his 135 acres of cereal crops, and had produced seven bales. In addition he had planted two acres with 300 peach trees, but had not harvested any peaches. He also had grown 20 bushels of Irish potatoes on one half acre of land (Agricultural Census, 1880).

After John W. Penn's accidental death in 1888, his wife Lucinda retained her interest in the farm, and the remainder was divided between two sons, Sidney and Andy (see Table 8-1). Sidney Penn died in 1907, and his interest in the farm was transferred to Andy who continued to reside there until 1964. Andy Penn married Mrs. Bertha Blakey in 1905, and Deetta Hofford in 1927.

Deetta Penn had lived on the farmstead as a child with her parents, aunt, and uncle in the remodelled 1859 house. Her family's occupation was tenant farming, and they worked for the Penn family in the early 1900s. After her marriage to Andy, she continued to live on the farmstead until 1970. In 1975 it was sold to the U.S. Army Corps of Engineers.

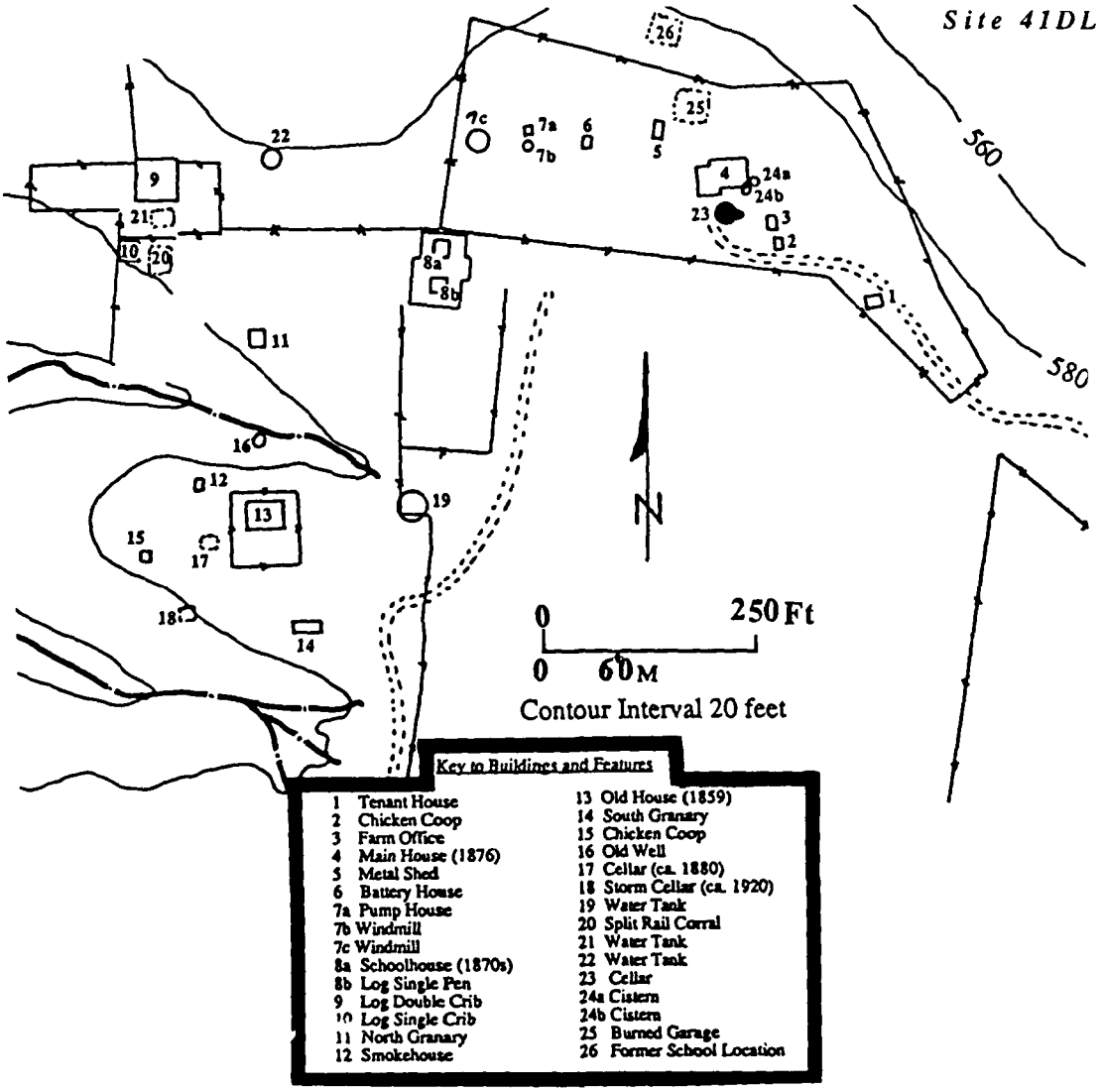


Figure 8-3. Layout of the Penn Farm showing major buildings, outbuildings and related feature (after Ferring and Reese 1982:213).

ARCHITECTURAL OVERVIEW

The Penn farmstead is not an eclectic or chaotic set of structures spread randomly across space without rhyme or reason. Its structure and design provide some important insights on the organizational life line of a middle class farmstead. Instead of a dwelling at the center of the farm, one finds a large barn built in 1918 occupying the central focus of the built environment. Away from this barn and in nearly equal but opposite directions are two residences (Figure 8-3). The oldest dwelling (see Figure 8-2 bottom), built in 1859, is located about 350 ft to the southeast, whereas the more recent Penn house built in 1876 is found 350 ft northeast of the 1918 barn. Before the 1918 barn was constructed, the older, larger 1859 double crib barn served as the center of the double farmstead.

This dual nature of the farmstead is also well represented in the organization (Figure 8-4) of its remaining outbuildings and in the history of its occupation. The Penn farmstead, like so many North Central Texas agricultural enterprises, was not simply a one nuclear family operation. By the late nineteenth century, the original farmhouse was subsequently occupied by tenants who worked a portion of the Penn's landholdings. At the turn of the century, the farm had a double axis or intrasite organization of space as mentioned above. The time line shown in Figure 8-5 illustrates the architectural history of the farm. Members of the Penn family occupied the dwelling built by John W. Penn in 1876 and their newer residence was surrounded by various support structures and outbuildings. They also used the large barns and animal pens associated with the older occupation and located north of the earliest Penn house.

The layout of the farm in the early twentieth century indicates that a sharing of responsibilities and a pooling of labor and resources was required to run the entire farm complex. Although documentation and oral history gathered to date provide only scant support for mutual cooperation, the outbuildings north of the original Penn well and spring were not exclusively the responsibility of the Penn family members in every

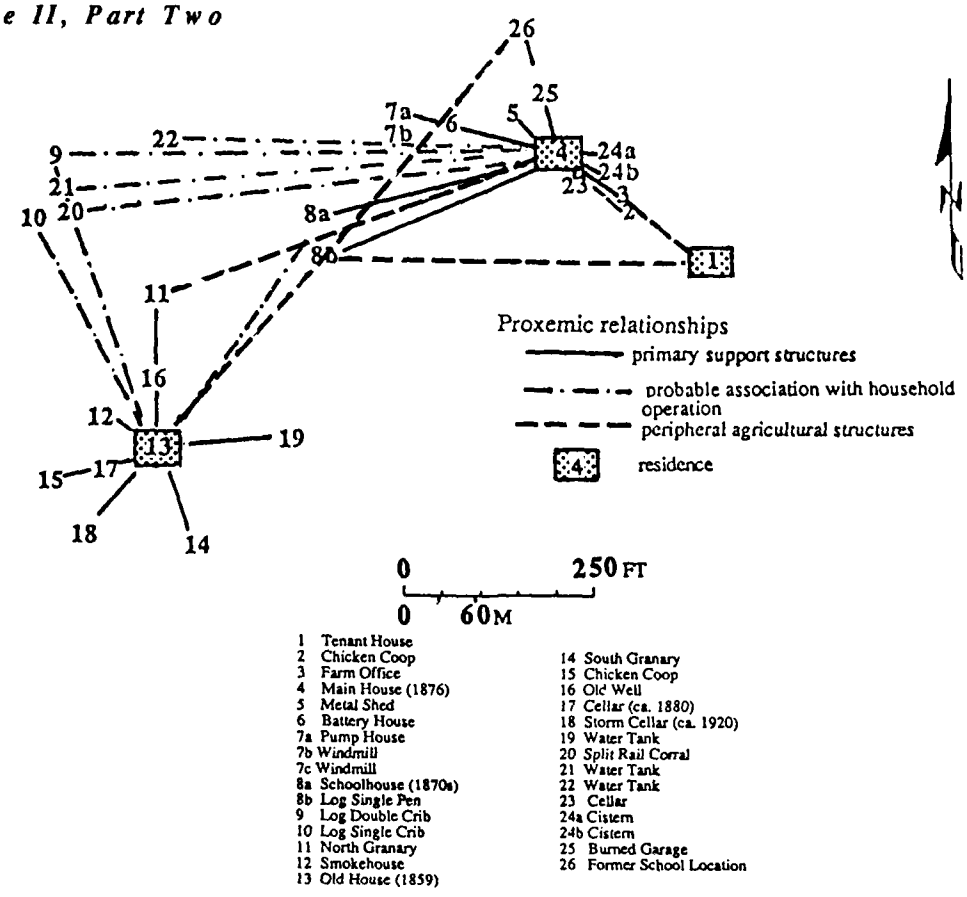


Figure 8-4. Proxemic model of the Penn Farm illustrating possible interrelationships of major buildings and outbuildings (from Moir and Jurney 1986:9).

regard, but certainly were also partly used and maintained by their tenants and day laborers.

The Penns "employed" a laborer who lived in the small box and strip house southeast of their twentieth century residence. Consequently, the Penn farmstead offers a layout and site design that encompasses three separate residences with 10 outbuildings and numerous ancillary support structures (wells, cisterns, root/storm cellars, windmills, concrete holding tanks, fences, paths, roads, fields, etc.). Altogether, these structures form an intricate farmscape capable of showing late nineteenth as well as early twentieth century rural, middle class owner and tenant agricultural operations focused on cattle, horses, and crops. Unlike many farms operated for several generations up into the mid-twentieth century, most Penn buildings were maintained or recycled rather than replaced. Consequently, its buildings and layout represent an authentic microcosm of social and cultural ties once commonly found among rural farming families.

Previous architectural documentation of extant structures at the Penn farmstead was provided by Ferring and Reese (1982:212-215) which included a field visit by Terry Jordan, and by detailed HABS (Historic American Building Survey) drawings completed for Environmental Consultants, Inc. between 1982 through 1984. This documentation was reviewed and additional analyses of building technology and styles were conducted during the 1985 season. These studies have been augmented with multiple visits, dendrochronological collections, and detailed studies dealing with the eventual preservation/development of the farm.

Structural elements of the buildings on the Penn farmstead, such as wall logs, wall studs, rafters, joists, piers, and sills were examined in detail, noting all physical and cultural features. These included graffitti, paint color, wall abutments, and the general age (number of rings) in each board, log, or beam. Also, tree-ring specimens for dating the initial construction and later additions for major structures were obtained. The tree-ring specimens were collected from the burned 1876 house, recycled log dwelling, double crib barn, north granary, south granary, and old house, and provide permanent scientific collections of the native forests and the lumber employed on the farm. These dendrochronological studies are discussed in greater detail in Chapters 18 and 28.

Each extant structure at the Penn farmstead was numbered by Texas Parks and Wildlife staff during a reconnaissance of the Penn farmstead in January, 1978. This numbering system was largely continued by North Texas State University during the 1979 - 1980 testing season (Ferring and Reese 1982:212-215), and has been maintained. Features other than standing buildings are discussed according to their proximity to numbered structures.

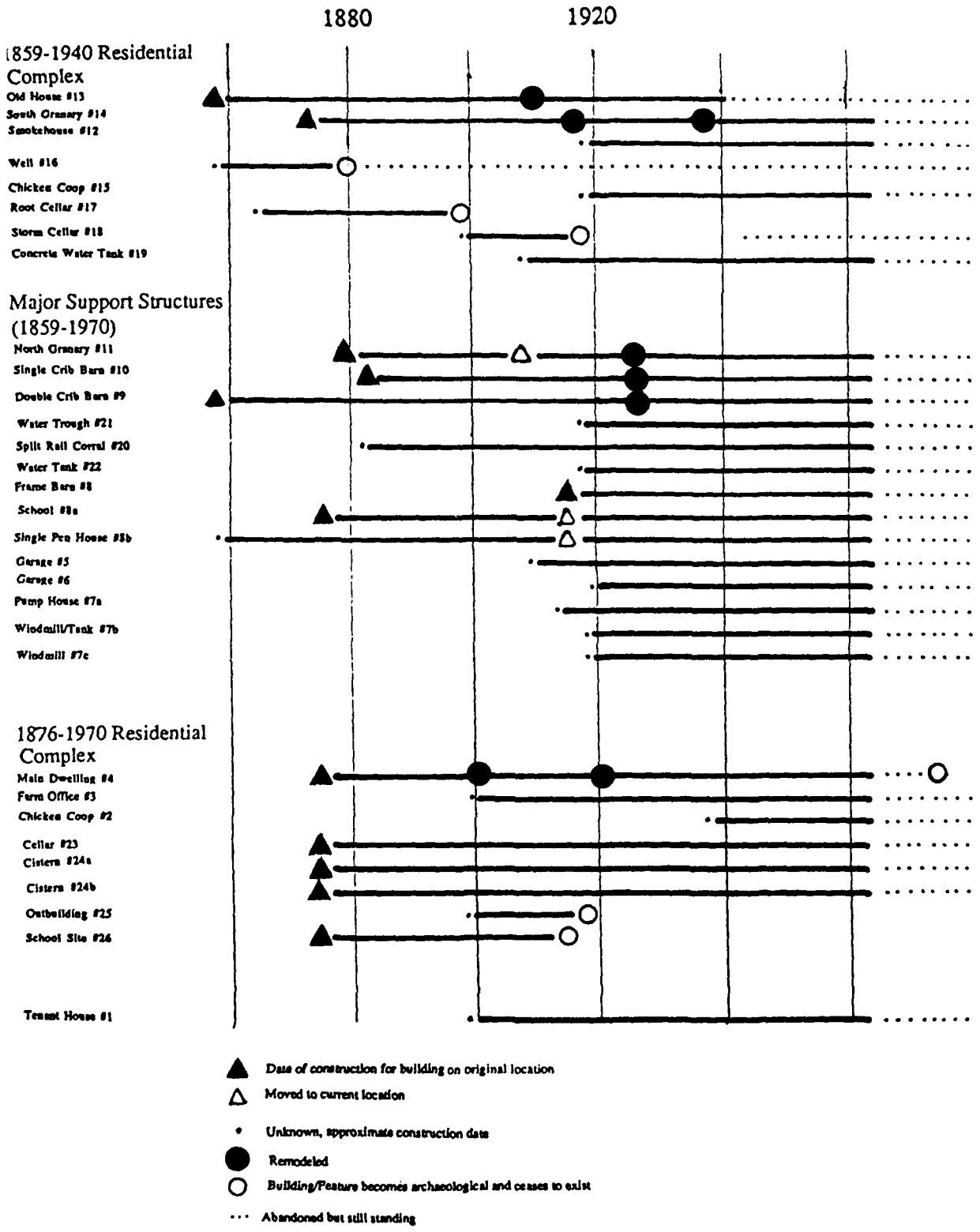


Figure 8-5. Time lines showing initial construction, major remodeling, and in some cases the destruction of Penn Farm buildings/features from oral/archival and archaeological evidence (from Moir and Jurney 1986:4).

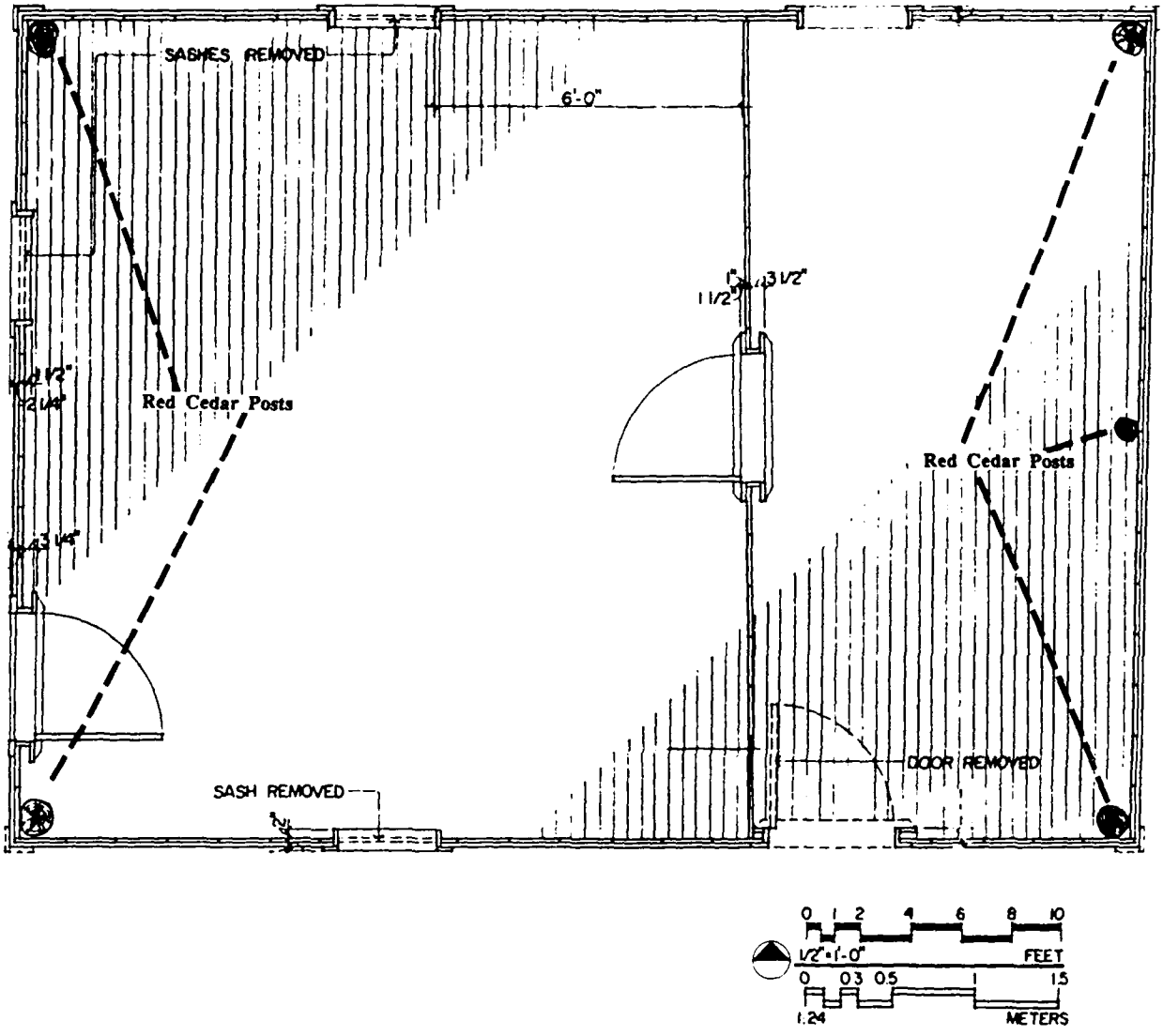


Figure 8-6. The tenant or daylaborer's house (no. 1 on Figure 8-3) was termed the "school teacher's house." Note the red cedar corner posts (HABS drawing by Matt Karpenko and Stan Solamillo for Environmental Consultants, Inc. 1982-84).

ARCHITECTURAL DESCRIPTIONS OF EXTANT BUILDINGS

The structures at the Penn farmstead reflect both stylistic and technological variability, with no less than three different horizontal log construction methods (half dovetail, square notch, and saddle notch) represented in the structures. Hewn and sawn timber (braced frame with mortise and tenon joinery) framing, plank box stripping, and balloon framing methods were used. Red cedar was used in the construction of many of these structures, almost to the total exclusion of other trees. Other species used include pine and bur oak. An analysis of the tree age and growth characteristics indicates that a variety of local red cedar escarpment, Mountain Creek valley and Trinity bottom, and East Texas forest resources were used throughout the site's history.

1 — THE DAY LABORER'S/ TENANT'S HOUSE

This small two room house (Figure 8-6) actually served as a day laborer's residence although oral information on its history is extremely scant. Oral traditions identified it as the 1870s - 1880s school teacher's house but based on current hindsight, the location and sparse sheet refuse deposits indicate only early twentieth century associations. The box and strip dwelling, consisting of sawn pine lumber, was probably constructed elsewhere in the very early twentieth century and then moved to its current location by the second or third decade. One unusual feature of this structure is the red cedar corner posts used to provide internal support. Box and strip dwellings are notoriously flimsy, but these posts insured that the dwelling would be stable and

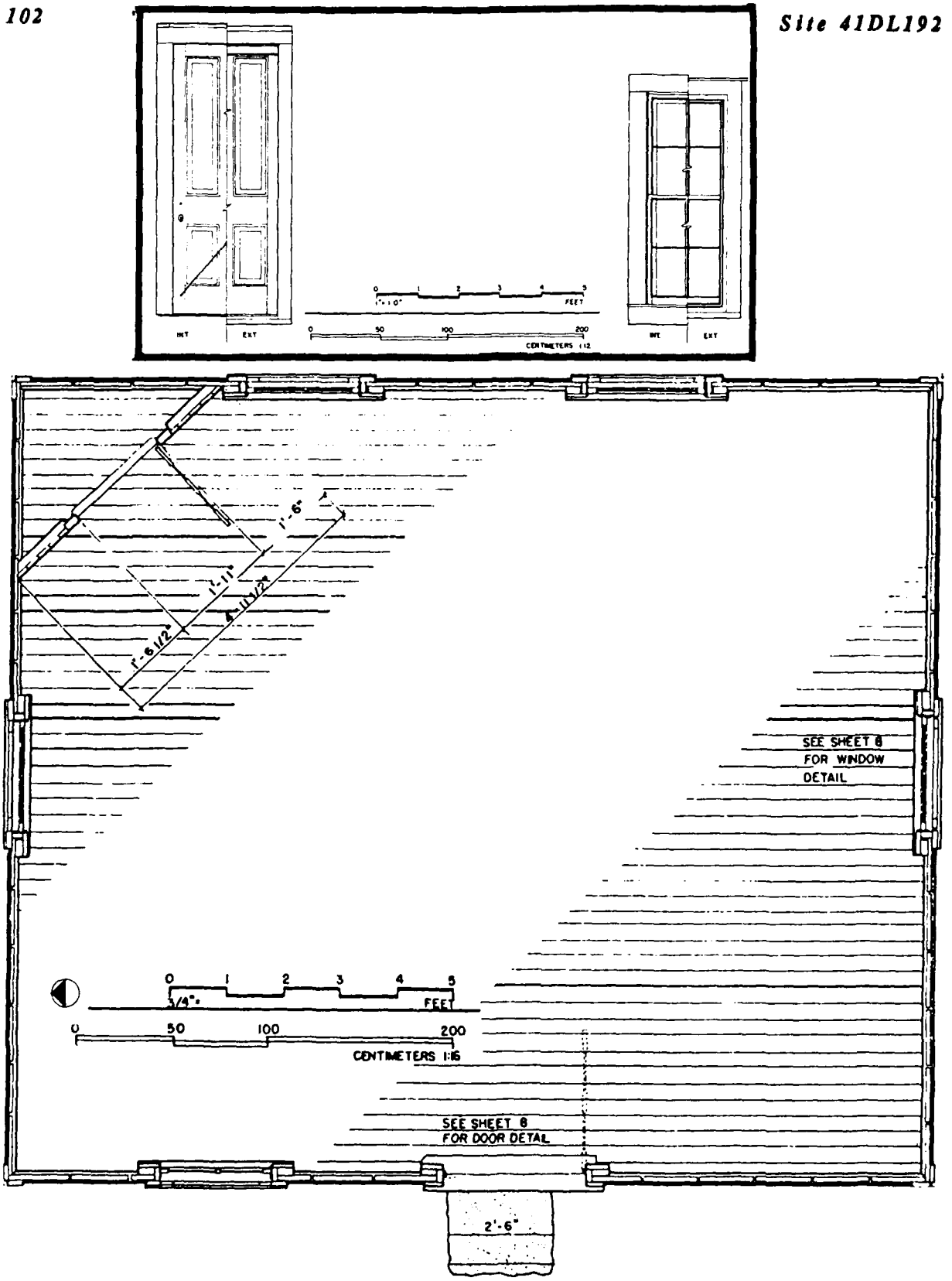


Figure 8-7. Plan view of farm office (3 on Figure 8-3), formerly called a summer kitchen at 41DL192. Details of the windows and doors (top) in the farm office at 41DL192 (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-84).

permanent. It is our current belief that the structure was moved onto its current site ca. 1920, and modified using commercial lumber and some recycled elements.

2 — CHICKEN COOP

One of the most recent structures on the Penn farm is a corrugated metal chicken coop probably built in the late 1950s or later. It is interesting to note that its construction follows a centuries old farm tradition of using posts set in the ground to secure the frame. The coop is in fairly good condition, except for some vandalism.

3 — THE FARM OFFICE (also known as Summer Kitchen)

This small box and strip building (Figure 8-7) is located adjacent to the main house (4) and served as an office for the Penn family farming operations. Large windows are present on each wall and a door opens west into the enclosed front yard. Inside the structure, a chamfered corner closet is present in the northeast corner. The floor and ceiling are beaded pine lumber. The building was heated with a wood stove and the flue was tied into a hanging brick chimney. The exterior is finished with clapboard and the original wood shake roof has been partially repaired with composite roofing. There is no evidence of plumbing or electrical wiring. This building represents some commercialization of the Penn farm as it prospered in the early twentieth century. Precisely who controlled the accounts and provided maintenance for the overall agricultural enterprise is currently unknown. Previous investigators have hypothesized that this served as a summer kitchen, but more recent interviews with informants attributed its function as an office and did not provide support for an association with food preparation.

4 — THE MAIN HOUSE

This destroyed dwelling was initially a central hall structure (Figure 8-8), constructed with sawn pine lumber and built with mortise and tenon joinery. Its large sills were made of saw cut mortises and vertically oriented, rough circular sawn studs. It was set on a foundation of transitional pressed brick, and built about 1876, according to family tradition. The original two fireplaces were located at the ends of the two main rooms. Large double doors opened at both ends of the central hall and allowed it to be converted into an open breezeway. When Andy Penn enlarged the dwelling during the Depression, he removed the western fireplace and added a new room to the south with a larger fireplace. He still used mortise and tenon construction techniques and commercial pine lumber. Porches were later added along the west side of the house and the southern porch was enclosed to make a bathroom. The charred remains of this last addition consisted entirely of modern commercial grade studs and sills. These very last additions were balloon frame in construction and were set on a concrete foundation. After these modifications, the kitchen was converted into a living room, and the older central hall and two western rooms served as bedrooms.

This house burned to the ground in 1981. Intensive archaeological and architectural investigations, conducted in 1985, provided insights on the structure and yielded some of the above interpretations. This information has been combined with informant accounts to yield a plausible picture concerning the sequence of building episodes and materials used. Of course, we did not have the privilege of examining the dwelling in detail prior to its destruction by fire.

The architectural assemblage recovered from units excavated inside the foundation of the dwelling included 1,008 nails, 376 brick fragments, 23 window glass sherds, and 860 other architectural remains (Table 8-2). Machine cut nails accounted for 51.9% of the nail assemblage, with the highest percentage occurring in units located under the original dwelling. A total of 316 whole machine cut nails were recovered, with major peaks in nail sizes occurring at 7.0 cm, 5.1 cm, and 6.3 cm, respectively. Wire nails occurred in all units, with the highest percentage occurring in units located near the periphery of the dwelling. The percentage of the whole wire nails (80.2%) was higher than that of machine cut nails (60.4%). Major peaks in nail sizes occurred at 3.8 cm, 4.4 cm, 3.2 cm, and 6.3 cm, respectively. These figures indicated that major wire nail sizes were smaller than those recorded for machine cut nails. In addition, machine cut nails ranged in size from 2.5 cm to 13.9 cm while wire nails ranged from 1.9 cm to 9.5 cm.

The brick assemblage included 376 fragments from units under the dwelling, and 268 from the unit at S172 E172, located outside the east wall of the dwelling. Both transitional hand and machine made varieties were found, with transitional bricks dominating in each unit. In addition, evidence of the two chimneys associated with the original dwelling was found in the units at S176 E256 and S172 E172. A total of 196 transitional bricks were recovered in S176 E256, and 268 in S172 E172. Other units under the house did not contain any brick fragments, and included S170 E262, S170 E266, S180 E264, and three with less than ten fragments (S174 E262, S174 E266, and S180 E260). These units were located outside the original dwelling, falling under the porches added during the Depression, with the exception of S174 E262 and S174 E266, which fell directly under the central hall, well away from the two fireplaces and the original brick foundation (see Figure 8-9).

A total of 23 window glass sherds were recovered under this house. These sherds ranged in size from 1.3 mm to 2.4 mm with major peaks at 2.4 mm and 1.7 mm, respectively. Other architectural remains that were recovered in units under the dwelling included primarily cement, concrete, or mortar fragments. The highest percentage occurred in units located under the porches which surrounded the house. For example, over 556 fragments were found in S176 E152 located just inside the west porch foundation.

TWO BRICK CISTERNS AND A MASONRY CELLAR

Two early transitional pressed brick cisterns were built shortly after the 1876 house (structure 4) was completed. They are located just south and east of the kitchen or east room of the original 1876 dwelling (Figure 8-10). The southern cistern remains clear of debris, and is approximately half filled with rain water. The eastern cistern has been filled with debris since the house was abandoned in the 1970s.

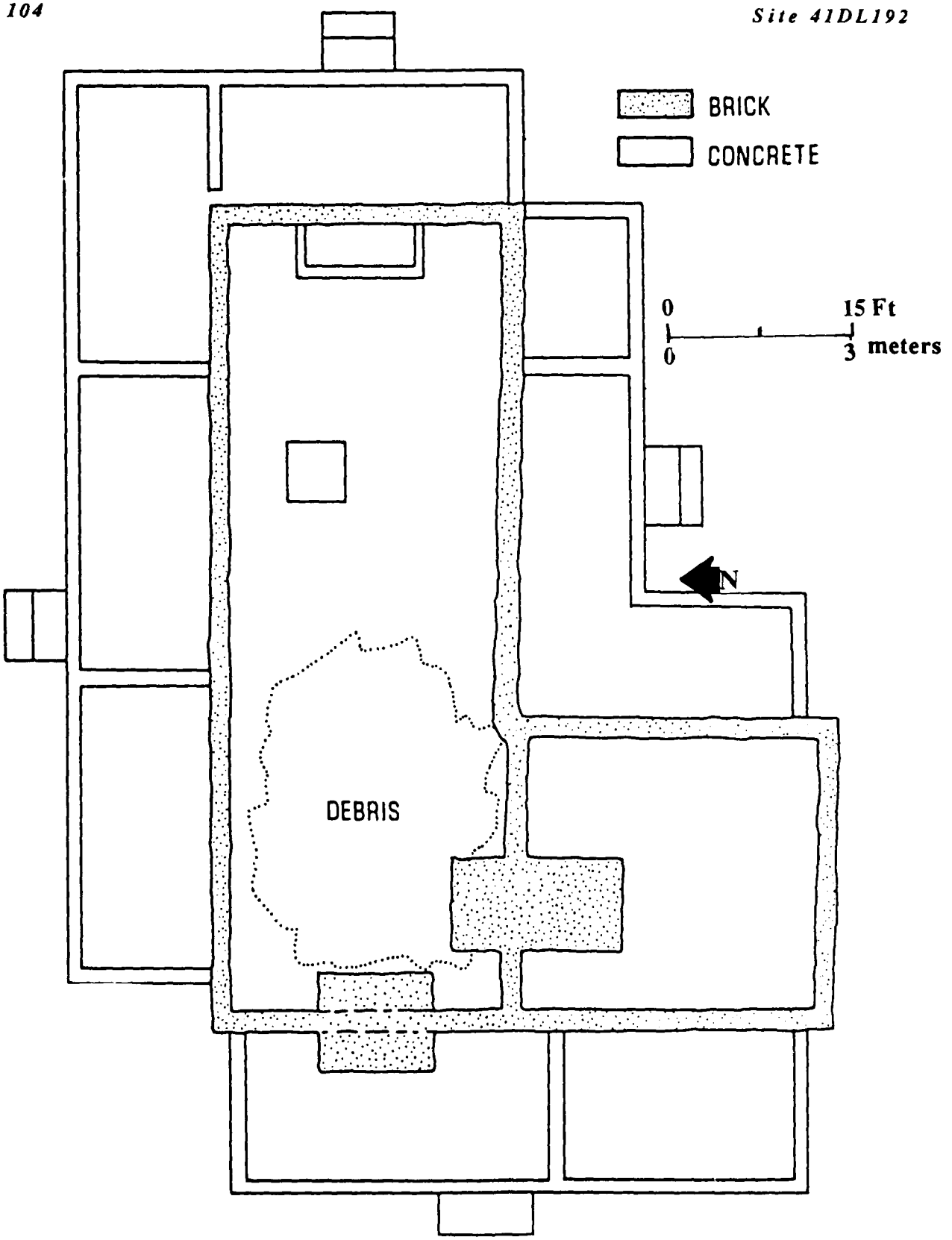


Figure 8-8. Plan view of the foundation footings of the 1876 Penn House (map provided courtesy of Texas Parks and Wildlife).

Table 8-2
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE, UNDER STANDING ARCHITECTURE, AND SPECIALIZED FEATURES IN THE 1859 AND 1876 HOUSE AREAS[1]

	1859 House Area						1876 House Area									
	Sheet Refuse[2]		Feature 1		Feature 3		Sheet Refuse[2]		Units Under House		1918 Barn[2]		Daylaborer's House[2]		North Granary and Barns[2]	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Earthenware:																
Coarse	1	<.1	1	<.1			1	<.1								
Refined	126	4.7	123	1.8	172	5.1	62	2.2			4	6.7	2		1.1	
Stoneware	39	1.5	68	1.0	10	.3	15	.5					1	.6	2	2.2
Porcelain	12	.4	24	.4	23	.7	7	.2			1	1.7				
Bottle Glass	583	21.7	976	14.3	1172	34.8	253	8.8	236	8.4	2	3.3	13	7.3	9	9.7
Table Glass	5	.2	24	.4	19	.6	2	.1	2	.1						
Lamp Glass	95	3.5	151	2.2	273	8.1	22	.8								
Unknown Glass									18	.6						
Nails	538	20.1	1031	15.1	195	5.8	590	20.5	1008	35.8	41	68.3	12	6.7	43	46.2
Brick	204	7.6	28	.4	41	1.2	559	19.4	376	13.3			23	12.8		
Window Glass	489	18.2	566	8.3	162	4.8	97	3.4	23	.8	1	1.7				
Other Architecture	95	3.5	380	5.6	109	3.2	406	14.1	860	30.5	5	8.3	108	60.3	11	11.8
Clothing Items	31	1.2	276	4.0	97	2.9	9	.3					2	1.1		
Toys	8	.3	7	.1	4	.1	1	<.1								
Other Personal	37	1.4	25	.4	39	1.2	1	<.1								
Faunal/Floral Remains	85	3.2	252	3.7	46	1.4	384	13.3	7	.2	2	3.3	2	1.1	6	6.5
Thin Metal	157	5.9	1761	25.7	882	26.2	160	5.6	242	8.6	3	5.0	6	3.4	3	3.2
Heavy Iron	59	2.2	643	9.4	29	.9	16	.6	13	.5			5	2.8	12	12.9
Fuel Remains							84	2.9	3	.1						
Hand Tools	1	<.1	6	.1	6	.2	5	.2			1	1.7				
Firearms	75	2.8	25	.4	10	.3	13	.5							3	3.2
Stable Gear	3	.1	2	<.1			1	<.1								
Electrical Parts	2	.1	13	.2	4	.1	1	<.1	8	.3			4	2.2		
Miscellaneous Other	36	1.3	458	6.7	84	2.5	189	6.6	21	.7			1	.6	4	4.3
Total	2681		6840		3377		2878		2817		60		179		93	

1 Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, handtools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on additional analyses.

2 Cultural material from specialized features were not included in these counts

A masonry cellar is situated southwest of the kitchen in the original 1876 dwelling. It is a circular structure with subterranean masonry walls and a conical transitional handmade brick roof (Figure 8-11). The stepped masonry entry faces east. According to Ferring and Reese (1982:214), "a similar construction technique has been noted for some ice houses built in the Illinois - Indiana area in the mid-nineteenth century (Terry Jordan, personal communication 1979)." Two other similar cellars have been identified in the project area. One cellar exists in Cedar Hill (Ron Ralph, personal communication 1985). The other is the reconstruction of the above ground cellar recovered from a farm near Duncanville (Duncanville Historical Commission 1976). These all appear to be constructed about the same time (mid-1870s) possibly by the same individual. This style of construction is used on dug wells and other types of features in the area, using the local chalk rock as raw material.

This structure was badly damaged by vandals who destroyed the conical roof. Whole as well as fragmentary bricks from the roof are now located at the bottom of the cellar. No evidence was found of wooden shelves inside this structure.

OUTBUILDINGS

The east garage burned to the ground when the main house (4) was destroyed by fire in 1981. Three outbuildings are located in a row northwest of the 1876 house, including two sheds and a single car garage. All of the structures date to the early to mid-twentieth century and are of plank or pole construction. The garage (5) was built to accommodate a Model T and had a gas pump located out front on the south side. This corrugated metal garage was constructed a decade or two after the earlier east garage. The gas pump was removed by vandals in the early 1980s. West of the metal garage

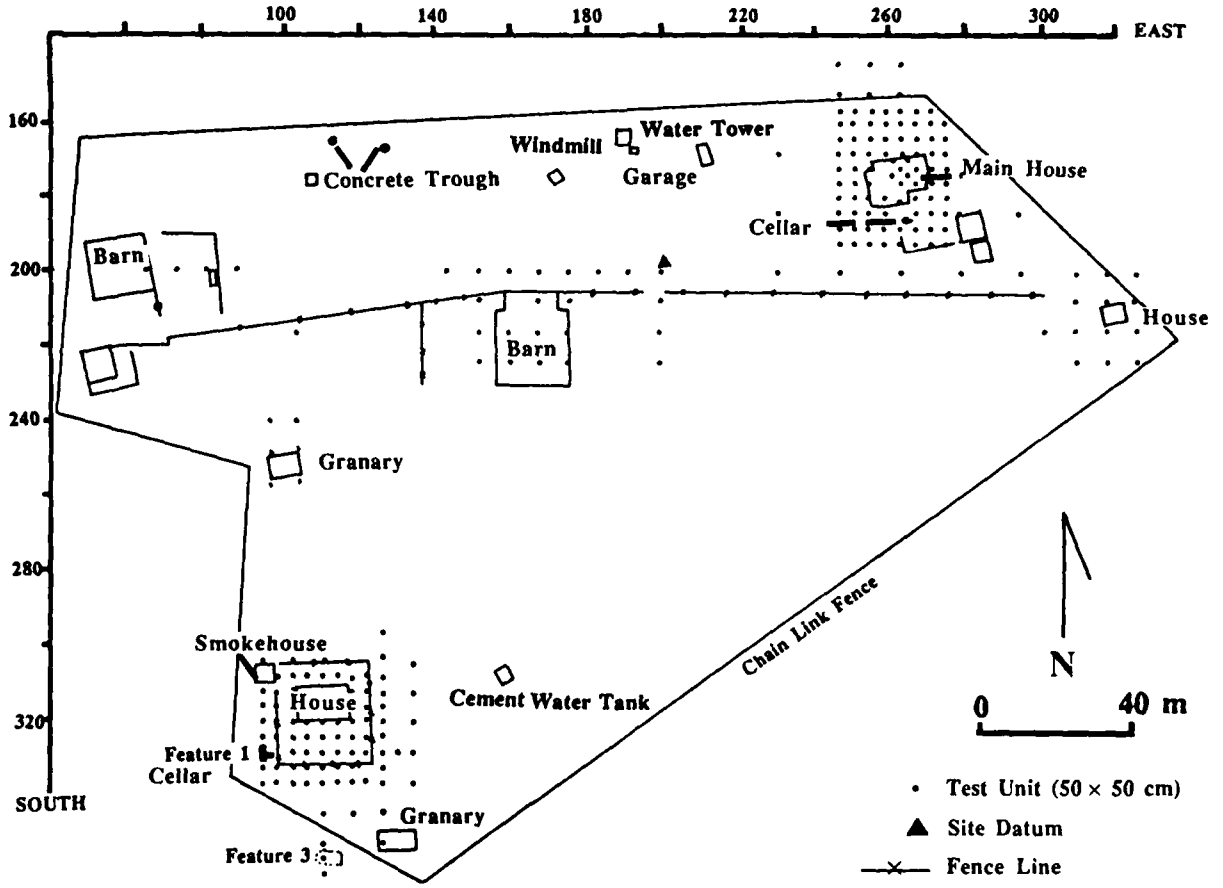


Figure 8-9. Map of the Penn Farm, 41DL192, showing excavations, units, major structures, features, and fence lines.

was a small structure referred to as a battery house (6). A windmill (7b) is located on the south side of the westernmost shed (7a). This small, box frame outbuilding once housed a generator for running the water system tied into the nearby drilled well and windmill. It is an important and integral component of the twentieth century water system of the farmstead. Procurement of sufficient drinking water was a major consideration through the entire history of the Penn farm complex. All three outbuildings are situated just west of a former orchard and garden maintained by the Penn family. In addition to these architectural features, planks (25) which may have been from another burned structure were exposed in S155.5 E252 and S156 E252.

8 - 1918 BARN

This large, multigabled barn (Figure 8-12) constructed in 1918, also included two older structures (8a and 8b) that were reused to form the barn's central core and served for grain storage. For the center of the barn, a loft provided hay storage, and pole wings gave ample room for wagon and equipment storage and animal stabling. The roof of this structure was once covered with wooden shingling, but has since deteriorated beyond repair. It has recently collapsed, damaging some of the internal structures.

In addition to the 1918 barn framework, there are two other structures currently encased in the ruins. One is a log single pen located in the southern half of the 1918 barn. This smaller building was recycled several times prior to its encapsulation in the larger barn. It was constructed of red cedar logs which exhibit a series of axe marks denoting a coding system for reusing the logs. A hand rived, red cedar board was nailed over an old fireplace cut, and old cuts for two doors and a window are also present. The structure currently sits on cedar and stone piers. One pier is a portion of a commercially made brick chimney which may have been a hanging chimney. The interior of this pen is sheathed in red planking with battens and it is floored.

The other structure within the 1918 barn is a box and strip, single pen school house with large hewn red cedar and oak sills. The sills are pegged at the corners and were probably cut from nearby floodplain trees. Oral traditions establish that this was the Penn Hill School, originally built in the 1870s using imported pine lumber for the superstructure. It was subsequently moved and set on a linear concrete foundation when it was reincorporated into the 1918 barn by Andy Penn. The sills have rotted, and with the recent collapse of the barn superstructure, the walls have been split and torn apart.

9 - DOUBLE CRIB BARN

This structure is possibly the oldest building on the Penn Farm, and is located on its original site. It is a two crib barn with a central passageway (Figures 8-13a - d), reportedly used for stabling animals and grain

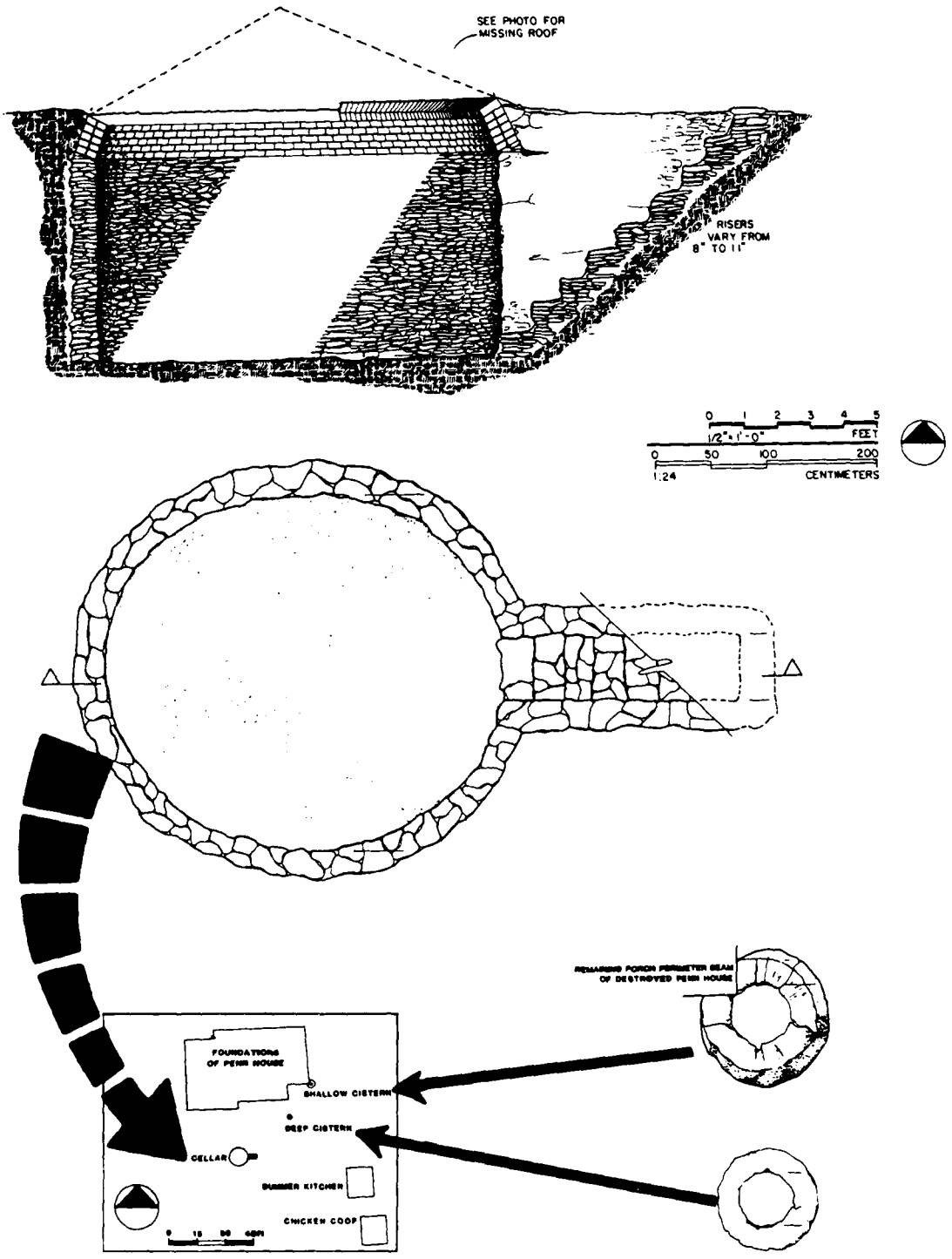


Figure 8-10. Profile (top) and Plan (middle) of the old stone cellar (no. 23 on Figure 8-3). Plan views and locations bottom of the cisterns (24a, 24b) associated with the 1876 house (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-84).



Figure 8-11. Photograph of the cellar before vandals destroyed the concial, vaulted brick roof.

storage. Stabling wings have been added during the twentieth century, using recycled elements from a mortise and tenon structure. The double crib barn is built from over 80 red cedar trees, which were half hewn and which have half dovetail notched corner timbering. Old broken cut nails on the southeastern wall of the east crib indicate that this wall was once exposed and was sheathed with siding. Today, long stabling wings have been added along the north and south sides reusing the mortise and tenon beams. A graffito indicates that this may have been done on June 20, 1927 by B. Tailor and Moyer. Apparently during this period, the interiors of the cribs were sheathed with recycled interior paneling (board and batten) and sheet metal to store grain. Corn cobs were shoved into holes in the logs and log interstices, and metal was nailed over holes to reduce rodent entry.

Several wooden feeding troughs are present under these wings, and the structure is surrounded by a split rail corral and feeding and watering areas, which include a concrete stock tank. The double crib barn had a linear concrete foundation added in the early twentieth century by using plank forms and pouring the concrete while the walls were still in place.

Tree-ring dating indicated that logs from the double cribs and the recycled mortise and tenon beams were cut at the same time over a two year period. Both the double crib and the former mortise and tenon structure were constructed at the same point in time. The trees from these buildings were cut from undisturbed native red cedar forests of the Cedar Ridge Escarpment, possibly by John Wesley Penn when he first began his farm in the late 1850s.

This double crib barn may have been built prior to the original house. This was due to a frontier practice of farmstead development in advance of domestic occupation. John Penn's family resided in nearby Duncanville, where an extensive agricultural and ranching enterprise with several dwellings had already been established.

The double crib barn was constructed using over 80 red cedar trees. These trees were stockpiled over at least a two year period until enough logs were obtained to build this barn. The two cribs are each about 5 m square, and are comprised of hewn red cedar logs with crude half dovetail notching. The present roof was recycled sawn cottonwood and elm lumber. The wings were added in the early twentieth century and are supported by recycled red cedar beams with mortise and tenon joinery, which were cut during the same two year periods as logs from the east and west cribs of the original barn. The passageway between the two cribs was enclosed at this time, and both were used as storage and cattle feeding areas. A corrugated metal roof was added in the mid-twentieth century. Several wooden feeding troughs are present under the added wings. The structure is surrounded by several fenced feeding and watering areas, including a concrete stock tank.

The primary significance of these old structures (log barn, recycled timber frame) is that both were cut and built from the same stand of trees at the same time. Both horizontal log and braced frame techniques were used at the same point in time, possibly by the same craftsman. This building contains the best preserved architectural remains of the mid-nineteenth century on the Penn farm. This structure surpasses most other log barns that we know of predating the Civil War and still standing in North Central Texas.

10 - SMALL LOG BARN

This single crib log structure (Figures 8-14a - b) was probably built at about the same time as the north granary (described below) roughly sometime between 1890 and 1900. It was constructed of red cedar logs, slightly hewn on two sides, and with V-notch corner timbering. These were juvenile trees, probably grown under disturbed conditions and not from the native Cedar Ridge forests. As with the double crib barn, a linear concrete foundation was poured around the base of the structure. A sawn pine frame wing was added to the south side, and a low wing to the east. This barn is joined to the same split rail corral complex as the double crib barn mentioned above.

The significance of this structure is the use of a V-notch corner timbering technique, while other techniques were used on the other horizontal log buildings. This indicates a blending of cultural traditions on the Penn farm during the late nineteenth century. Three notching types (square, half dovetail, V) and braced frame (mortise and tenon joinery) construction were all present on the farm buildings. Different construction types served different functions in some cases (i.e., north and south granaries vs. small log crib).

11 - NORTH GRANARY

This building (Figures 8-15a - c) was also used for grain storage. One unique aspect is that the vertical wall posts are sunken into the ground and the flooring nailed to these posts just above the ground surface. The flooring has been replaced with wire nailed pine lumber.

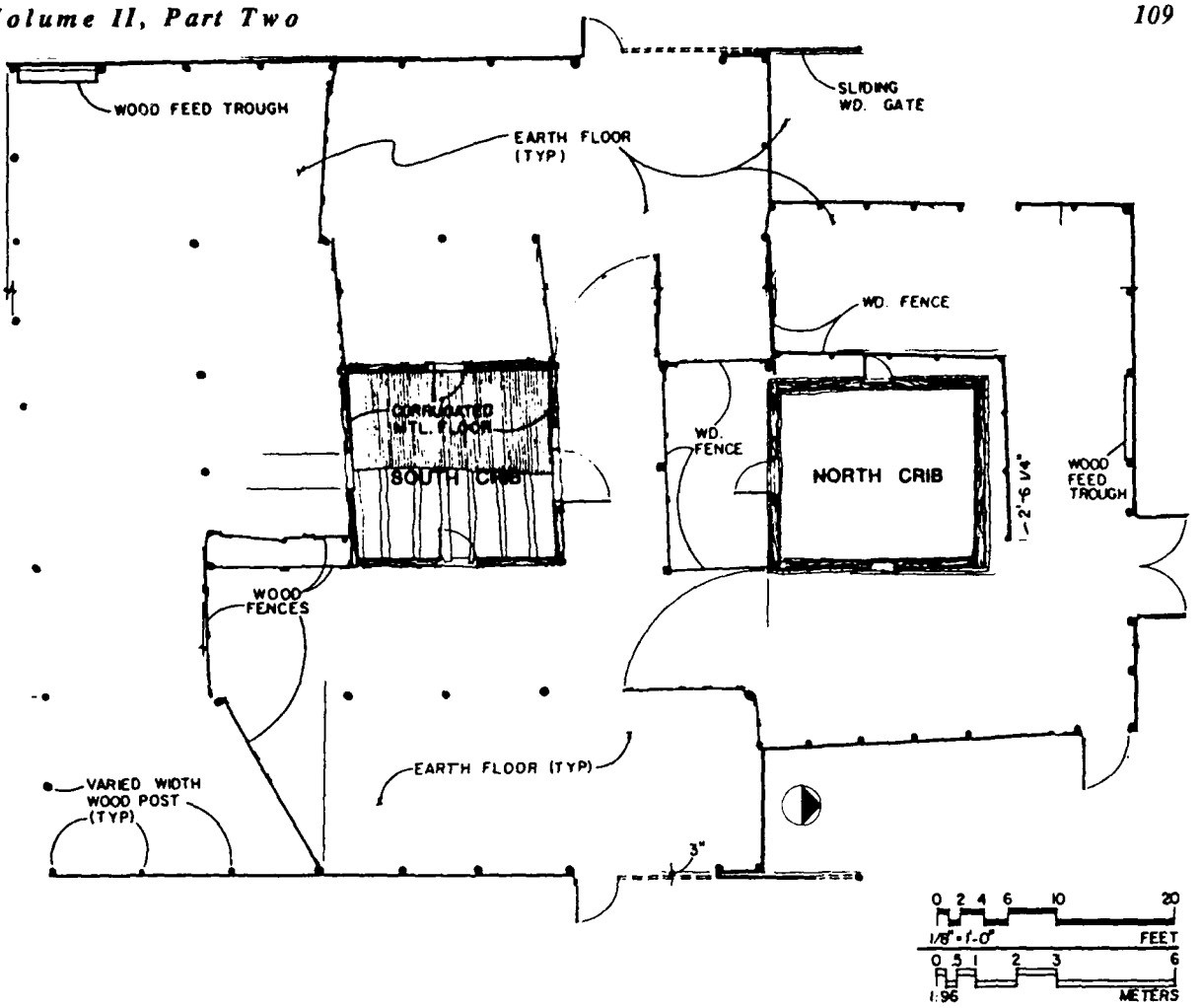


Figure 8-12. Plan view of the 1918 large frame barn (no. 8 on Figure 8-3) showing the north crib (school house) and south crib (log dwelling) HABS drawing by Stan Solamillo and Matt Karpenko for Environmental Consultants, Inc. 1982-84.

Two cribs are present in the building. The interior partition is mortised into vertical red cedar posts, and old cut nails are present in the siding. The trees for the vertical posts were cut from a juvenile stand of trees under growing conditions similar to the trees in the small log barn (10). Both were probably built in the last quarter of the nineteenth century.

Terry Jordan observed that this was the first mortise and tenon outbuilding he had seen in East Texas (Ferring and Reese 1982:215). This, the south granary, and the recycled mortise and tenon beams in the large log barn indicate that mortise and tenon carpentry was common for both dwellings and outbuildings in the Joe Pool Lake area. The tight fit of the hewn frame technology allowed such structures to serve as granaries. Horizontal log buildings were not as air tight and served other functions such as fodder storage and animal stabling.

12 - SMOKEHOUSE (Pigeon House)

This small frame structure is located just northwest of the old Penn house (13). It provided food storage capabilities for early twentieth century tenants occupying the house (Lou Penn, personal communication). Subsequently, it also served as a coop (chickens, pigeons, quail) or as a rabbit hutch based on the wire mesh still present inside it (c.f., 41TR45).

13 - ORIGINAL PENN HOUSE (ca.1859)

The original portion of this building was a single pen with front and rear porches (Figure 8-16a - d) or rooms. It was built from fully hewn red cedar beams with mortise and tenon joinery. It was probably built after John Wesley Penn had established his farm, sometime around 1859. The siding was imported (East Texas) pine clapboard and was placed on both exterior and interior walls of the central room. Half hewn red cedar logs were used as ceiling and floor joists, and the roofing consisted of cedar poles. All red cedars were juvenile trees, which once grew under disturbed circumstances. The craftsmanship indicates that this was designed to be a simple yet appealing dwelling, which fitted into the ranching practices of John W. Penn at that time.

The house was enlarged to a central hall in 1911 (Figures 8-16c - d), based on a grafitto on a concrete pier. These concrete piers were also placed under the

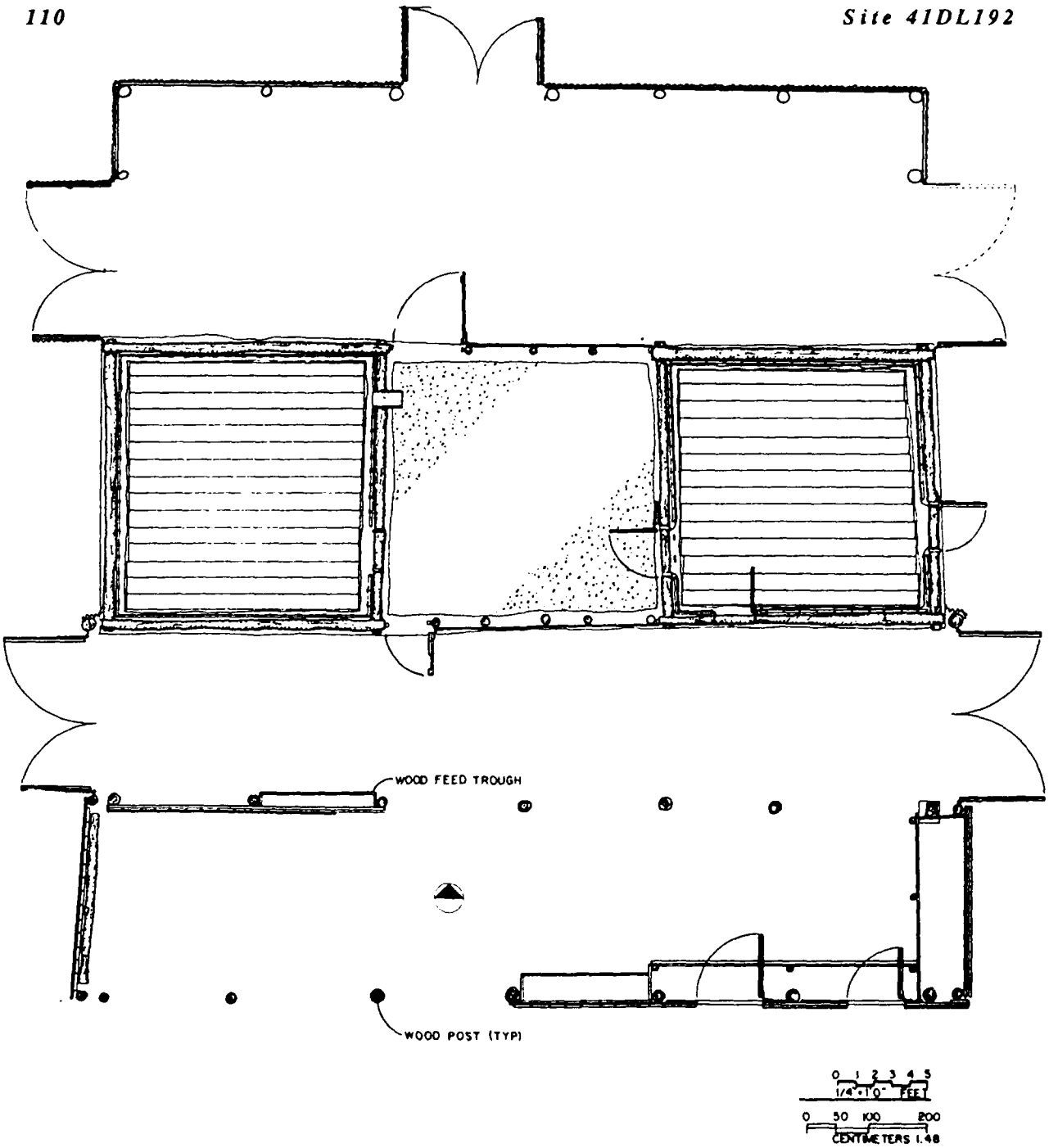
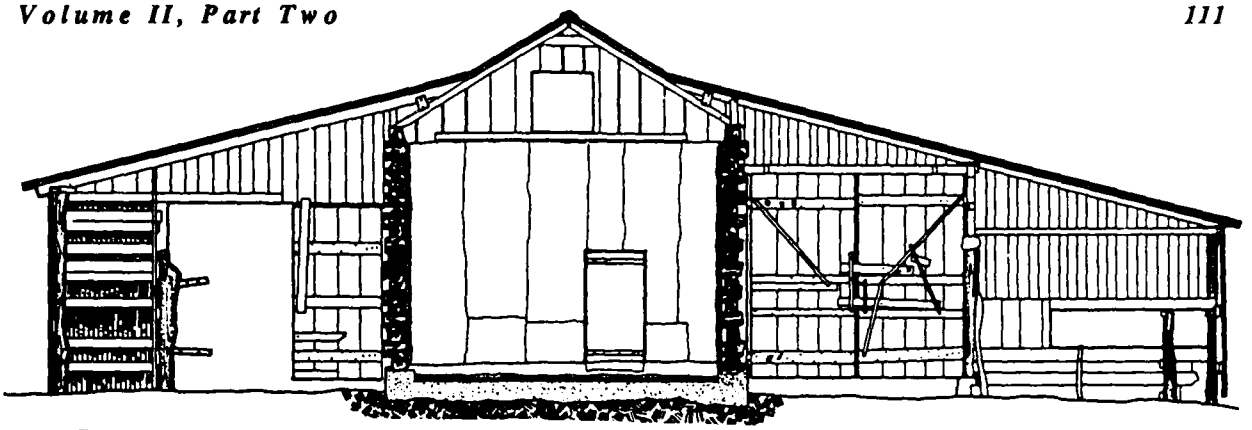


Figure 8-13a. Plan view of the double crib log barn (no. 9 on Figure 8-3) HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-84.

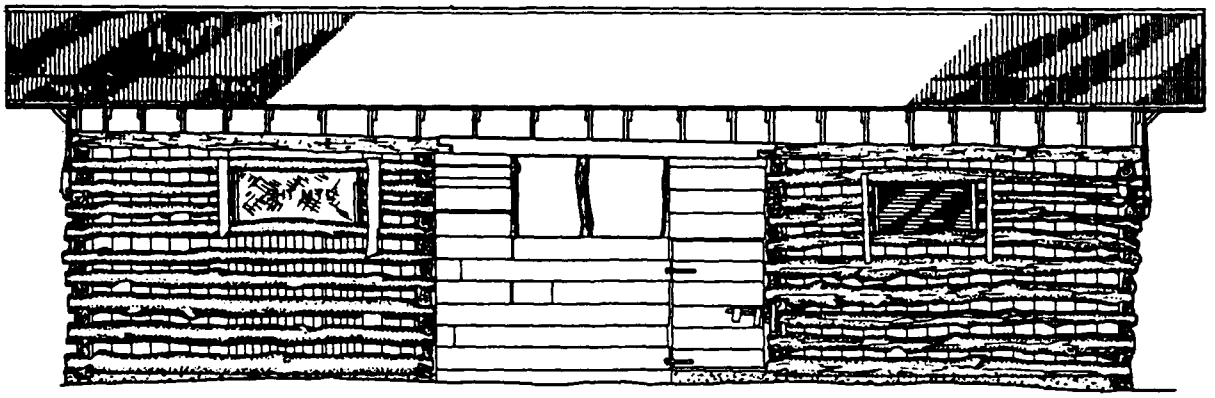
original house, suggesting that it may have been moved slightly or releveled. This addition was done with all pine lumber and wire nails. A front room was constructed on the corner of the old front porch, and was used to house day laborers (also based on graffiti). The rear porch was screened and the north wall of the old house was repaired.

The east wall of the original structure was altered, and a doorway was added which opened onto the central hall. The front and back porches were extended, and the rear porch behind the original house was closed in to form a kitchen. A portion of the west end of the front, or south porch was later closed in to form a small room for day laborers to sleep. Graffiti found in this room included "Please clean your feet before you come in" and, "Fred Morton (?) at work on the west or bottom farm."

None of the 14 red cedar tree-ring samples obtained from this structure dated. In addition, none of these logs crossdated with samples taken from the double crib barn.



NS



EW

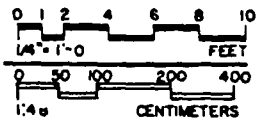


Figure 8-13b. North - south section and east - west section of the double crib barn at 41DL192 (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

This suggests that the trees for the original house were cut from a different, more disturbed stand of trees than those used in the double crib barn.

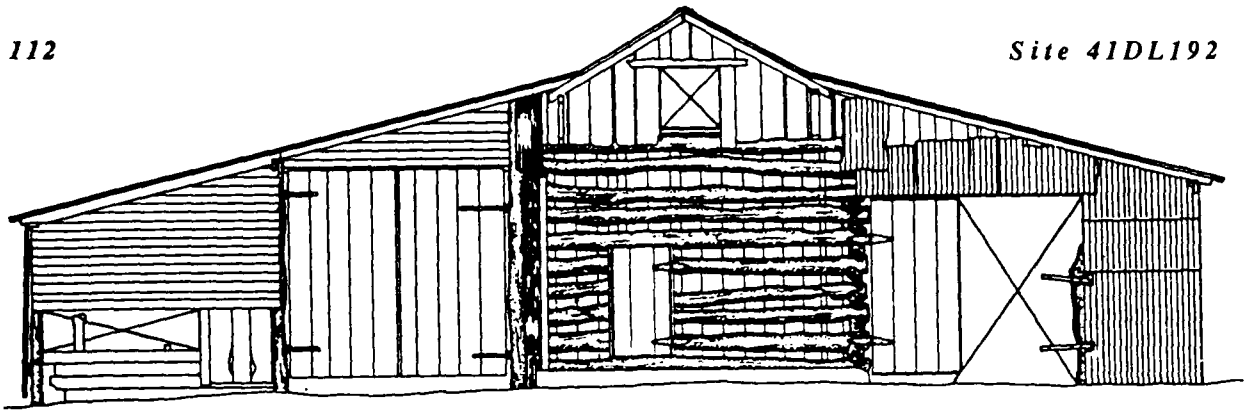
This early dwelling (ca. 1859) is representative of the agrarian status housing of the Penn family and its tenants. Similar construction was also used for dwellings and outbuildings of other well-to-do landowners of the 1840 - 1870 period. Local lumber was hand crafted into a unique structural floorplan. Pine siding imported from East Texas was also an essential ingredient. The old Penn house is unique in that exterior clapboard was used on the interior of the original core room. The original was subsequently incorporated into a 1911 central hall. This dwelling captures the social and technological changes of the Penn farm from the mid-nineteenth to the turn of the century.

14 - SOUTH GRANARY

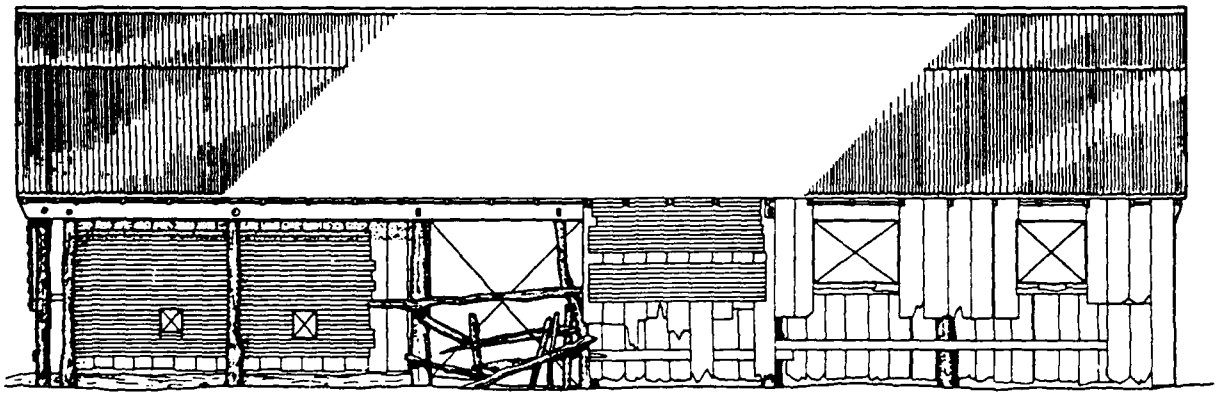
This single crib building (Figure 8-17) was built of large sills, large boards, and studs with mortise and tenon joinery. The exterior siding is pine clapboard similar to that on the old Penn house. This structure was used as a granary, with a wing added to the east and one to the west for equipment storage. The sill for the superstructure of the single crib is set on large limestone piers. The lumber for this single crib was cut in April, 1874 (based on tree-ring dates), and the structure erected soon thereafter.

The large sills, cut from juvenile post oak trees, have nearly totally decomposed. The original siding was long ago stripped from the east wall and the ends of the studs have decayed.

This well crafted structure exhibits the sense of quality that John Wesley Penn desired for a crucial element of his farm, the wheat granary. This building was probably an addition to earlier granaries and was succeeded by the north granary. Andy Penn sheathed the interiors of nearly all his cribs with sheet metal to store wheat. The south granary, therefore, is the earliest intact example of a nineteenth century granary, and is absolutely dated to April 1874.



EAST



SOUTH

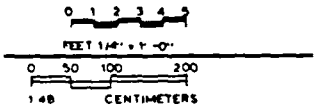


Figure 8-13c. East elevation (top) and south elevation (bottom) of the double crib log barn at 41DL192 (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

REMAINING FARMSTEAD FEATURES

Figure 8-3 also identified 12 more features or structures that are associated with the history of the Penn farm complex. Several of these relate to older water systems and, together, provide broad coverage of most of the available technologies for obtaining water. Features 16, 19, 21, 22, 24a, and 24b all pertain to a century worth of farmstead hydrology.

The remaining six features are essentially archaeological in composition or context Once again referring to Figure 8-3, they include two filled storm/root cellars (17, 18), a burned outbuilding (25), and the former site of the box frame Penn school house (26, location is approximate). A split rail corral, stone and brick storm cellar, and numerous additional fences, gates, and minor paths and roads complete the entire built or modified landscape. Also, remnants of a split rail fence were noted outside of the present Corps of Engineers' fence and appeared to extend across much of the farmstead at one time.

ARCHITECTURAL SUMMARY

The architecture of the Penn farmstead is a microcosm of the architectural technologies and styles used in North Texas during its settlement history in the nineteenth century. Original frontier structures were constructed of both hewn and sawn braced frames, using

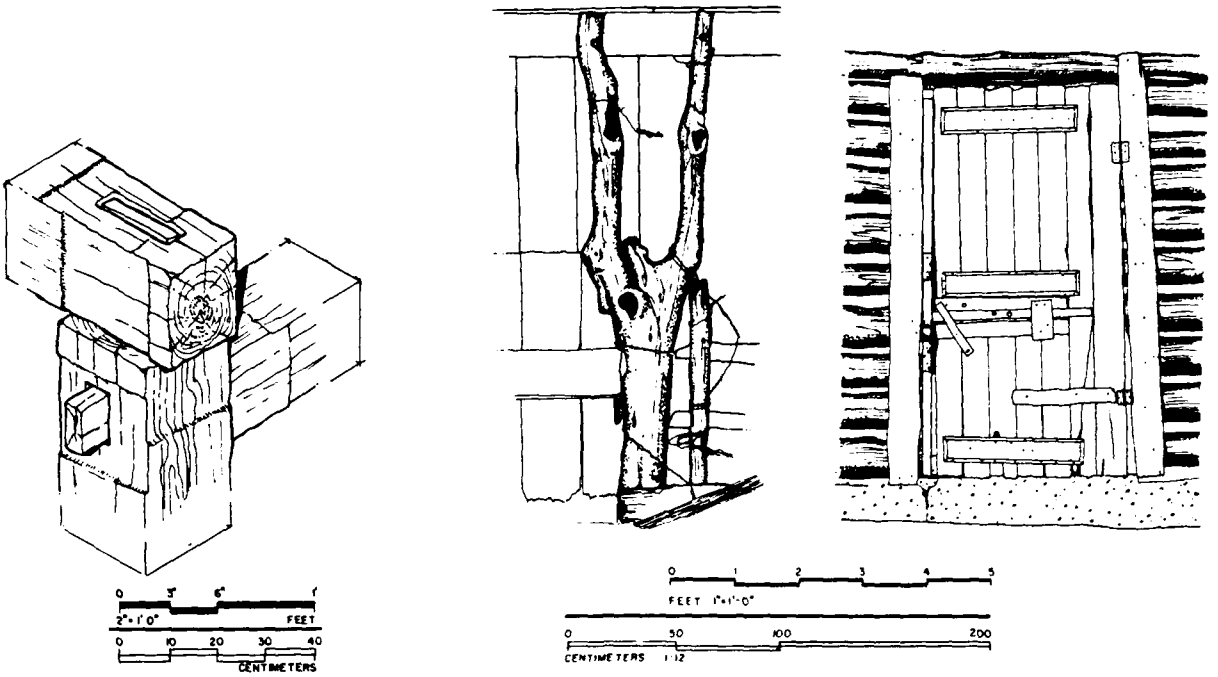


Figure 8-13d. Construction details of the north granary (left; no. 11 from Figure 8-3), the double crib log barn (center; 9), and the small log barn (right; 10). Mortise and tenon beams from an old building were reused to construct the stabling wings of the double crib log barn (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

mortise and tenon joinery and horizontal logs. Lumber was available to side buildings and for superstructures in the 1840 to 1850 period, but often farmers still handcrafted their buildings. This pattern may be due more to a sense of tradition or aesthetics rather than expediency or frugality.

Recycling was practiced extensively on the farm, blurring the architectural history of structures at the Penn site. The original dwelling (13) has been extensively altered (siding has been removed, piers have been replaced, and concrete piers have been added), and possibly reoriented to accommodate the 1911 addition. A single pen dwelling (8) was curated and recycled into the 1918 barn along with the box and strip school house (with large hewn oak sills).

A mortise and tenon, braced frame building was torn apart and used to form the pole wings of the double crib barn (9) in the 1920s. Based on tree-ring dating (floating chronology) the double crib barn and these recycled beams were cut at the same time (over at least two years) from the same stand of trees.

The north granary (11) was also recycled, and placed on its present location during the twentieth century. At this time, the small V-notch crib was placed nearby. The south granary (14) was constructed after April, 1874, and is on its original location. The burned and vandalized ruins of the ca. 1876 dwelling (4), the cotton office (3), cellar (6), and cisterns (5), and a tenant (1) dwelling (ca. 1920) remain on their original settings.

The Penn farmstead exhibits an intricate evolution of building functions and recycling episodes. Also, some buildings, such as the double crib barn, the south granary, the original house, and the ca. 1876 house are clear time markers reflecting the skill, knowledge, and craftsmanship of John W. Penn, as well as the social and economic milieu in which he lived.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation work at site 41DL192 focused on retrieving a systematic sample of the sheet refuse, isolating features, and examining the architectural rain from the burned 1876 house. Several specialized features associated with the Penn and later tenant occupations of the 1859 house, including two dense trash deposits (Features 1 and 3) were profiled and sampled.

The sheet refuse investigations were accomplished in three phases, with the first directed towards excavating a series of 50 × 50 cm units on an 8 m grid in the 1859 and 1876 house areas, the 1918 barn, the north granary, and the day laborer's house. These units indicated (1) that the oldest occupation was in the 1859 house area which had been serially occupied and contained primarily material ranging in age from the 1860s up to the 1940s; (2) a relatively less dense

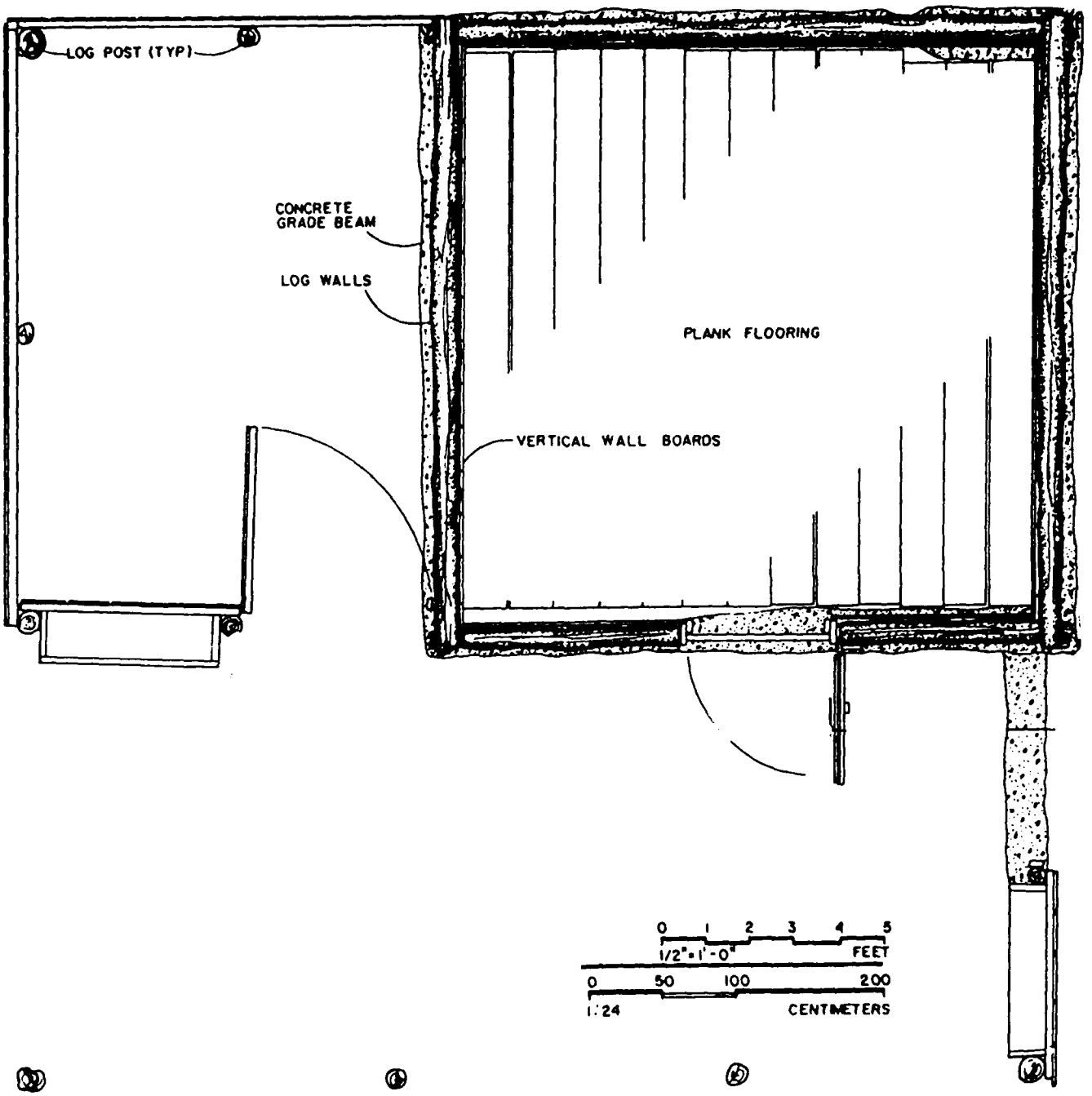
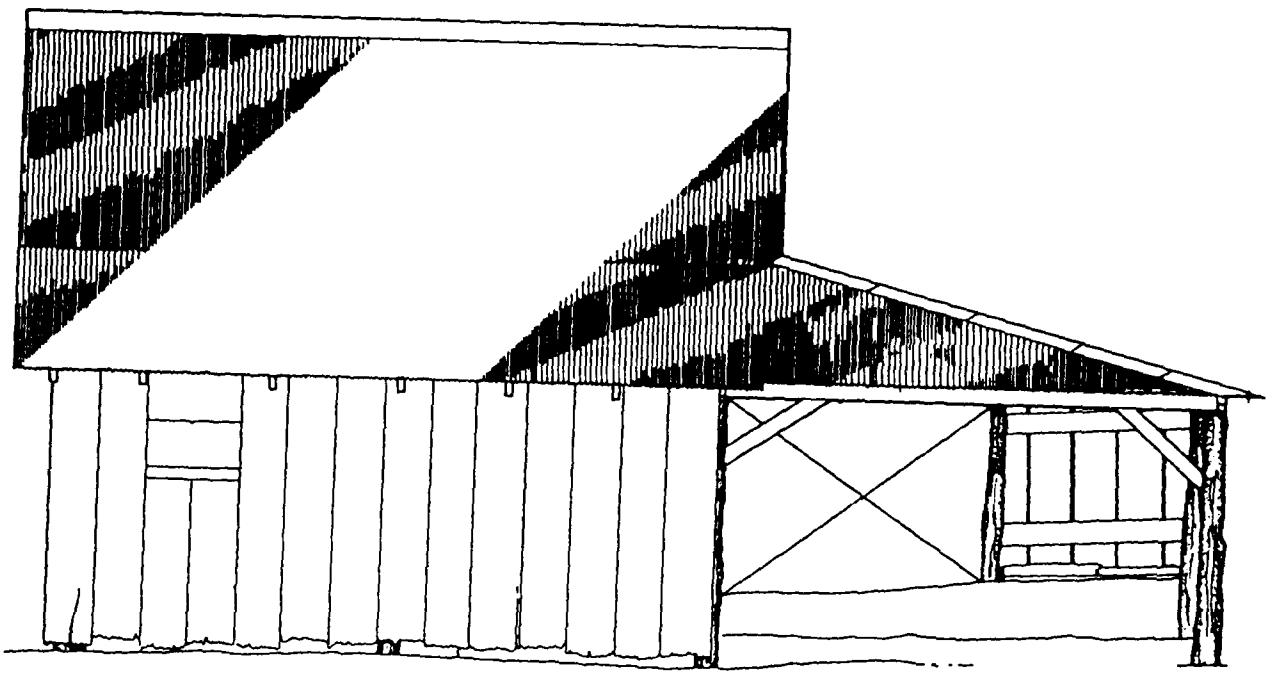
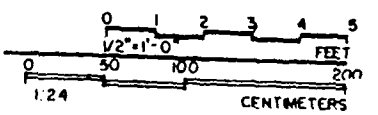
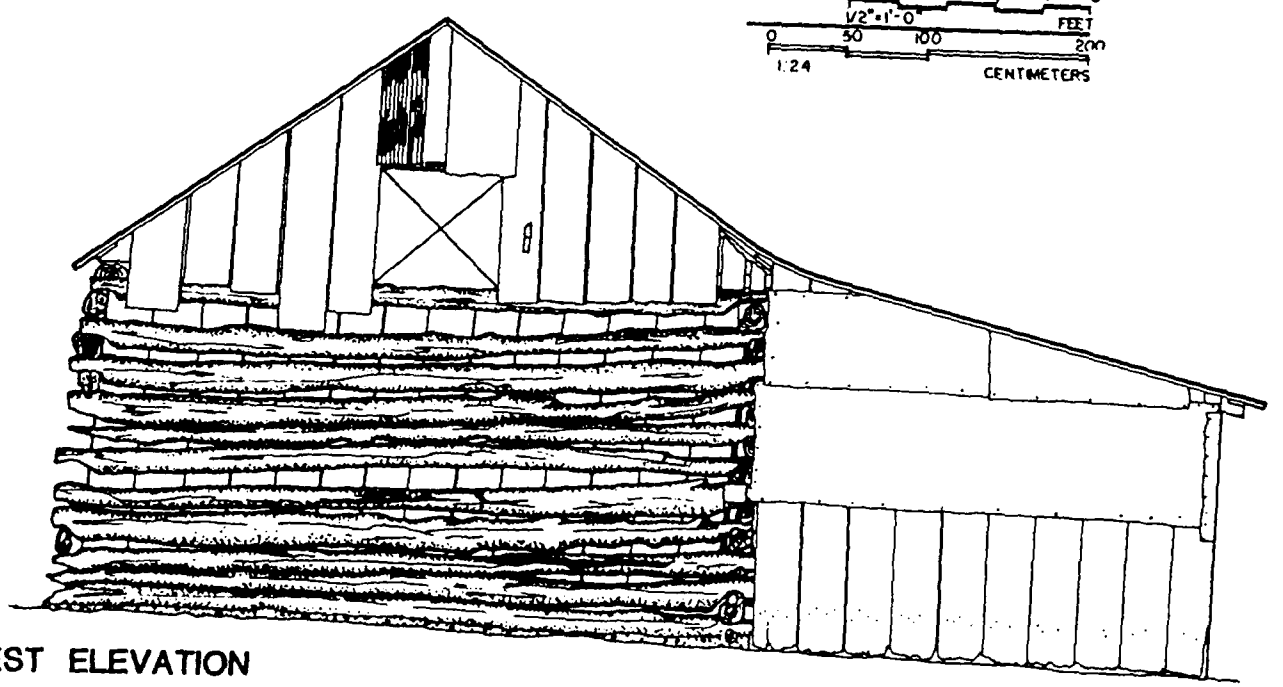


Figure 8-14a. Plan view of the small log barn (no. 10 on Figure 8-3). HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-1984.



SOUTH ELEVATION





WEST ELEVATION

Figure 8-14b. Elevations of the small log barn, shed, and stabling wings (HABS drawings by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

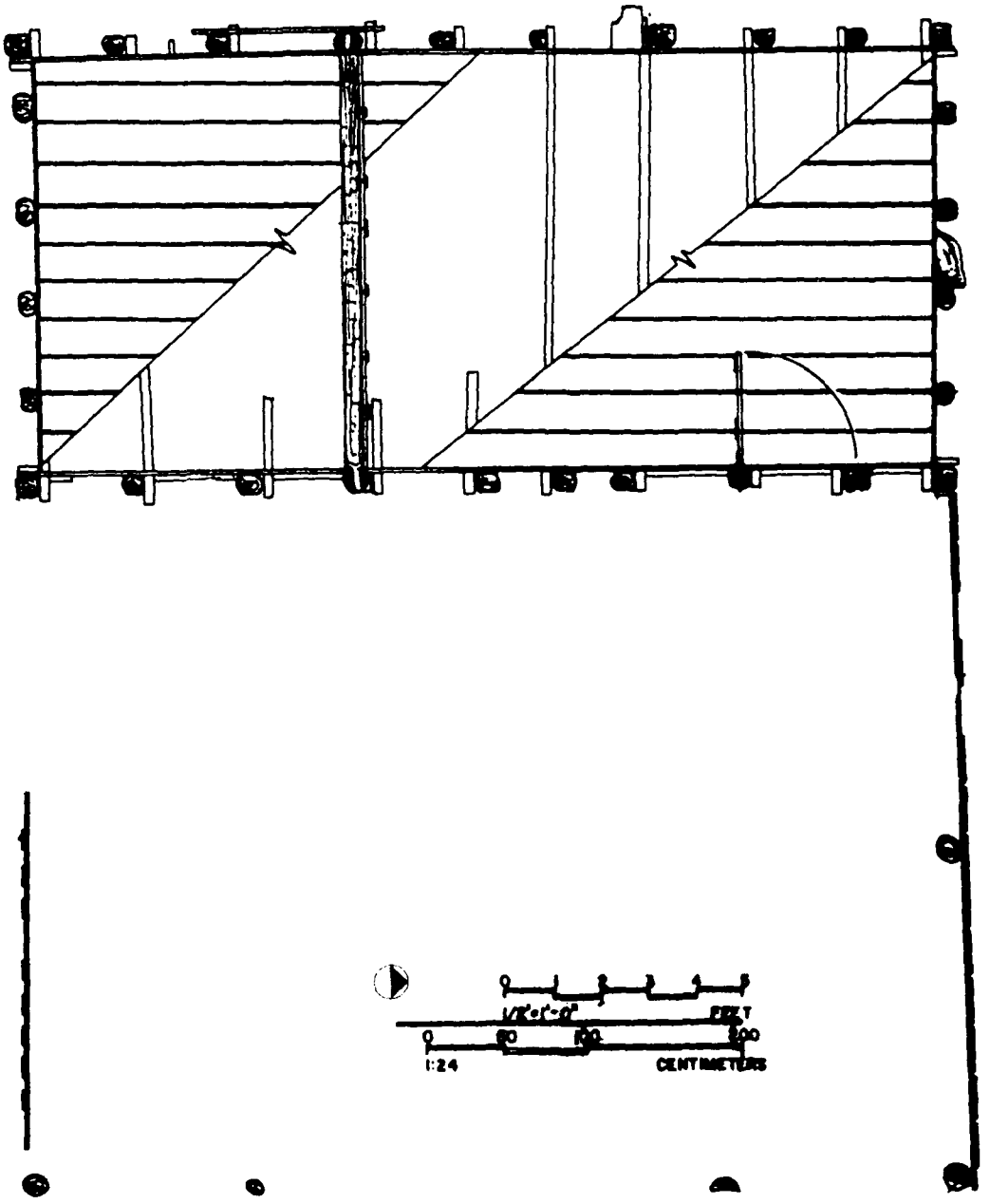


Figure 8-15a. Plan view of the north granary (no. 11 on Figure 8-3) HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

domestic component in the 1876 house area which was occupied from the 1870s to 1975; (3) an early twentieth century domestic component associated with the day laborer's house; and (4) very sparse deposits in all outbuildings including the north and south granary, in the fenced enclosure around the small crib and large double crib barns, and the 1918 barn. In addition, three features were identified, including two trash deposits, and a collapsed root cellar in the 1859 house area, and a buried portion of a wall or floor in a unit located about 12 m behind the 1876 house.

The second phase was directed towards recovering a larger sample of the sheet refuse using a 4 m grid in the 1859 and 1876 house areas. This work also focused on providing an opportunity for public participation in an archaeological investigation which was accomplished under joint sponsorship by Southern Methodist University and the U.S. Army Corps of Engineers. An open house and public excavation was held at the Penn farmstead on May 10 - 12, 1985, and was followed up by additional public excavations on May 17 - 18.

The third phase focused on examining the architectural debris deposited under the 1876 house when it burned to the ground, and intensive investigation of specialized features in the 1859 house area (two trash deposits and the collapsed root cellar).

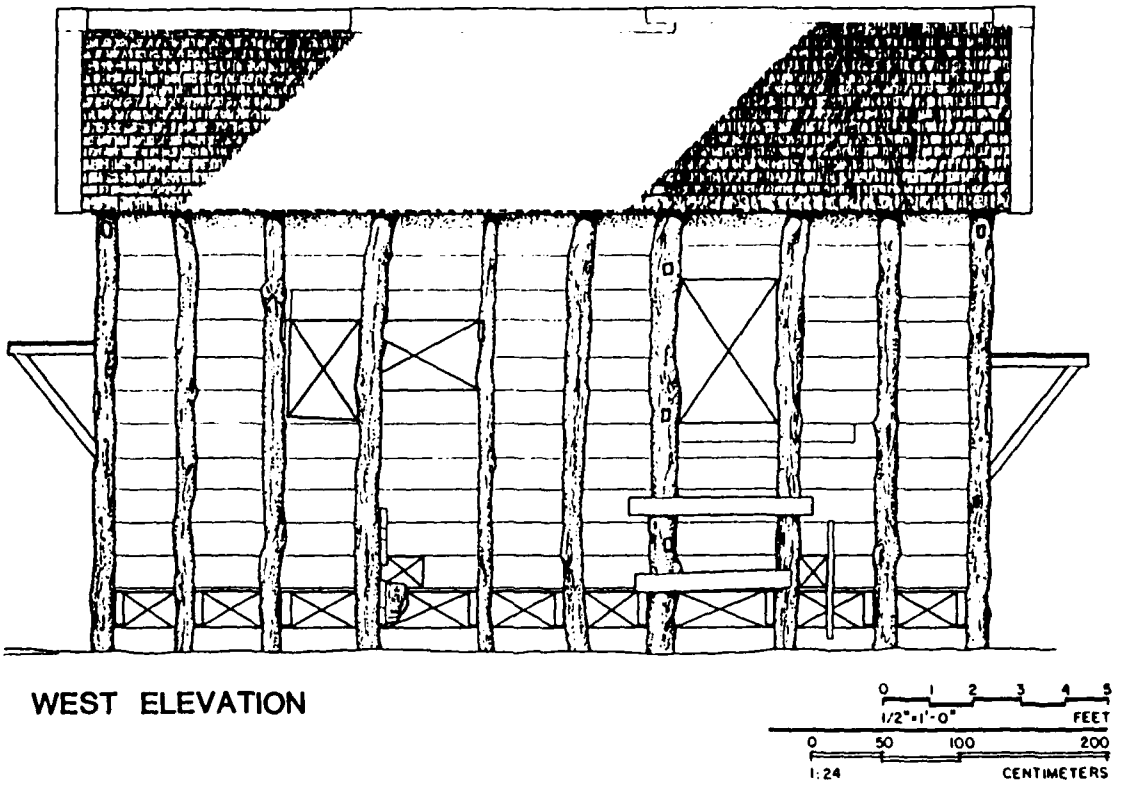


Figure 8-15b. Northwest elevation of the north granary (HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-1984).

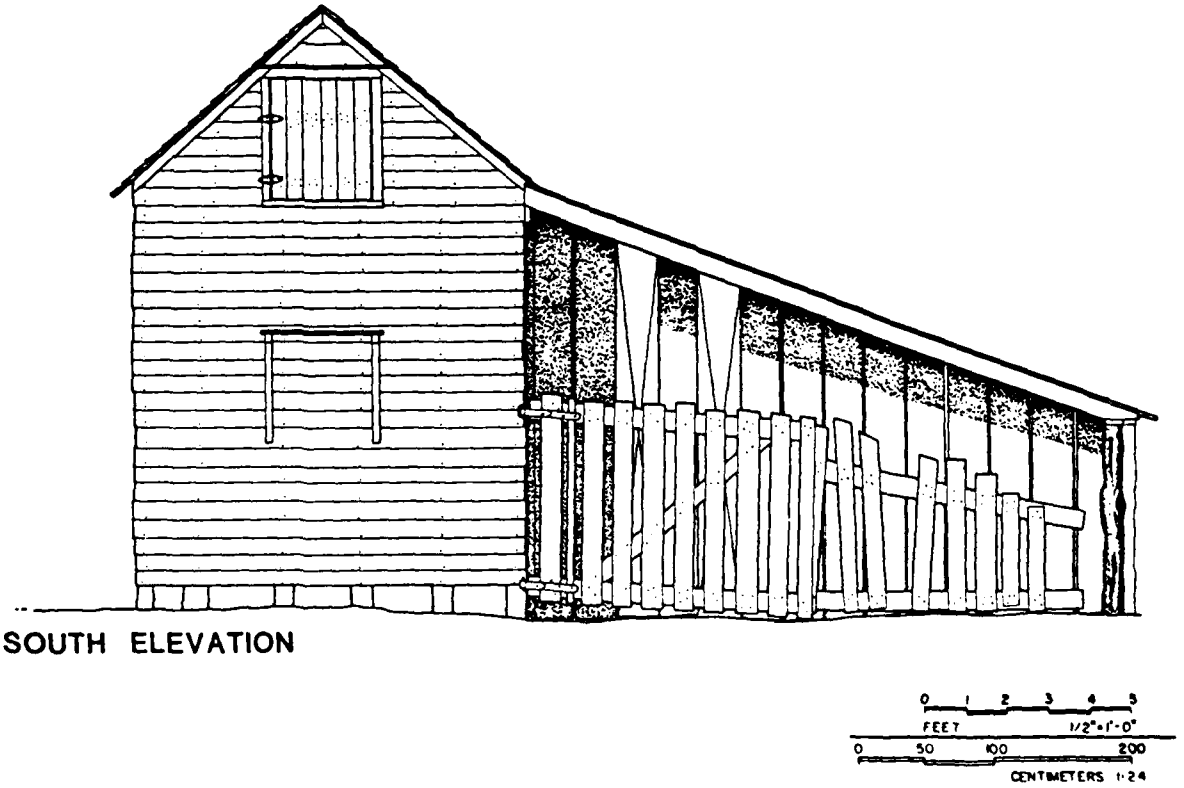


Figure 8-15c. South elevation of the stabling wing and north granary. (HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-1984.).



Figure 8-16a. Photograph of the east side of the original Penn house built in 1859.

Mitigation fieldwork consumed 143 person days, including 63 person days devoted to the open house and public excavation. A total of 226 50 x 50 cm units were hand excavated yielding 5,891 artifacts. A total of 14 person days were spent excavating Feature 1, yielding 6,840 artifacts. A total of 4.5 person days were spent excavating Feature 3, yielding 3,371 artifacts. Eight person days were expended excavating units under the 1876 house and recovering 2,817 artifacts.

SOIL FORMATION AND CULTURAL DEPOSITION

The soil at 41DL192 is a silty Ellis clay located on an eroding terrace. This landform is a series of benches along the face of the Chalk Rock escarpment. This topographic setting was selected by several prominent landowners for homesites, including N. B. Anderson, Phillip Rape, and John W. Penn, due to the high agricultural productivity and landscape aesthetics. The A soil horizon is very shallow and generally is less than 20-30 cm thick. The B horizon is considerably more clayey and contains weathered limestone. The cultural deposits at 41DL192 generally did not extend more than 2-3 cm into the B horizon except where deep intrusive features had been excavated (e.g., Feature 1). Rodent disturbances were concentrated in units that contained loose soil, near trees with major root systems, or within discrete features that penetrated the B horizon (e.g., Features 1 and 3). Artifacts were found to a depth of 25 cm in the major sheet refuse middens, with most occurring above 20 cm, and appeared to correlate with contact with the B horizon. In addition, while the artifact density was lower in the sheet refuse midden than at smaller landowner and tenant sites in the Project area, it was also larger in size. This relationship between landowner status, midden size and density was documented for the Richland Creek Project area, 80 miles southeast of Joe Pool Lake (Jurney and Moir 1987; Moir and Jurney 1987a).

ARTIFACT ASSEMBLAGE

Considerable variability was evident in the frequency and distribution of major artifact categories between the assemblages recovered from the sheet refuse midden, units located under the 1876 house, as well as specialized features (Table 8-2). The sheet refuse midden in the 1859 house area contained a relatively higher density of artifacts than the 1876 house area. A total of 40 units was excavated on a 4 m grid around the 1859 house which resulted in the recovery of 2,681 artifacts, while only 2,878 artifacts were recovered in 135 units on a 4 m grid in the 1876 house area. Lower densities were recorded for the day laborer's house, and all major outbuildings. Certain artifact categories dominated various site areas (Table 8-2) and the major trends produced by the SPSS analysis will be discussed below.

CERAMICS

Ceramics were relatively low density throughout all domestic areas of the site. Due to a low artifact total, ceramics were over represented in the 1918 barn. Generally ceramics were infrequent in outbuilding areas. No ceramics were recovered under the 1876 house. The greatest concentration of ceramics (5.1%) was the fill of Feature 3, the most recent cellar in the older section of

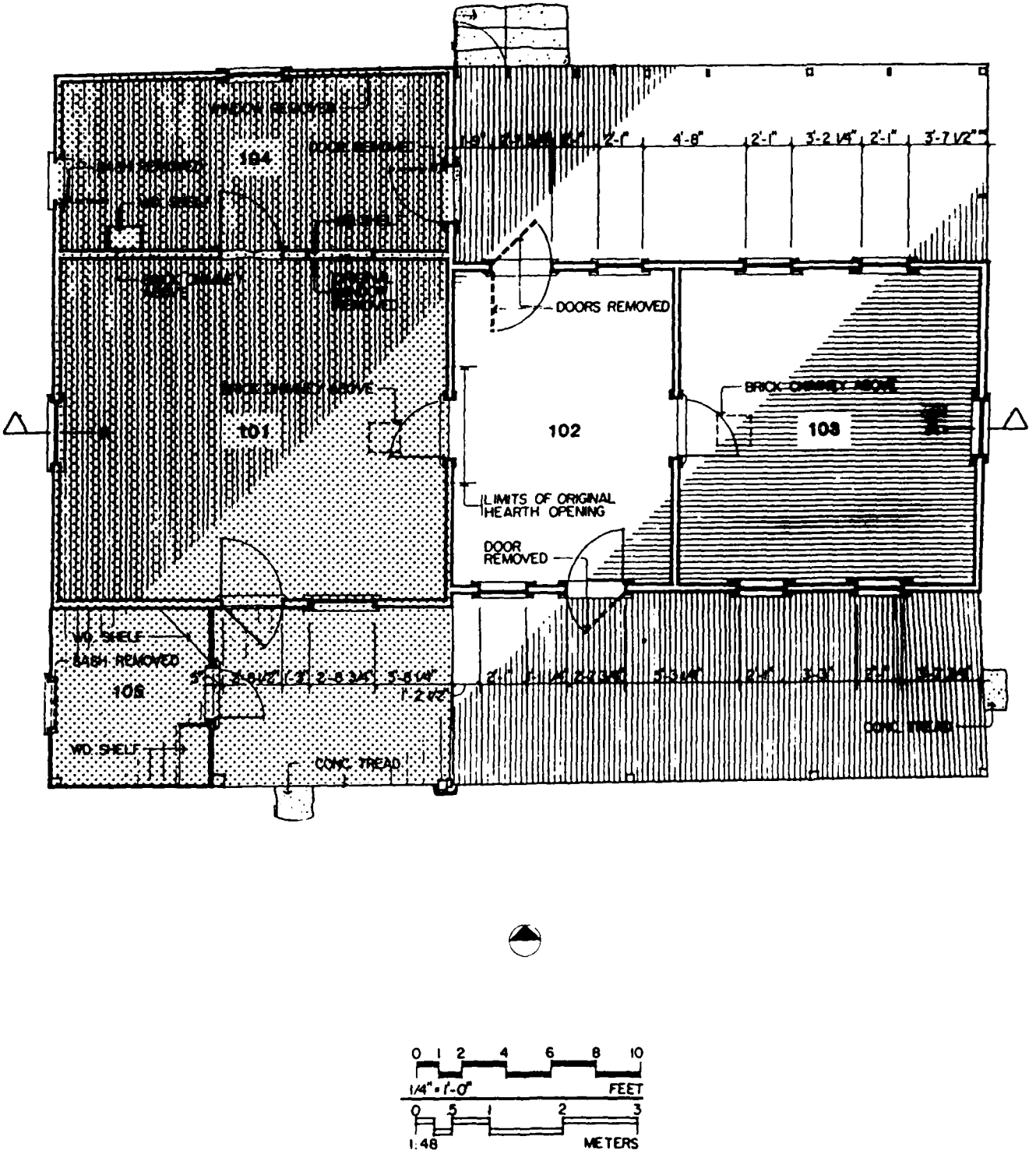
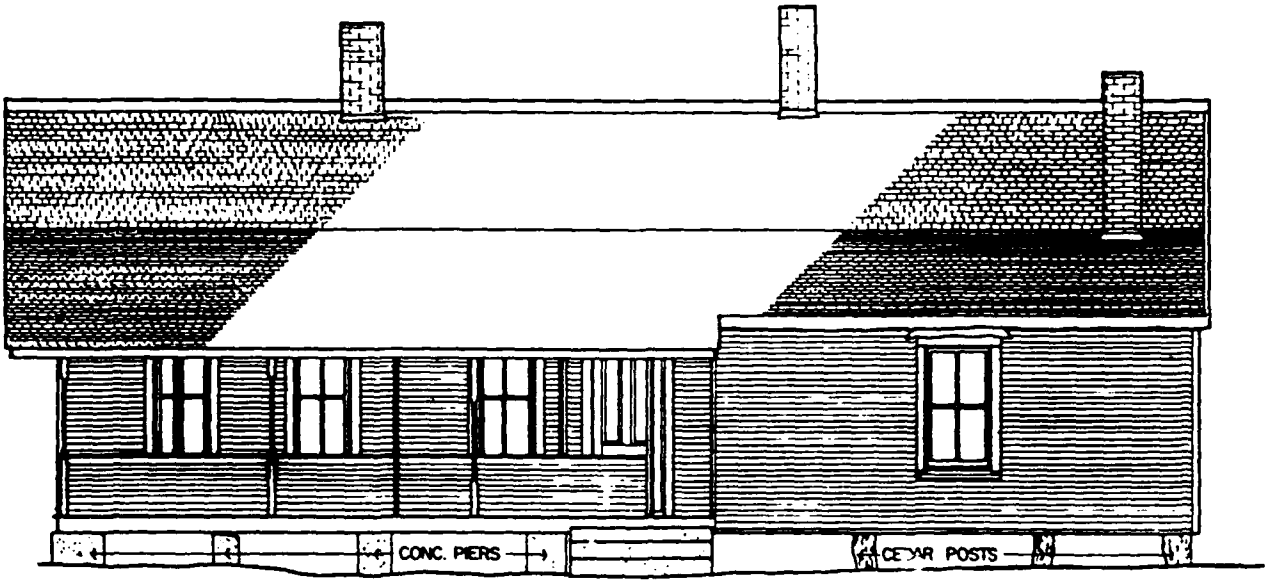


Figure 8-16b. Plan view of the original (1859) Penn house (no. 13 on Figure 8-3) also showing the 1911 central hall addition. (HABS drawing by Stan Solamillo and Matt Karpenko for Environmental Consultants, Inc. 1982-1984.)



SOUTH ELEVATION



NORTH ELEVATION

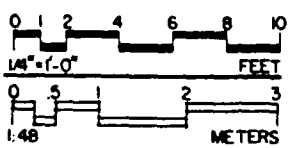


Figure 8-16c. North and south elevations of the 1859 Penn house (HABS drawings by Tom Shaw for Environmental Consultants, Inc. 1982-1984).

Table 8-3
BOTTLE GLASS ASSEMBLAGE FROM THE PENN FARMSTEAD

	1859 SR		Feature 1		Feature 3		1876 House and Daylaborer's House		Entire Site 4 m Grid	
	N	%	N	%	N	%	N	%	N	%
Color										
Clear	300	52.8	947	81.0	474	58.6	282	57.0	622	59.3
Manganese	63	11.1	10	<1	89	10.1	47	9.5	95	9.1
Medium Olive	11	1.9	3	<1	13	1.4	2	<1	10	1.0
Emerald Green			20	1.7	1	<1			29	2.8
Light Green	13	2.3	2	<1	8	<1	17	3.4	29	2.8
Aqua	75	13.2	113	9.7	154	17.4	98	19.8	143	13.6
Dark Blue	7	1.2			17	1.9	10	2.0	12	1.1
Brown	58	10.0	50	4.2	77	8.7	15	3.0	69	6.6
Translucent Milk	1	<1	1	<1	3	<1	1	<1	1	<1
Light Purple	11	1.9			2	<1				
Opaque White	8	1.4	8	<1	20	2.3	2	<1	14	1.3
Light Brown	17	3.0			13	1.5	8	1.6	23	2.2
Other	4	<1	15	1.3	13	1.5	13	2.6	31	2.9
Total		568		1169		884		495		1078
Decoration										
Plain	538	94.7	1166	99.9	815	92.2	459	92.7	998	95.1
Relief	20	3.5	<1	35	4.0	20	4.0	31	3.0	
Maker's Mark	10	1.8	3	<1	34	3.8	14	2.8	19	1.8
Corrugated							2	<1	1	<1
Diagnostic Attributes										
None	548	96.5	1129	96.6	805	91.1	470	94.9	1015	96.8
Owens Ring	1	<1	8	<1	3	<1	2	<1	3	<1
Valve Mark			2	<1	1	<1				
Machine Lip/Base	5	<1	7	<1	20	2.3	6	1.2	10	1.0
Post Bottom Plate	1	<1			2	<1	1	<1		
Other	13	2.2	23	2.0	53	5.9	16	3.2	21	2.0

the site. This deposit was associated with the 1930s tenant occupation of the old Penn home.

The ceramic types were homogeneously distributed across the Penn farm (see Table 8-4). Pure white whitewares and light blue tinted whitewares comprised over 60% of all site area assemblages. The most evident trend was toward a 90% dominance of pure white whitewares in Feature 1, indicative of the recent age of the fill.

Undecorated ceramics comprised over 80% of all assemblages, except Feature 1, with 57% undecorated. Traces of floral decalcomania were found in all assemblages except Feature 1 (4.7%) and the 1876 and day laborer's houses (4.3%). Relief molding was most common in the 1859 sheet refuse.

In terms of vessel shape, most sherds (80%) were not diagnostic. In Feature 1 however, 40% were identifiable to vessel type. Here, 28% of all sherds (n = 172) were flatware (dishes, saucers). This trend reflects the idiosyncratic pattern of refuse disposal in this refilled cellar.

The mean ceramic beginning dates derived from all four assemblages were remarkably similar among components. The 4 m grid for the entire site provided an 1881 date. Dates of 1880 were obtained from 1859 sheet refuse and the 1876 and day laborer's houses. Again, the trend for Feature 1 reveals more recent artifact types, with an 1889 date.

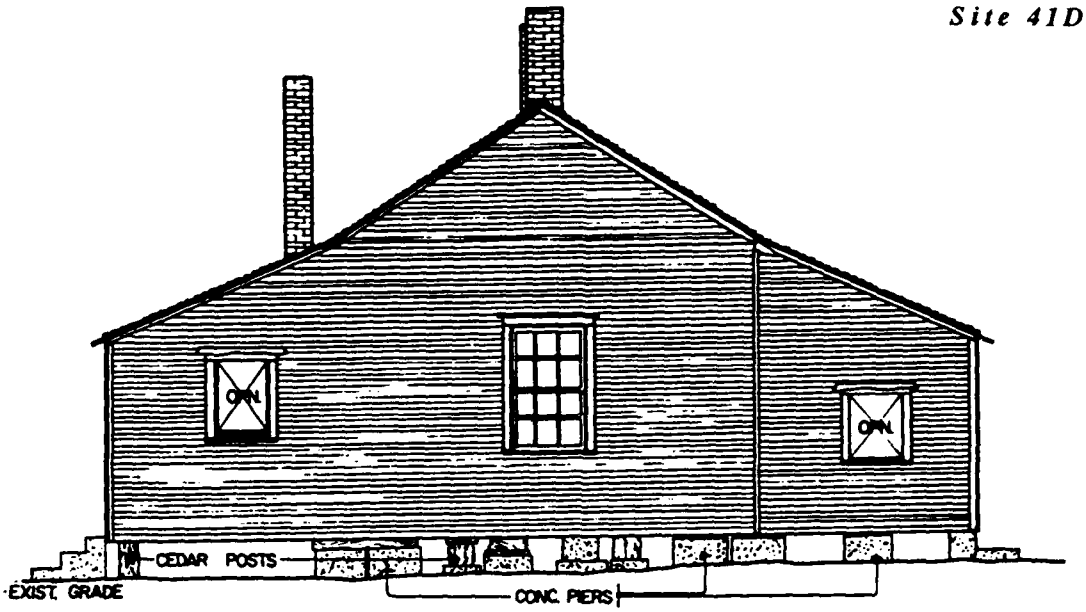
VESSEL GLASS

Bottle glass comprised the dominant artifact category (total assemblage) in three major areas of the site: the 1859 sheet refuse (21.7%), Feature 1 (14.3%), and Feature 3 (34.8%). The sheet refuse around the 1876 house consisted of surprisingly low counts of bottle glass (8.8% sheet refuse, 8.4% house, 7.3% day laborer's house). The nature of the tenant occupation in the old house is clearly oriented toward purchase of commercial beverages and home canning. The Andy Penn occupation either practiced refuse disposal away from the active yard (possibly removal from the site) or reflects a lower rate of consumption of material goods.

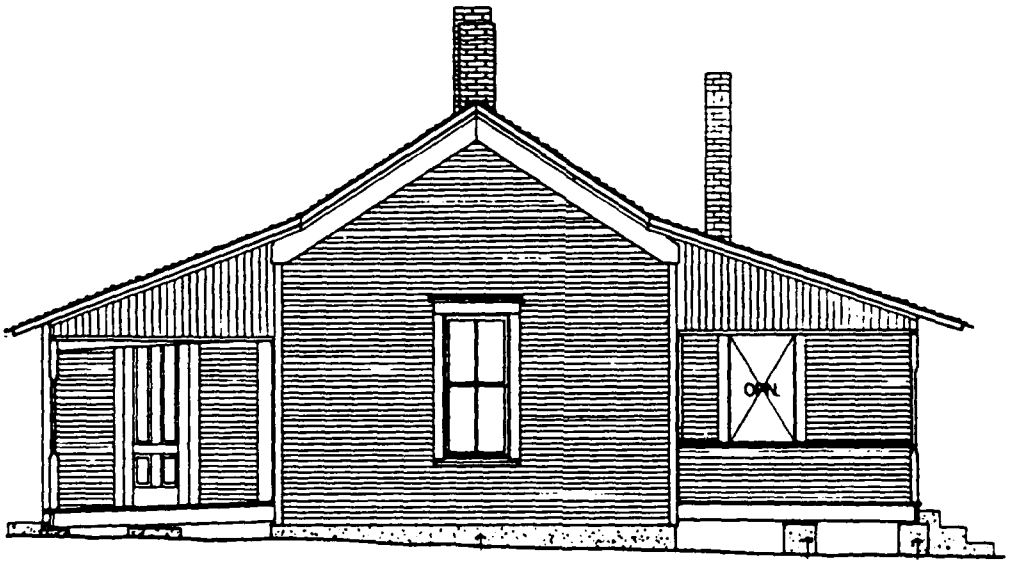
Diagnostic attributes of bottle glass show an uneven distribution across the Penn farm (Table 8-3). Older (manganese decolorized) sherds comprise moderate percentages of each site component, excepting Feature 1. Manganese sherds ranged from 9.5% in the 1876 and day laborer's houses, to 10.1% in Feature 3, to 11.1% in the 1859 sheet refuse.

Clear glass comprises 81% of the assemblage in Feature 1, again indicative of recent material culture. In other site areas, clear glass frequencies range from a low of 53% in 1859 sheet refuse, to 57% in the 1876 and day laborer's houses, to 59% in Feature 3.

Aqua colored sherds comprised the dominant color in all site areas. Aqua sherds ranged from a low in



WEST ELEVATION



EAST ELEVATION

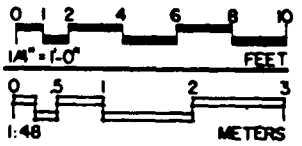


Figure 8-16d. Gable elevations of the 1859 Penn house. (HABS drawings by Tom Shaw for Environmental Consultants, Inc. 1982-1984.)

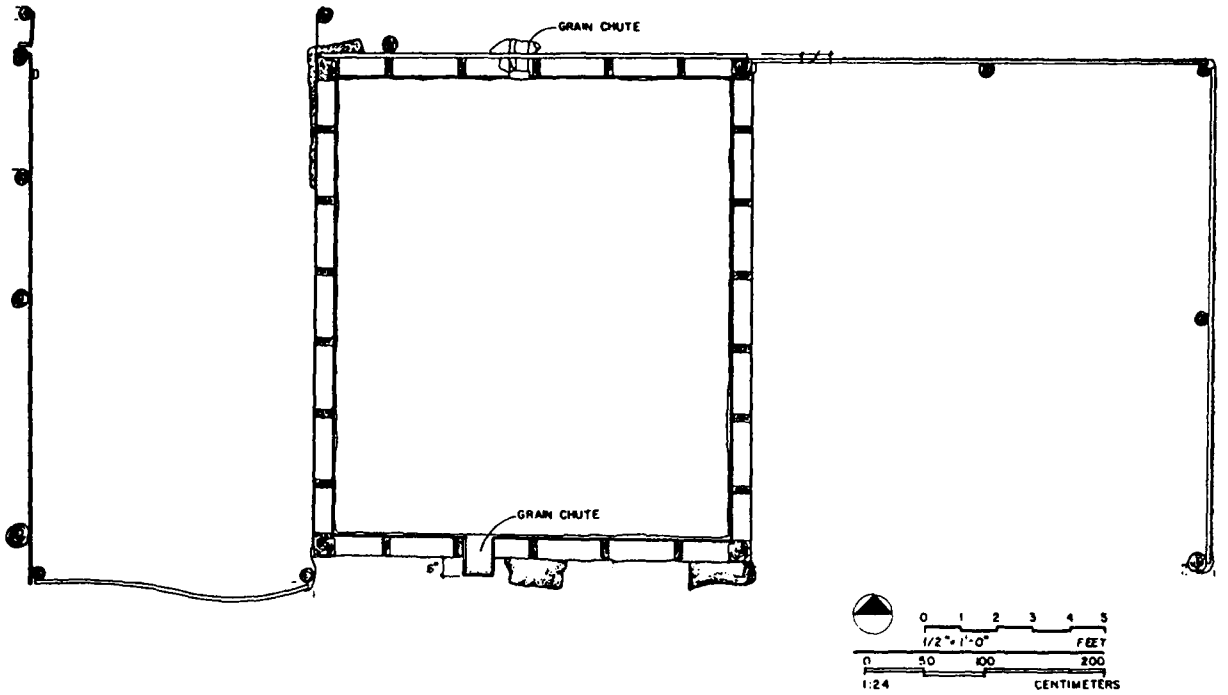


Figure 8-17. Plan view of the 1874 south granary (no. 14 on Figure 8-3). (HABS drawing by Will E. Alexander for Environmental Consultants, Inc. 1982-1984.)

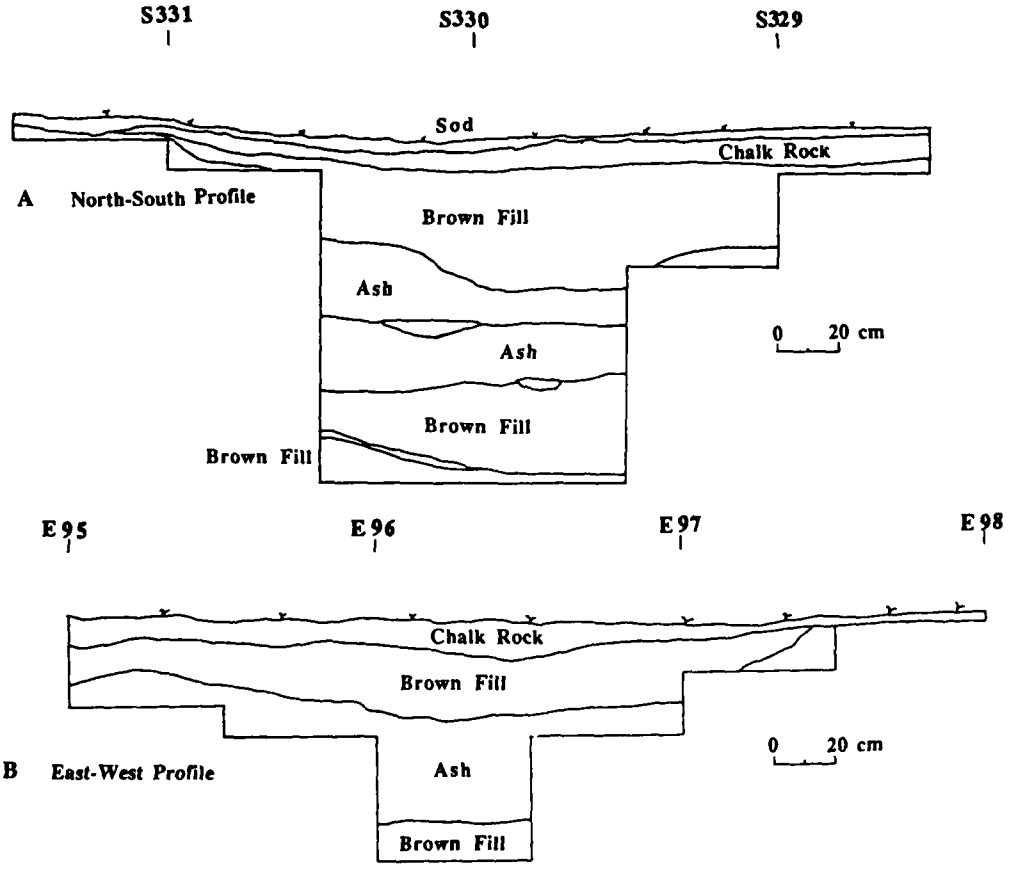


Figure 8-18. Hand excavated trenches through Feature 1 showing the north - south profile (a) and the east - west profile (b). Strata included whole bottles, tools, faunal remains, and other artifacts mixed with ashes and soil.

Table 8-4
CERAMIC ASSEMBLAGE FROM THE PENN FARMSTEAD

	1859 SR		Feature 1		1876 House and Daylaborer's House		Entire Site 4 m Grid	
	N	%	N	%	N	%	N	%
Refined EarthenwareType								
Ironstone WW	5	4.0			1	1.1	6	2.7
Blue Tint Vitrified WW	18	14.3			2	2.1	2	<1
Blue Tint NonVitrified WW					16	17.0	34	15.5
Light Blue Tint WW	33	26.2	13	7.6	22	23.4	49	22.3
Pure White WW	56	44.4	152	88.4	40	42.6	106	48.2
Light Ivory Tinted WW	6	4.8	7	4.1	6	6.4	11	5.0
Other	3	2.4			7	7.4	4	1.8
Unknown (burned)	5	4.0					7	3.7
Total	126		172		94		220	
Decoration								
None	107	84.1	98	57.0	84	89.4	190	86.4
Floral Decalcomania	1	<1	8	4.7	4	4.3	5	2.3
Relief Molded	9	7.1					9	4.1
Gilded			29	16.9				
Hand Painted	1	<1					1	<1
Transfer Printed	4	3.2			3	3.2	5	2.3
Other	4	3.2	37	21.5	3	3.3	10	4.5
Mean Beginning Dates	1880		1889		1880		1881	

Feature 1 (9.7%) to a high in the 1876 and day laborer's houses. Feature 3 contained 17.4%. The 1859 sheet refuse contained 13.2% aqua sherds.

Other colors exhibited few trends among the site components. Brown glass was the fourth most frequent color in all site areas. White, light brown, milk, blues, and reds were scattered across the site.

ARCHITECTURE

Architectural items were dominant in barn and outbuilding areas, where other types of material culture were not. Brick, nails, and window glass were the dominant architectural items in all areas except the day laborer's house, where mortar and roofing materials comprised 60% of the entire assemblage. Nails were the dominant artifact class in the 1859 sheet refuse (20%), Feature 1 (15%), the 1876 sheet refuse (20%), under the 1876 house (36%), the 1918 barn (68%), and the north granary (46%). Brick remains were dominant in the 1876 sheet refuse (19%), 1876 house (13%), and day laborer's house (13%). Window glass was encountered in significant amounts only in the 1859 sheet refuse (18%).

Due to the use of transitional pressed brick and the in situ burning of the 1876 house, brick and nails comprised, respectively, 40% and 49%. Nails and window glass together comprised 38% of the 1859 sheet refuse.

NAILS

The nail assemblage relates to the extant architecture and reflects certain aspects of past construction and remodeling episodes. The distribution of cut and wire nails by size (length in cm) brackets (Table 8-5) indicates nail rains originating from structures in the 1859 sheet refuse, Feature 3, and the 1876 sheet refuse. Cut and wire nails reflect similar size percentages only in the 1859 sheet refuse. Roofing nails, sizes 3.2 and 3.8 cm, general construction (framing, siding) sizes 5.8 cm, and heavy framing 6.3 cm dominate for both cut and wire nails in the 1859 sheet refuse, yet only for wire nails in Feature 3 and the 1876 sheet refuse.

The burned 1876 house nail rain was composed of heavy construction cut nail sizes 5.6, 6.3, and 7.0 cm for the original braced frame core to the dwelling. Wire nails dominate in roofing and light siding sizes 3.8, 4.4, and 3.2 cm. This suggests that the original roof of the central hall core may have been partially removed when Andy Penn remodeled the dwelling. The room he added did not require large nail sizes, generally using the original mortise and tenon core structure for weight bearing, in addition to the linear concrete foundations.

The ratios of cut to wire nails indicate relative chronological trends at the Penn farm. In terms of the total site assemblage, 41DL192 is the oldest in the entire Project area. Within the Penn site, the burned remains of the 1876 house show a dominance of cut nails. Due to remodeling, the 1859 area does not contain a relatively greater number of cut nails commensurate with its actual age. The north granary exhibits dominance of cut nails, the third oldest component of the site (see Chapter 24). The 1918 barn is the most recent.

WINDOW GLASS

The window glass assemblage reveals a chronologi-

Table 8-5
SIZES OF WHOLE MACHINE CUT AND WHOLE WIRE NAIL FROM THE PENN SITE[2]

	1859 SR				Feature 1				Feature 3				1876 SR				1876 House			
	Cut		Wire		Cut		Wire		Cut		Wire		Cut		Wire		Cut		Wire	
cm[1]	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1.0			1	.5			1	.2			1	.8								
1.4			1	.5																
1.9	3	3.1	3	1.6	1	1.0	6	1.4			2	1.6					4	1.4		
2.5	2	2.1	2	1.1	8	8.1	17	3.9			2	1.6	5	10.2	2	5.4	4	1.3	15	5.2
3.2	20	10.6	50	27.0	13	13.1	97	22.1	3	17.6	14	11.0	14	28.6	16	43.2	14	4.4	44	15.2
3.8	20	20.6	20	10.8	47	47.5	81	18.5	10	58.8	16	12.6	8	16.3			5	1.6	71	24.6
4.4	5	5.2	22	11.9	3	3.0	69	15.8	1	5.9	8	6.3			2	5.4	8	2.5	64	22.1
5.1	9	9.3	26	14.1	6	6.1	55	12.6	1	5.9	36	28.3	9	18.4	4	10.8	76	24.1	24	8.3
5.7	9	9.3	5	2.7	2	2.0	7	1.6			1	.8	1	2.0	3	8.1				
6.3	16	16.5	27	14.6	7	7.1	49	11.2	1	5.9	22	17.3	3	6.1	7	18.9	72	22.8	38	13.1
7.0	5	5.2	9	4.9	7	7.1	24	5.5	1	5.9	8	6.3	3	6.1	1	2.7	88	27.8	10	3.5
7.6	3	3.1	7	3.8	1	1.0	8	1.8			2	1.6	3	6.1	1	2.7	23	7.3	13	4.5
8.3	5	5.2	2	1.1			11	2.5			5	3.9	1	2.0	16	5.1	1	.3		
8.9			1	.5	1	1.0	5	1.1			2	1.6					4	1.4		
9.5			4	2.2			2	.5			6	4.7					1	.3		
10.2			2	1.1	1	1.0	3	.7					2	4.1						
10.8			3	1.6							1	.8								
11.4					1	1.0	1	.2									8	2.5		
12.7							1	.2			1	.8					1	.3		
13.9																	1	.3		
15.9							1	.2												
16.5					1	1.0														

[1] No nails smaller than 0.7 centimeters; this size pertains only to tacks.

[2] Daylaborer's House yielded 8 nails. These were one cut (7.6 cm) nail and seven wire nails: 2 (3.2 cm), 2 (5.1 cm), 1 (6.3 cm), 1 (8.3 cm), and 1 (8.9cm).

cal trend which indicates that the 1859 sheet refuse is oldest, the 1876 sheet refuse intermediate, and Feature 3 the most recent. Feature 1, with more recent material in other artifact categories, contains thin window glass similar to the 1859 sheet refuse. This may be due to extensive late nineteenth century remodeling of the 1859 dwelling or the 1911 enlargement into the present central hall.

In terms of primary window glass thickness modes (Table 8-6), 43% of the 1859 sheet refuse was 2.0 and 2.4 mm panes, with lesser modes at 1.8 and 2.5 mm. In Feature 1, 47% of the sherds were 2.0, 2.2, and 2.4 mm. In Feature 3, 58% of the sherds were 2.3, 2.5, and 2.8 mm. In contrast, the 1876 house exhibited a bimodal distribution. A total of 56% of this assemblage was 1.7 and 2.4 mm, with the thicker glass comprising 35% of the total.

OTHER REMAINS

The remaining artifact categories (clothing items, toys, personal, faunal/floral, tools, firearms, stable gear, and electrical parts) comprised less than 20% of each of the areas of the Penn farm. For example, "other architecture" made up 60% of the day laborer's house assemblage which totaled 179 artifacts. In general, the most prominent artifact of all low density items is thin metal in the Feature 1 fill (26%) and Feature 3 (26%). This is evidence of recent twentieth century dumping of tin cans. Firearms, primarily spent shells, were most common in the 1876 sheet refuse (13%).

Faunal remains consist of 15 distinct species. Domestic cattle and swine dominated, followed by chicken (including eggshells). Also, due to the standing buildings which attract raptors, owl pellets containing rodent bones contributed greatly to the non-food fauna. Prairie fowl, small mammals, and the passenger pigeon round out the faunal assemblage.

Heavy iron items at the north granary indicate equipment storage/repair. Thin metal survived better in the pit feature fills of Feature 1 and Feature 3. This indicates that metal survives corrosion better when deposited by rapid burial. Generally, sheet refuse areas undergo slower burial rates, with longer exposure of metal, creating lesser artifact counts in these areas.

FEATURES

Two features, Features 1 and 3 (dense trash deposits), associated with occupations of the original (1859) house area were intensively investigated. A third feature was documented in the 1876 house, and appeared to be a section of buried planking (Feature 2). Each of these features are discussed below.

FEATURE 1

Feature 1 was a dense trash deposit in an old cellar which contained cultural material derived from the tenant occupation of the 1859 house dating from the late 1880s to the mid-1890s. The cellar may have been initially constructed in the 1870s - 1880s. This feature

Table 8-6
WINDOW GLASS ASSEMBLAGE FROM THE PENN SITE

Fragment Size (*mm*)	1859 House[1] N	%	Feature 1 N	%	Feature 3 N	%	1876 Yard N	%	1876 House N	%
not measured							2	2.1	3	13.4
1.2	1	.2								
1.3	3	.6			1	<1			1	4.3
1.4	9	1.9	3	.5			1		1	4.3
1.5	24	4.9	1	.2						
1.6	7	1.4	37	6.6			11		3	13.4
1.7	14	2.9	29	5.1			3	3.1	5	21.7
1.8	39	8.0	53	9.4	5	3.1	8	8.2		
1.9	19	3.9	14	2.5	1	<1	6	6.2	1	4.3
2.0	104	21.4	112	19.9	15	9.2	23	23.7		
2.1	40	8.2	54	9.6	11	6.7	3	3.1		
2.2	42	8.6	67	11.9	9	5.5	15	15.5	2	8.7
2.3	17	3.5	16	2.8	39	24.1	9	9.3		
2.4	106	21.8	95	16.8	2	1.2	10	10.3	8	34.8
2.5	31	6.4	10	1.8	31	19.1	2	2.1		
2.6	12	2.5	22	3.9	12	7.4	6	6.2		
2.7	2	.4	3	.5	8	4.9				
2.8	10	2.1	33	5.9	18	11.1				
2.9	2	.4	4	.7						
3.0	3	.6	10	1.8	4	2.5	1	<1		
3.1	1	.2			3	1.8				
3.2			1	.2	1	<1				
>3.3	2				2	1.2				
Total	488		564		162		97		23	

was initially encountered in a 50 × 50 cm unit (S328 E96). Additional 50 × 50 cm units were excavated to form two perpendicular transects (one oriented north - south, and the other, east - west), that yielded data on the horizontal extent of the feature. These units revealed that the pit measured approximately 3 m in diameter along both transects. Two units were excavated to sterile near the center of the feature, indicating that the cellar fill extended 120 cm below surface. In addition, units located near the edges of each transect indicated that the earthen sides sloped inward at the bottom. The size and volume of Feature 1, the earthen sides, and the sequential filling episodes are identical to other cellar characteristics in the Joe Pool Lake (i.e., 41DL190, 41DL267, 41DL268, 41TR40, 41TR42). Although the walls of this feature were not completely excavated, the most logical interpretation of this feature's function is that it was initially a root cellar.

Alternating bands of ash and soil were evident in the fill, and nine strata reflecting filling episodes were identified (Figure 8-18). No stratigraphy was evident in the feature. Material deposited in its lower portion dated to the same period as the upper most strata. These data indicate that the feature was filled in very rapidly, over perhaps a 2 to 5 year period. Rodents have completely tunneled along strata surfaces, reaching the bottom of the original excavation into the chalk rock.

Nails accounted for the highest percentage of the architectural remains (see Table 8-2 and 8-5), and included 360 machine cut, 640 wire, and 31 unidentifiable broken nails. A breakdown of nail sizes indicated that machine cut nails (n = 360) ranged from 1.9 cm to 16.5 cm, with major peaks at 3.8 cm (47.5%), 3.2 cm (13%), and 2.5 cm (8.1%), respectively. Wire nails (n = 640) ranged in size from 1.0 cm to 15.9 cm, with major peaks at 3.2 cm (22%), 3.8 cm (18.5%), 4.4 cm (15.8%), and 5.1 cm (12.6%), respectively.

A total of 566 window glass sherds (Table 8-6) were recovered which ranged in thickness from 1.4 mm to 3.2 mm, and had a mean thickness value of 2.15 mm. A total of 28 brick fragments were recovered and included 13 handmade and 15 machine made pieces. Other architectural remains included 25 staples and screws, 51 cement and mortar fragments, three pieces of corrugated iron, one board, one metal fixture part, two corrugated nails, and 297 wire fragments.

A breakdown of the bottle glass by sherd color (Table 8-4) indicated that clear glass sherds accounted for 81% of the assemblage, followed by aqua sherds (9.7%), and brown sherds (4.2%). The feature fill contained both applied string rim and non-applied turn molded lip finishes. Major lip types included brandy, prescription, and packer's varieties. Base fragments included primarily snap case and post bottom plate technologies. Olive green liquor bottles were represented by one complete three-piece mold, with three fragments from three medium olive bottles. Snuff bottles were poorly represented, and included three chamfered corner bottles. Fruit jar sherds and inset caps were recovered from the sheet refuse above the feature, and at the top of the fill.

Table glass sherds accounted for only 2.1% of the vessel glass assemblage, and included primarily plain (90%) or pressed (7.5%) fragments. On the other hand, lamp glass accounted for 13% of the glass assemblage, and included plain, ground, and hobnob varieties.

The refined earthenware assemblage consisted of late nineteenth and early twentieth century sherds which included both plain and early decalcomania decorated sherds. These latter sherds included floral decalcomania underglaze patterns (the highest of all the Penn farm components), some of which were also handwashed under the glaze. The refined earthenwares from this feature are discussed in detail, along with those from other sites in Chapter 20. The stoneware assemblage also contained vessels which dated to the end of the nineteenth century, and included both late salt glaze, and natural clay slip glazed containers. These vessels are discussed more fully in Chapter 22.

Faunal and floral remains accounted for 3.9% of the feature fill, and were 1.2 times more frequent than in the sheet refuse, and 2.8 more than in Feature 3. Among these remains were domestic cattle (sawn) and swine (knife butchered and chopped) bones, chicken bones, and egg shells. These remains are discussed in greater detail in Chapter 25.

Personal items included 21 buttons, 57 jean buttons, 128 shoe and boot parts, and 22 other metal clothing fasteners. Thirteen porcelain doll and tea set pieces were found, along with 20 household items (e.g., electrical remains, stove parts, flatware, and furniture parts). Other metal items included wagon and machine parts, horse and stable gear, tools, and ammunition.

In summary, the cultural material recovered in Feature 1 along with the stratigraphic information indicated rapid deposition which extended at most over several years during the late 1880s and early 1890s. The original dwelling (1859 house) was occupied by tenants during this period. In general the fill of Feature 1 exhibits a mixture of late nineteenth century sheet refuse, large artifacts, and early twentieth century sheet refuse. Glass indicates a dominance of clear vessels. Ceramics are mostly twentieth century whitewares (88%), with the highest site percentage of floral decalcomania (4.7%). The ceramic mean beginning date is also the latest for the site (1889).

The nails (n = 1031) in Feature 1 are predominantly wire, yet with an inclusion of 3.8 cm cut nails (48%) that could be debris from the ca. 1911 remodeling of the old Penn house. These nails could be from light framing, roofing, or window casements.

The window glass also reflects remodeling evidence, in that the size modes are similar to the 1859 sheet refuse. This thin glass could be derived from the removal of windows in the original north and south outer walls of the three room old Penn home.

The large volume of Feature 1 can only match the volume of an earthen cellar, based on our overview of all Joe Pool Lake farmsteads containing similar features. Feature 1 was probably excavated in the 1870s-1880s, and was slowly abandoned in the 1890s. The terminal filling episodes were rapidly completed in the early 1900s, probably an event coincident with the 1911 remodeling of the old Penn home.

FEATURE 2

Feature 2 a buried section of wall or floor planking which was exposed in two 50 × 50 cm units (S155.5 E252 and S156 E252) behind the 1876 house. It appeared to be associated with a light frame shed which had burned. Several burned posts as well as smaller planking sections were recorded on the surface approximately 4 - 6 m to the west. The planking was exposed in both units between 8 to 10 cm below the surface, and covered the entire unit in S156 E252, and only the southern two-thirds of the unit at S155.5 E252. This feature did not extend into surrounding 50 × 50 cm units systematically spaced on a 4 m grid (with S156 E252), indicating that the structure covered less than 8 m^2. Artifacts found in association with this feature included architectural debris and sheet refuse material. Several machine cut nails were found *in situ* in the wood planking. Window glass and vessel glass fragments were also found.

FEATURE 3

Feature 3 consisted of a dense trash deposit filling an earthen cellar associated with the tenant occupation of the original (1859) house during the 1930s. This feature is located outside the U.S. Army Corps fence which surrounds the main farmstead complex, and was encountered while testing a large elliptical depression which appeared to be a collapsed storm cellar. Three 50 × 50 cm units were hand excavated on a north - south transect at S352, S356, and S360 E112. The units at S352 and S360 revealed evidence of a possible collapsed brick roof or piers for a wooden superstructure. The unit at S356 contained the densest portion of Feature 3, and was located in the center of the depression. The northern edge of the feature was encountered in S352 E112 which contained 112 artifacts.

Bottle glass sherds accounted for 34.8% of the assemblage, followed by tin can fragments (26.2%), architectural remains (15.0%), lamp glass (8.1%), and refined earthenware sherds(5.1%). The bottle glass contained only machine made bottles, and included primarily continuous threaded, crown, and cork lip finishes, and bases with Owens rings or valve marks. Major bottle types included *BALL, KERR, KERR SELF SEALING, AND KERR MASON* fruit jars, and patent medicine bottles. None of the maker's marks on the patent bottles were complete enough to specifically date, yet all machine made bottles indicate post 1920 dates. Inset caps included unmarked varieties, and one *GENIUNE ZINC CAP FOR BALL MASON* . Two clear crown soda bottles, and one bright green (1930s) soda bottle were found. One medium olive liquor bottle was included, along with several cobalt blue, and brown bottles. Among the brown bottle glass were one possible snuff fragment, one large beverage bottle with a brandy finish, and several beer and possible bleach bottles.

Table glass fragments included plain, milled, and pressed tumblers. Other table glass vessels were poorly represented. Lamp globe sherds were also represented, and included primarily clear fluted rim sherds. Plain, undecorated clear globe rims were poorly represented, while aqua globe fragments were not recovered.

Totals of 40 machine cut (20.5%) and 155 wire nails (79.5%) were recovered. Machine cut nails ranged in size from 3.2 cm to 7.0 cm, with a single major peak at 3.8 cm (58.8%), and a minor peak at 3.2 cm (17.6%). Wire nails ranged in size from 1.0 cm to 12.7 cm, with major peaks at 5.1 cm (28.3%), 6.3 cm (17.3%), and 3.8 cm (12.6%), all a more complete rain of nails typical of basic building construction. Comparisons of the frequency and nail sizes for machine cut and wire

nails recovered in Feature 1 with the sheet refuse midden in the 1859 house area reveal several patterns. First, the highest percentage of machine cut nails occurred in the sheet refuse (56%), and the lowest in Feature 3 (20.5%). Second, peaks in nail sizes differed for all three deposits. The 1859 sheet refuse contained typical structural nail rains for both cut and wire nails. Feature 3 contained an aberrant cut nail rain (3.8 cm) and a typical wire nail structural rain.

Window glass sherds (Table 8-6) ranged in thickness from 1.3 mm to 3.2 mm, with a mean of 2.405 mm. Two pieces of specialty flat glass were also recovered. Brick fragments included 19 handmade and 22 machine made pieces. No whole bricks were found. Other architectural remains included nine staples and screws, eight pieces of cement or mortar, 12 pieces, one tar paper fragment, one door hinge, four pieces of window screen, six pieces of plaster, and 80 pieces of wire.

Personal items included 28 buttons, and 13 other metal clothing fasteners, 14 double sided 72 RPM record fragments, one metal piece of a children's toy, one marble, seven metal purse fragments, one piece of jewelry, and three pencil fragments. Heavy metal remains comprised stove and furniture parts, tools, and wagon and machine parts, including a vehicle piston.

Feature 3 is a dense trash deposit which was deposited over several years during the 1930s. This feature is situated in the depression that formed when the roof of an abandoned root cellar associated with the 1859 house area collapsed. Bottle glass and tin cans accounted for the highest percentage of cultural material deposited in Feature 3. Tin cans were high density items due to excellent preservation by rapid burial.

SUMMARY

The Penn farmstead, contains intact archaeological and architectural representatives of farmstead evolution from the late 1850s to the 1970s. Investigations have shown that change, recycling of old buildings, and spatial rearrangement have characterized the John W. and Andy Penn occupations of the farm. A myriad of tenants and other family members lived in the old Penn house from the 1870s to the 1940s. Day laborers occupied the small dwelling near the prairie field east of the 1876 house. Thus, the archaeological deposits and structures themselves capture the effects of individual actions over the 120 years of site existence.

Architectural evidence reveals the co-occurrence of braced frame and horizontal log construction on the farm at a contemporaneous point in time (frontier Texas) during the initial site development. The double crib log barn was a major element of the initial farmstead. Elements which were recycled during the 1920s were from a mortise and tenon structure, and were cut at the same time as the logs for the double crib. The red cedar trees used in the construction of the old Penn home were fully hewn. Bark edges were present, but the trees were much younger than those in the double crib. The trees for the old dwelling were probably cut from a different stand of trees. The pine clapboard lumber was most likely imported from East Texas. The red cedar trees in the recycled log single pen in the 1918 barn were all fairly young and exhibited erratic ring growth. These were cut from an entirely different stand of trees.

During the second wave of building construction on the Penn farm, a variety of wood was used which exhibited different growth patterns and lumbering practices. The red cedars used in the north granary (mortise and tenon) were cut from disturbed stands of juvenile trees. These trees are similar in growth characteristics to those of the single crib barn. Both of these structures were probably built in the 1880s - 1890s. The south granary was cut from local bur oak forests, probably in the Trinity floodplain. Tree-ring dates indicate that the structure was built soon after April, 1874. Also during this period, the railroad first began shipment of large quantities of East Texas pine lumber. In 1876, John W. Penn purchased enough pine lumber for a large central hall dwelling, with large sills and mortise and tenon joinery. During the same period he purchased a school house, constructed of imported pine lumber (board and batten) and large sills hewn from local forests.

During the twentieth century, the emphasis on new construction concentrated on recycling older buildings. Also, any new lumber was commercial pine. Andy Penn enlarged the main dwelling and the old Penn home, and built the 1918 barn and day laborer's house. He still used large posts for weight bearing in the day laborer's house and the 1918 barn.

The material culture assemblages reflect the general chronological shifts from the 1860s, through the economic surge of the 1870s - 1880s, and into the traditional rural frugality and self-sufficiency of the early twentieth century. Both landowners and tenants serially occupied various portions of the farm. Ceramic beginning dates indicate that most sheet refuse deposits date after the 1880s. The original Penn occupation was that of a literate and status conscious farmer/rancher who was oriented more towards conservation and reuse of goods rather than mass consumption. Bottle glass also reflects this trend. Most of the glass deposited in all features and sheet refuse dates after 1900. Window glass also indicates post 1880s dates. The accumulation of nails on the site points also to the surge of remodeling that occurred in the 1920s. The burned 1876 house however, clearly indicates a pre-1880 date based its percentage of cut to wire nails.

The Penn farmstead is unique for North Central Texas. In addition to its prominent position on the landscape, most of the buildings constructed on the site still remain comparatively intact. Archaeological features are present and indicate the food storage/preservation methods employed by the site's owners and tenants. The sheet refuse deposits surrounding domestic structures contain artifact assemblages that are representative of some of the traditional activities carried out on the farmstead.

The Penn farmstead offers educational opportunities for development of prominent historical themes related to rural farming. The broad range of architectural styles and techniques truly reflects the wood craftsmanship of nineteenth century rural North Central Texas settlers. The archaeological deposits can be used to enrich educational interest of the young. The farm's location in a rapidly burgeoning metropolitan area places it in a central location to attract thousands of annual visitors. In terms of archival, informant, architectural, and archaeological information, the Penn farm is currently unsurpassed in the Dallas/Fort Worth Metroplex.

SITE 41DL196: HINTZE TENANT FARMSTEAD

9

by

Susan A. Lebo

Site 41DL196 is the former homestead of a tenant farmer, occupied between 1901 and 1953 (Figure 9-1). It is situated on the upper edge of the floodplain on the south side of Walnut Creek, about 750 m west of the old Beltline Road. No standing structures were present when mitigation fieldwork began in January 1985 (Figure 9-2). A possible dog or rabbit house, postdating occupation, was present in the dwelling area. Site 41DL196 was recommended for intensive investigation because of its potential for providing information about tenant lifeways in the Project area. It was also considered to be important for making comparisons with the main Hinzte site, 41DL181, located approximately 2.4 km north and east (Ferring and Reese 1982:220).

Previous work at 41DL196 consisted of archaeological testing in 1979 - 1980. Architectural drawings were recorded for the double pen dwelling located in the center of the site. Low density sheet refuse was recorded for the dwelling area, and a single backhoe trench was excavated through a low mound, suspected to be man-made, located 16 m behind the dwelling. This work indicated that the site was occupied from the turn of the century to the 1950s and further studies were recommended to obtain more information.

ORAL AND DOCUMENTARY INFORMATION

Ernest and Frederick Hintze acquired parcels of land in the Mountain Creek area located on the J. Gordon and G. Wilson surveys during the 1880s and 1890s (Table 9-1). Together, they built several houses on these holdings at the turn of the century (Figure 9-3). The first dwelling was located at 41DL181 on the J. Gordon survey and served as the homestead for Ernest's family. A second dwelling was located at 41DL196, and was built in 1901 for occupants outside Ernest and Frederick's nuclear families. This dwelling was located on the G. Wilson survey on the north side of Ballweg Road, south of Walnut Creek. Two additional dwellings were built on this parcel: one was occupied after 1900 by tenants, and the other was occupied by Frederick and his family.

In 1897, Ernest and Frederick Hintze jointly acquired 66.5 acres from Macklin Grimmitt, and Ernest also purchased an additional 75 acres from J. W. Fletcher. Site 41DL196 is located on this 141.5 acre block and was occupied by tenants from 1901 to 1953 when the land was sold to Dungan F. Munn.

ARCHITECTURAL OVERVIEW

Detailed architectural drawings and notes were made during the testing phase in 1979 - 1980 and indicated that no additions were made to the dwelling at 41DL196. The house was a Cumberland built around 1901, three years after the dwelling at 41DL181. It was constructed following the same basic floorplan at 41DL181, and had two main rooms on a north - south alignment, as well as a porch on the east side (Figure 9-4). Each room had



Figure 9-1. Photograph of the Hintze Tenant dwelling.

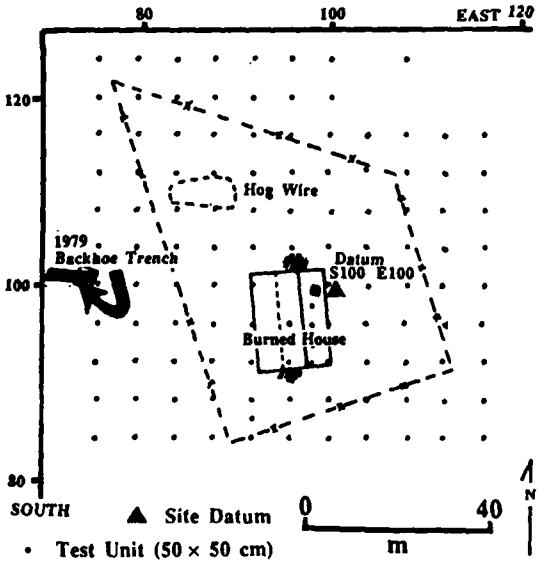


Figure 9-2. Map of the Hintze Tenant farmstead (41DL196) showing excavations, major structures, and cultural features.

a front door, and the north room had a back door as well. The rooms were joined by a door set near the front of the house. The structure was box and strip set on oak and bois d'arc piers, with clapboard except on the backside where it was finished with traditional 1 × 4 inch (2.54 × 10.16 cm) strips (Ferring and Reese 1982:216). Hanging chimneys of machine made *ATLAS* brick were located at the north and south end walls.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation at 41DL196 was accomplished in two phases; the first concentrated on retrieving a systematic sample of sheet refuse on an 8 m grid, isolating features, and documenting the remains of the burned dwelling. The second phase was directed towards recovering a larger sample of the sheet refuse using a 4 m grid, and examining the architectural debris deposited after the dwelling burned to the ground in the early 1980s.

Fieldwork during the 1985 season consumed 72 person days and involved hand excavation of 121 50 × 50 cm^2 units and the recovery of 9,257 artifacts. Two person days were spent hand excavating a 2 × 2 m unit to a depth of 30 cm in Feature 1, and recovered 248 artifacts. Recovery of a systematic sample of the architectural debris under the former dwelling was accomplished in 2 1/2 person days with the recovery of 1,053 artifacts from five units.

SOIL AND CULTURAL DEPOSITION

Artifact frequencies were low to moderate across the site (Figure 9-5), with the highest frequencies occurring inside, and along the fenceline surrounding the dwelling yard. Lower artifact frequencies were evident upslope, to the west of the dwelling, and outside the fence, where remnants of plowed field were visible. No evidence of plowing was found within the fenced yard area.

Within the fenced yard, artifacts were found to a depth of 50 to 60 cm, and revealed evidence of

Table 9-1
LAND TRACT HISTORY FOR SITE 41DL196

Date	Acres	Grantor	Grantee	Book
George Wilson Survey				
1859	170 (patent)	State of Texas	George Wilson	N:234
1866	426.5 (3rd class)	State of Texas	George Wilson	M:176
1878	15.5	George Wilson	John Henderson	42:355
1897	75	Macklin Grimmett & C. B. Pool	H. C. Fletcher	215:263
1897	75	J. W. Fletcher	Fred A. Hintze	216:60
1897	66.25	W. N. Grimmett	Ernest & Fred A. Hintze	214:173
1953	75	Fred A. Hintze (estate)	Dungan F. Munn	216:60
1954	156.21	Dungan F. Munn	B. W. Burnett & L. L. Howard	CE Data
1956	156.21	B. W. Burnett & L. L. Howard	C. H. Wyche	CE Data
1964	156.21	C. H. Wyche	Donald V. Plattner	CE Data
1978	156.21	Donald V. Plattner	U. S. Army Corps	CE Data

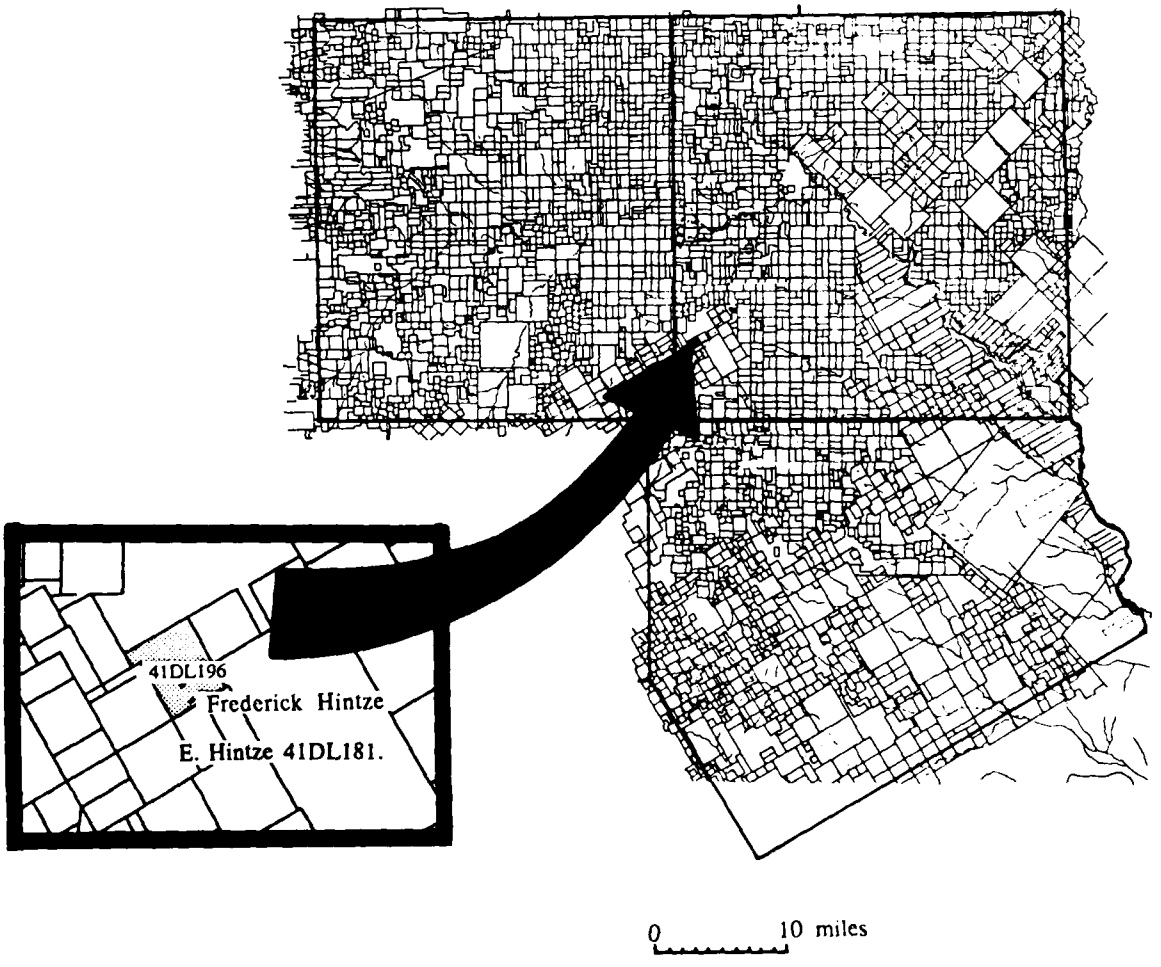


Figure 9-3. The location of 41DL196 on the George Wilson Survey and the locations of both Hintze brothers' houses.

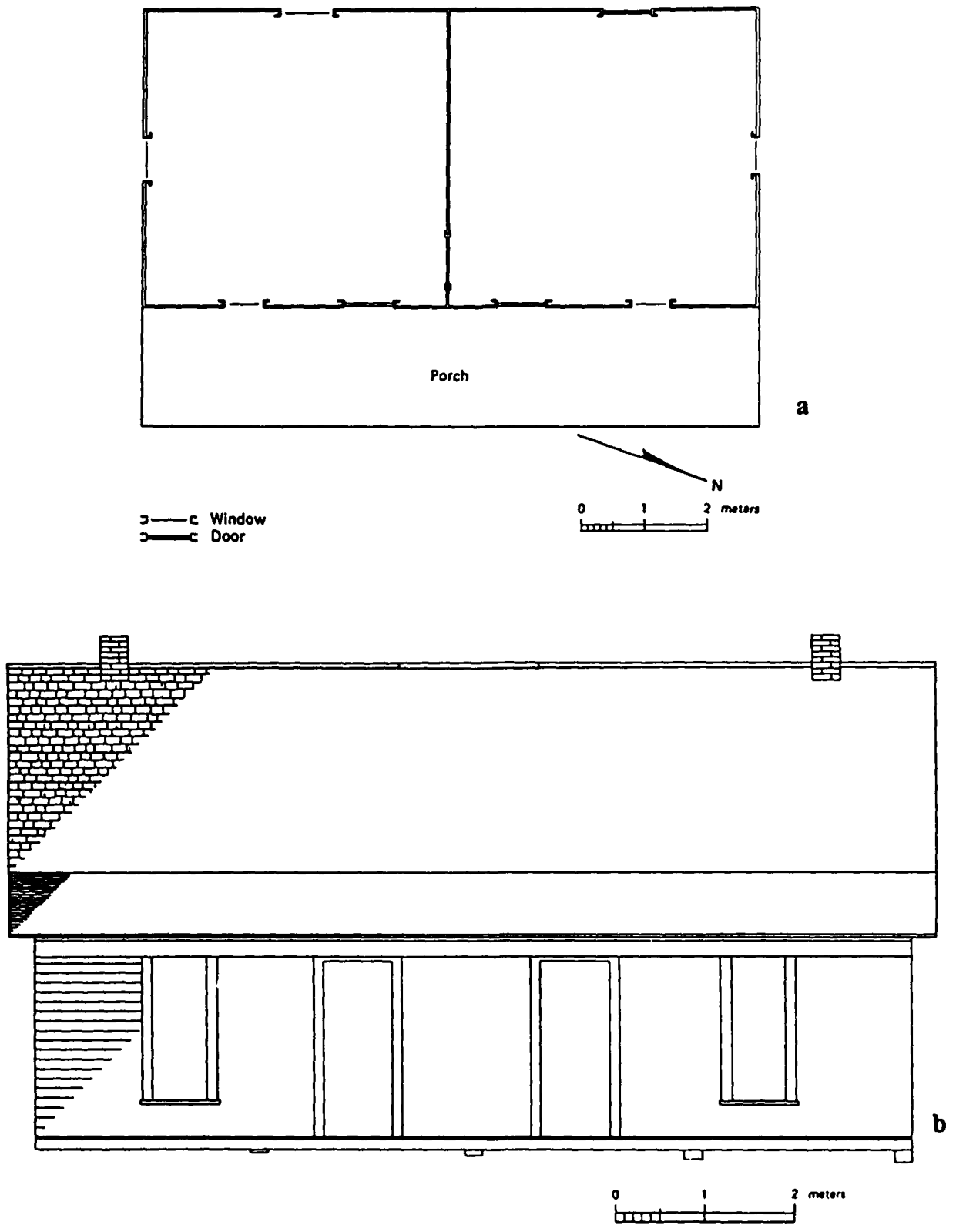


Figure 9-4. Floor plan (a) and south elevation (b) of the house at site 41DL196 (from Ferring and Reese 1982:Figures 11-59, 11-60).

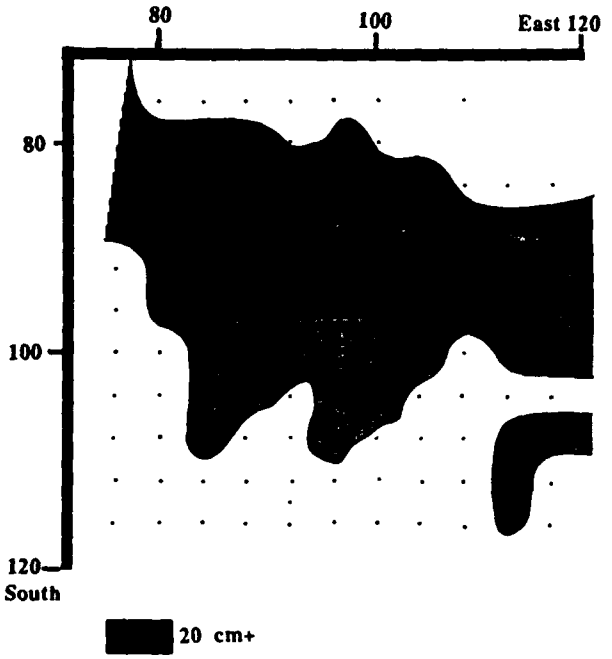


Figure 9-5. Map showing site area with a depth of 20 cm or more for buried sheet refuse deposits.

clustering at 30 to 50 cm below the surface. The soil consisted of a loam to silty loam matrix with a dense A horizon that graded into the B horizon at 60 to 70 cm in depth on the eastern edge of the site. Upslope, along the western extent of the fenced yard, the A horizon was very shallow, and contained calcium carbonates visible directly beneath it. In this area, soil development was occurring at a rate consistent with soil erosion. The A horizon was being washed downslope and deposited around the house and the fence along the east side of the site. The relationship between upslope degradation and downslope aggregation and artifact density is shown in Figure 9-5.

ARTIFACT ASSEMBLAGE

A total of 9,257 artifacts were recovered during the 1985 season from general sheet refuse at 41DL196, including 1,053 artifacts in the units excavated under the former dwelling (Table 9-2). An additional 92 were recovered from Feature 1 during testing (Ferring and Reese 1982:219-220), and 248 during the 1985 season. Each of these assemblages will be discussed separately.

SHEET REFUSE

The general sheet refuse midden at 41DL196 contained 2.7% ceramic vessels, 32.4% vessel glass fragments, 23.43% architectural remains, 33.7% tin can fragments, and 8.0% other items (Table 9-2). These figures indicated that vessel glass, architectural items, and tin cans accounted for 89% of the assemblage. Personal, household, and farm items accounted for 1.8% of the remains.

Table 9-2
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE, UNITS UNDER THE HOUSE, AND FEATURE 1[1]

	Sheet Refuse		Under Dwelling		Feature 1	
	N	%	N	%	N	%
Earthenware						
Coarse	0		0		0	
SemiCoarse	10	.1	0		0	
Refined	176	2.3	14	.8	3	1.2
Stoneware	22	.3	0		0	
Porcelain	13	.2	1	.1	1	.4
Bottle Glass	2579	34.0	154	9.3	81	32.7
Table Glass	46	.6	26	1.6	1	.4
Lamp Glass	57	.8	20	1.2	0	
Unknown Glass	13	.2	0		0	
Nails	600	8.0	812	49.1	32	12.9
Brick	19	.3	55	3.3	0	
Window Glass	378	5.0	138	8.3	13	5.2
Other Architecture	540	7.1	143	8.6	10	4.0
Clothing Items	27	.4	1	.1	4	1.6
Toys	9	.1	1	.1	0	
Other Personal	24	.3	6	.4	0	
Faunal/Floral Remains	139	1.8	26	1.6	11	4.4
Thin Metal	2687	35.4	171	10.3	80	32.3
Heavy Iron	64	.8	7	.4	3	1.2
Fuel Remains	0		0		0	
Hand Tools	7	.1	2	.1	0	
Firearms	20	.3	8	.5	0	
Stable Gear	1	<.1	0		0	
Electrical Parts	51	.7	3	.2	0	
Misc. Other	120	1.6	67	4.0	9	3.6
Total	7602		1655		248	

[1] Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, hand tools, firearms, stable gear, electrical parts, and miscellaneous other items are based on general laboratory sorts. These may diverge from counts presented in other chapters which include other analyses.

Ceramics

Refined earthenwares accounted for 79.6% of the ceramic assemblage, followed by stonewares (9.8%), porcelains (6.2%), and semicoarse earthenwares (4.4%). Refined earthenwares included primarily 1900 - 1940s whitewares (73%), and ivory tinted wares (12.4%). Pre-1900 ironstones accounted for 5.7%, followed by 1940s Fiesta and 1950s Franciscan wares (3.6%). While primarily decorated flatware vessels were recovered, no matched sets occurred. Relief molding and overglazed decalcomania decoration were common on both saucers and plates, while cups were generally plain. Two maker's marks occurred, and included *ES&T ... RAY* on a piece of baby blue Franciscan ware, and *MADE IN USA* on an ivory tinted ware. Both of these marks dated to the 1940s and 1950s period. Early refined earthenware vessels, which may have been highly curated, included two undecorated blue Mason's ironstone plates, an

Table 9-3
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE, UNITS UNDER THE HOUSE, AND FEATURE 1

	Sheet Refuse[1] N	Sheet Refuse[1] %	Under Dwelling N	Under Dwelling %	Feature 1 N	Feature 1 %
Glass Color						
Clear	1850	71.1	98	63.6	74	91.4
Manganese	343	13.3	2	1.3	1	1.2
Medium Olive	9	.3				
Light Olive					1	1.2
Bright Green	9	.3				
Light Green	32	1.2	31	20.1		
Aqua	94	3.6	1	.6		
Brown, Honey	160	6.2	19	12.3	4	4.9
Pink	2	.1				
Red	1	<.1				
Translucent Milk	43	1.7	1	.6		
Opaque Milk	11	.4	2	1.3	1	1.2
Foggy Vase. Milk	3	.1				
Green Milk	15	.6				
Clear w/gray tint	7	.3				
Total	2579		154		81	

1 Cultural material from Feature 1 and units excavated under the dwelling are not included in sheet refuse counts

Table 9-4
MACHINE CUT AND WIRE NAILS ASSEMBLAGES FROM SHEET REFUSE AND UNITS UNDER THE HOUSE

	Sheet Refuse[1] Cut	Sheet Refuse[1] Wire	Under Dwelling Cut	Under Dwelling Wire
Broken Nails	2	106	0	112
Whole Nails				
1.0		4		
1.9	1	10		2
2.5		11		1
3.2	1	214		123
3.8		17		6
4.4		28		1
5.1		48		6
6.3	1	60		36
7.0		35		4
7.6	1	18		
8.9	1	20		1
9.5		11		1
10.2		3		8
10.8		2		
11.4	1	2		
12.1		1		
12.7		1		
14.6		1		
15.9		1		

1 Cultural material from Feature 1 and units excavated under the dwelling are not included in sheet refuse counts

undecorated Mason's ironstone cup, and a molded teapot with gold gilding. Porcelain vessels included a saucer with a purple floral and geometric decalcomania decoration under the glaze, and a Japanese handpainted cup and saucer. Two twentieth century baking dishes recovered included a yellowware vessel, and a bristol stoneware vessel with relief molded exterior and cobalt blue glaze. Other stoneware vessels indicated a late nineteenth to mid-twentieth century ages.

Vessel Glass

Vessel glass sherds were 12.4 times as numerous as ceramic sherds at 41DL196. A breakdown by color indicated that clear vessels predominated (82.4%), and only five other colored accounted for more than 1% of the glass assemblage: brown, blue, milk glass, manganese, and light green (Table 9-3). A total of seven brown snuff bottles, and two clear snuff jars with interior ribbing and exterior milling were recovered. These vessels accounted for 0.1% of the bottle assemblage. Beer bottles, prescription bottles, and at least one bleach bottle marked *PUREX*, accounted for the remaining 6.4% of the brown bottle glass. Among the blue glass were fruit jars, soda bottles, and several cold cream or medicinal jars. Fourteen fruit jar inset caps were recovered, and accounted for 19.4% of all milk glass fragments. The remaining milk glass was comprised primarily of tableware sherds which included 15 green, and 43 translucent or white plates, cups, saucers, and bowls. Several cold cream jars also were found. Manganese bottles were very uncommon and included several fruit jar bases and press decorated tableware sherds. Green glass included nine olive (.3%), nine emerald (.3%), and 32 light green (1.2%). A twentieth century champagne or wine bottle, and one embossed panel prescription bottle were identified. The remaining green sherds were from soda bottles with crown caps, and included many fragments with enamel labels. A single yellow green octagonal tumbler was found. A total of 1,922 clear vessel fragments was recovered, which included only machine made bottle types. Body sherds were primarily plain (85.5%). Rim sherds were recovered from 37 wide mouth, 11 narrow neck bottles, and 13 tumblers/glasses. Wide mouth jars were comprised of 81% continuous threaded rims, 16% lug, and 3% lightning bail rims. On the other hand, narrow neck bottles contained only 50% continuous, and the remainder were 30% prescription, 10% crown, and 10% lug. Tumbler rims included plain (3), folded (6), and folded with exterior milling (4). A total of 18 pressed table glass sherds was also recovered. These figures indicated that alcoholic beverages included wine, champagne, beer, and hard liquor, along with snuff were poorly represented. Clear foodstuff containers including liquids, condiments, fruit jars, and soda bottles accounted for the overwhelming majority of the bottle assemblage. A number of twentieth century tableware vessels were also represented.

Architectural Remains

Architectural remains were the third most frequent

Table 9-5
WINDOW GLASS ASSEMBLAGE FROM SHEET REFUSE AND UNDER THE HOUSE

Pane Thickness (in cm)	Sheet Refuse[1]	Under Dwelling
unknown		3
1.4	1	
1.5	1	
1.6	9	1
1.7	19	
1.8	27	5
1.9	14	1
2.0	61	2
2.1	9	3
2.2	47	11
2.3	16	2
2.4	58	48
2.5	33	31
2.6	34	6
2.7	6	2
2.8	14	3
2.9	4	2
3.0	8	2
3.1	1	
3.2	4	
3.3	1	3
Specialty flat glass		
3.4	1	1
3.6		1
4.0	1	
4.2	2	
4.4	2	
5.1	1	
5.2	1	
6.0	1	
6.6	2	

[1] Cultural material from Feature 1 and units excavated under the dwelling are not included in sheet refuse counts

artifact category at 41DL196. Nails comprised 47.1%, bricks, 1.0%, window glass, 21.7%, and building hardware, 30.1%. The nail assemblage contained primarily wire nails (94.7%), with the remaining nails including 0.8% machine cut, and 1.3% unidentifiable. Whole nails ranged in size from 1.0 cm tacks to 15.9 cm spikes (Table 9-4). Two major peaks occurred, and included 3.2 cm (40.7%) and 6.3 cm (16.5%). Other common sizes included 3.8 cm, 4.4 cm, 5.1 cm, and 7.0 cm. The bricks recovered at the site were comprised entirely of machine made fragments associated with the hanging chimneys of the double pen dwelling. No bricks were found directly associated with the frame outbuilding, or were used as piers for the house. Window glass fragments ranged from 1.4 mm to 3.2 mm (Table 9-5), and between 3.3 and 6.6 mm for plate and specialized flat glass. The mean thickness for window glass was 2.2 mm with a standard deviation of .3 mm. Miscellaneous architectural remains were comprised of fence staples (12.1%), cement and mortar (8.0%), building hardware (19.4%), and fence wire (60.5%). Decorative fence wire matching that recorded for a fenced enclosure (possible garden plot?) upslope, and west of 41DL196, was recovered at the site.

Other Remains

Low frequency items, including personal, household, and farm remains accounted for only 1.7% of the artifacts recovered at 41DL196. Personal remains were comprised of 26 clothing, 26 recreation, three grooming, and nine miscellaneous personal possessions. Electrical remains accounted for the highest percentage of household items, followed by metal furniture and laundry items. Farm remains included primarily ammunition and miscellaneous hardware parts. Horse and stable gear, wagon, and machine parts were poorly represented. Other remains included floral and faunal items which accounted for 1.7% of the assemblage, tin can fragments (33.7%), lamp glass (0.9%), and miscellaneous other (nondescript items such as plastic) which accounted for 1.7%.

ARCHITECTURAL DEBRIS UNDER THE FORMER DWELLING

Four 50 × 50 cm units were excavated in 2 cm increments under the dwelling in order to retrieve a sample of the architectural debris deposited when the structure burned to the ground (Table 9-6). In addition these units were placed to examine vertical artifact and soil movement. Two of the units were located in the south room of the house (S102 E98 and S104 E98), and two in the north room (S106 E98 and S108 E98). A 1 × 1 m unit, dug in 10 cm levels, was excavated under the northern end of the front porch (Table 9-6). The soil matrix in these units contained loose silty loam with burned debris in the upper 8 cm. Lower levels contained compacted silty loam. Architectural items accounted for between 57.5% and 97.4% of the artifacts recovered in three units (Table 9-6). Rodent disturbance was visible in the unit at S106 E98. The artifact assemblage from this unit differed significantly from other units. The vertical distribution of artifacts recovered from all four units under the house indicated that older architectural remains had moved downward through the soil as much as 18 cm (e.g., S102 E98), whereas newer items were located primarily in the upper 8 cm. Field observations confirmed this close association between architectural items and the burned soil matrix.

The ceramic assemblage from these four units contained only ten sherds, all from a single ivory tinted plate with a floral decalcomania overglazed decoration in the center and a relief molded rim. Nine of these sherds were from S106 E98 and were recovered from 24 to 28 cm in depth. Burned bottle glass sherds were found in the upper 2 cm of S106 E98, and a gizzard stone (a small piece of ceramic digested by a chicken) occurred in level 7 (12-14 cm) in S102 E98. The remaining fragments were very small in size, and included two beer bottle sherds, one fruit jar inset cap, one folded tumbler rim, and 20 clear, plain bottle body sherds. Other items found included one complete tin can, several pieces of cloth, copper wiring, a ceramic insulator, and two .22 rimfire cartridges.

A single 1 × 1 m unit dug under the porch yielded primarily non-sheet refuse material from the burned

Table 9-6
ARTIFACT ASSEMBLAGE FROM FOUR 50 x 50 CM UNITS EXCAVATED IN 2 CM LEVELS AT 41DL196

	Cer.	Vessel Glass	Arch.	Pers.	Fauna	Thin Metal	Metal	Fuel	Tools	Arms	Sta-ble	Elect.	Other	Total
50 x 50 cm Units														
2 cm levels														
Unit														
S102 E98:														
Level 1		2	10											12
Level 2		1	7											8
Level 3		3												3
Level 4														0
Level 5			1		1									2
Level 6		1	1											2
Level 7		1												1
Level 8		1	1											2
Level 9			3											3
Level 10														0
Unit														
S104 E98														
Level 1			35											35
Level 2			21											21
Level 3		1	8											9
Level 4			7		11									18
Level 5			3											3
Level 6														0
Level 7														0
Unit														
S106 E98														
Level 1		4	54		1	11				1				71
Level 2			59			2	1							62
Level 3			10				1							11
Level 4			13		1									14
Level 5			14										2	16
Level 6				2		1							2	5
Level 7		1	9		2									12
Level 8			9											9
Level 9		2	10									1		13
Level 10			3		1									4
Level 11		3	17			1								21
Level 12													1	1
Level 13	7	1	21										1	30
Level 14	2	6	19											27
Unit														
S108 E98														
Level 1			2							1				3
Level 2														0
Level 3		1	1											2
Level 4	1		1											2
Level 5			2			3								5
Level 6			1			1								2
Level 7			8											8
Level 8		4												4
Level 9														0

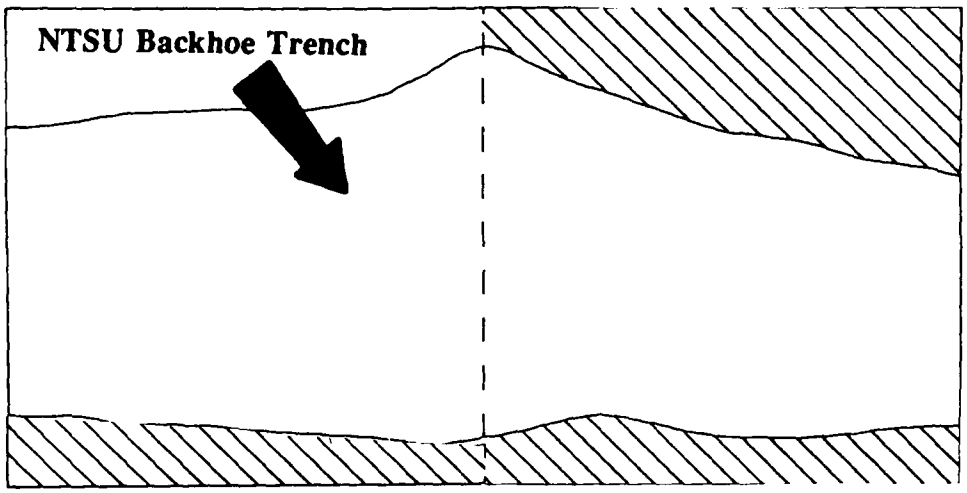


Figure 9-6. Plan view of backhoe trench and location of hand excavated 2 × 2 m unit in Feature 1.

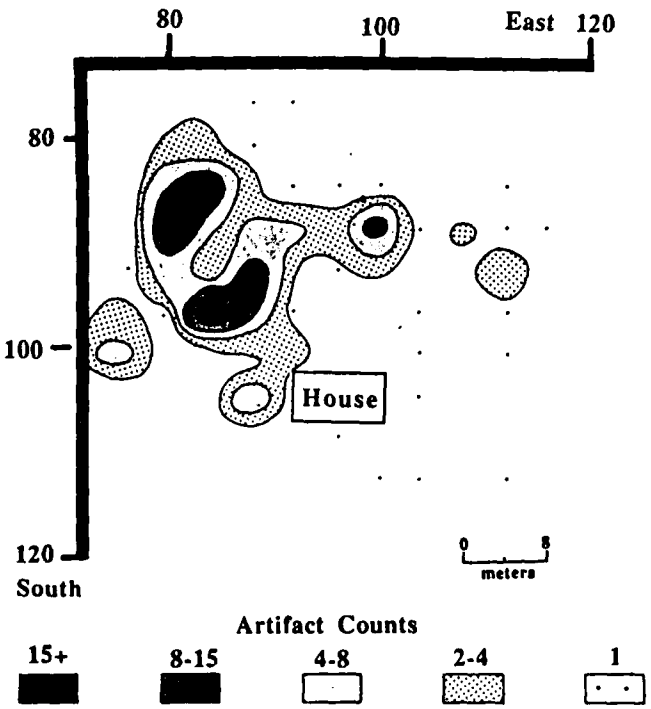


Figure 9-7. Rendition of the SYMAP distribution of refined earthenwares from 50 × 50 cm units on a 4 m grid at site 41DL196.

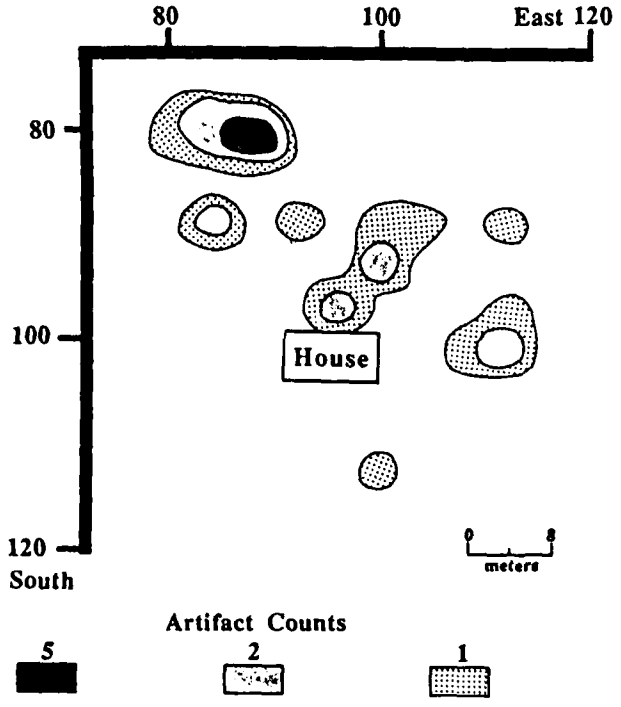


Figure 9-8. Rendition of the SYMAP distribution of stonewares from 50 × 50 cm units on a 4 m grid .

house. Architectural remains accounted for 67.8% of the material recovered in this unit, followed by thin metal fragments (13.1%). The largest percentage of domestic remains found were 48 bottle, 21 table, and seven lamp glass sherds, four personal items, and one electrical part. Seventeen pieces of industrial glass, probably from a bottled gas container were also found. All of these remains were comprised of very large fragments, and when reconstructed comprised only a few vessels. For example, 27 sherds of an emerald green 1930s Dr. Pepper bottle were recovered, which accounted for over 50% of the bottle glass sample.

FEATURE 1

Feature 1, designated during the 1979 - 1980 testing phase, was identified as a low mound containing a deep

trash pit containing twentieth century remains (Ferring and Reese 1982:219-220). A backhoe trench excavated through the center of this feature (see Figure 9-1) recovered a small artifact assemblage that included 16 clear, seven beer, four medicinal, and one manganese bottle glass fragments; two refined earthenwares, one porcelain, two stonewares, 50 tin can fragments, one stove grill fragment; as well as a small percentage of building hardware, miscellaneous metal, faunal items, and undiagnostic glass and plastic. Feature 1 was re-examined during the 1985 season, using hand excavation to remove a 2 x 2 m unit to a depth of 30 cm in the south half of the feature. The backhoe trench was re-exposed and mapped (Figure 9-6). All material from this unit was screened through 1/4 inch hardware cloth, and yielded a total of 248 artifacts. These remains contained twentieth century remains which did not differ in size, age, or percentage of the recovered assemblage from items found in the sheet refuse midden at this site (see Table 9-2). Maximum depth of the feature was just less than half a meter. When this unit is subdivided into 50 cm^2 increments, a total of sixteen 50 x 50 cm units occur, with an average of 15.5 items per unit. This figure fell well within the mean number of items per unit located in the sheet refuse midden, and does not indicate a high density feature. No stratigraphic change was identified, indicating that a feature was not present. Slope wash and low areas left by fallen trees, erosion, and drainage were evident along the western extent of the site. Feature 1 was located in one of these low areas and contained sheet refuse associated with 41DL196.

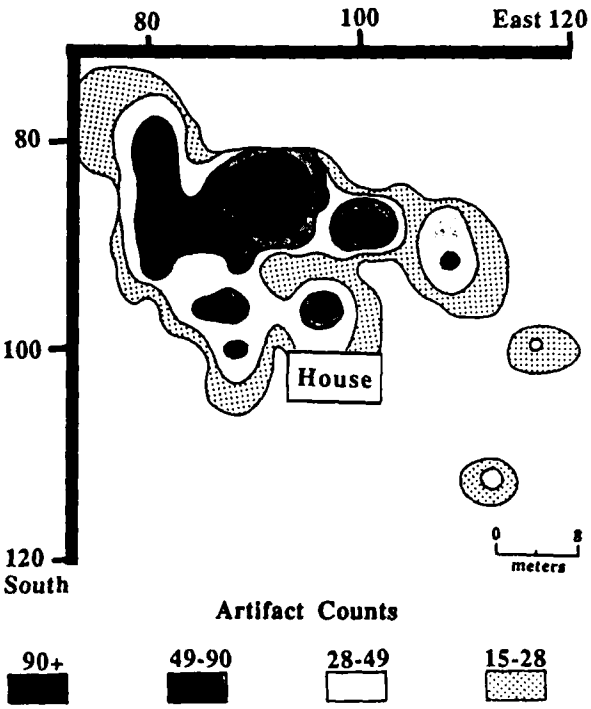


Figure 9-9. Rendition of the SYMAP distribution of bottle glass from 50 x 50 cm units on a 4 m grid at site 41DL196.

INTRASITE PATTERNING

The primary sheet refuse midden at 41DL196 covered 2,000 m^2, with the highest artifact frequencies occurring inside, and along the fence line surrounding the dwelling yard. Lower frequencies occurred upslope of the house, and outside the fence.

Refined earthenware sherds formed a band around the back of the dwelling, and in the north side yard (Figure 9-7). Few sherds were found under the house, in the front or east yard, and the south side yard. The highest frequency of refined earthenwares occurred in the northwest yard, 4 to 12 m from the house, and near the small outbuilding. On the other hand, stoneware sherds exhibited a more restricted, centralized distribution (Figure 9-8), and were recovered primarily in the north side yard. They were more frequent in units located near the fence, but also occurred in units situated within the main yard. Few sherds were found near the house, and none were recovered from units under the dwelling.

Bottle glass sherds were scattered across the entire site, and clustered in the north side yard, particularly in the northwest corner of the site (Figure 9-9). Very low bottle glass counts were recorded for the west, south, and east yards. This pattern indicated that bottle glass sherds were deposited more frequently near the outbuilding and in the north yard, than directly around the house. Table glass sherds exhibited a more limited distribution than bottle glass fragments, clustering primarily in the north yard, in units along the west and northwest fence line, and near the outbuilding. No table glass sherds were found inside the fence on the south or east yards. In addition, they clustered in a part of the north yard different than the location of either refined earthenwares or stonewares. The table glass was recovered in units located further from the dwelling than ceramic sherds, but clustered directly along the west fenceline while stonewares clustered along the north fenceline, and refined earthenwares clustered along the west, but also occurred upslope.

Wire nails and window glass were densely clustered in the dwelling area, with a second cluster in the northwest yard. Nails exhibited a broader distribution than window glass sherds, and were recovered in many units situated along the fence. Bricks were recovered in the dwelling area, in the location of the north and south hanging chimneys. Thin metal and tin can fragments, as well as personal, household, and farm remains occurred primarily in the dwelling yard. Few material culture remains were found outside the fence, where sheet refuse deposits were shallow, averaging less than 20 cm in depth.

The spatial distribution of sheet refuse at 41DL196 indicated two important activity areas, which included the burned dwelling near the center of the fenced yard and the northwest yard where an outbuilding had been located.

SUMMARY

Site 41DL196 was recommended for mitigation because of its potential for providing information about tenant lifeways in the Mountain Creek area, and because it was initially identified as reflecting a popular rather than traditional farmstead. This site proved significant in helping to make comparisons between tenant and

landowner farmsteads occupied after 1900, as well as to examine sheet refuse deposits at deeply buried, low density sites.

The site was occupied from the turn of the century until the 1950s by an unidentified tenant family or families. However, the floorplan and construction of the house was identical to the one built at 41DL181 indicating that it may have originally been built as a landowner rather than a tenant dwelling. Both houses were constructed and owned by Ernest and Fred Hintze.

No outbuilding was identified, reflecting a similar pattern identified at other tenant farmsteads in the Project area (e.g., 41TR48, 41DL197). Evidence indicates that tenant sites may have outbuildings at one time, but they were probably not very substantial, and may have been recycled when the farmstead was abandoned. Consequently, evidence of an identifiable activity area within the site is seldom found.

The sheet refuse midden at 41DL196 was similar to the assemblages recovered at other tenant as well as small landowner sites in the Project area. The midden was located within a relatively small yard area, and was comprised primarily of vessel glass, architectural items, and tin can fragments. The highest frequency of cultural deposits were located 8 to 12 m from the house, and directly around a small hutch or shed in the northwest yard. Less dense areas were evident upslope, west of the dwelling, as well as in the south and east yards. Few remains were found outside the fence surrounding the house area. Artifact density was moderate with the highest percentage of remains being recovered from 30 to 50 cm in depth.

Units excavated under the dwelling yielded primarily architectural remains deposited when the house burned to the ground in the early 1980s, and supported the architectural documentation recorded in 1979 - 1980. In addition, few ceramic, bottle glass, table glass, or domestic items were found in these units. The main distribution of artifacts occurred as distinct bands north and west of the dwelling. Compared to landowner sites in Joe Pool, 41DL196 exhibits a more traditional, structured yard. This pattern was most like the patterns noted for both small landowner and tenant sites in the Richland Creek area (Jurney and Moir 1987; Moir and Jurney 1987a).

SITE 41DL267: TITTERINGTON TENANT FARMSTEAD

10

by

David H. Jurney

Site 41DL267 is a multicomponent tenant farmstead located southwest of the Hintze Farm (41DL181), within the proposed Estes Park, to be administered by the Trinity River Authority. It is situated at the northwestern edge of the prairie uplands between Walnut and Mountain Creeks. A well and a surface scatter of commercial brick were all that remained at this site, which had not been recorded during previous investigations. The site was selected because a tenant occupation was shown for this location on the 1900 Sam Street Map (Highland Historical Press 1980) and the 1920s soil survey, but was not mapped on the 1960s U. S. G. S. Britton Quad sheet. Tenant sites were not well represented in the mitigation matrix, which was biased toward long occupations of landowners. Initial test excavations indicated a 1900 - 1930 occupation with evidence for intact, relatively undisturbed, and spatially separated sheet refuse deposits.

Our intensive excavations, aided by informant interviews, revealed a more complex site history, indicating occupations by two tenants from just prior to 1870 to 1890, and reoccupied by a single tenant from 1900 to 1940. The dwelling of this latter tenant burned in the late 1940s. After this, the older dwellings served for cattle stabling and equipment storage until World War II, after which the farm was abandoned and became overgrown by mesquite and hackberry thickets.

ORAL AND DOCUMENTARY INFORMATION

Site 41DL267, located on the J. Gordon Survey (B-186), was initially surveyed by B. J. Chambers on November 11, 1841 for B. F. Smith who served as Gordon's assignee. Smith transferred title of the 320 acre tract to H. G. Runnels by 1846. The property remained in the family until 1874 when O. H. Runnels transferred it to W. A. Oberchain (refer to Table 4-1 for the complete title chain for the J. Gordon Survey).

Both B. F. Smith and H. G. Runnels were prominent politicians who were also major land speculators in the project area. Both bought up land certificates and hired B. J. Chambers to survey them (See Appendix B) prior to the January 1, 1842 cutoff date when this area became solely available for land speculation to the Peters Colony. Apparently an early tenant farm was established around the time of the transfer from O. H. Runnels to W. A. Oberchain.

After owning the property one year, Oberchain transferred the property to Jacob Boll in 1875. In 1884, William Boll transferred 160 acres to Robert Meir, who immediately transferred it to J. Zimmerman, who in 1885 sold the property to N. B. Anderson. Based on the deed research conducted to date, it is not known if this parcel contained 41DL267. In 1898, a 160 acre parcel was transferred from two individuals, Scharegge and Krubbenschmidt (possibly a mortgage firm) to George A. Titterington, who transferred the eastern 80 acre segment to Ernest Hintze. This tract was probably the one containing 41DL267.

Based on this information and the lack of any reference to landholders in the informant interviews conducted to date, the actual occupants of site 41DL267 cannot be identified. Apparently serial occupations of two tenants in the 1879 - 1890 period and a third tenant in the 1900 - 1940 period were the only types of habitation at the site.

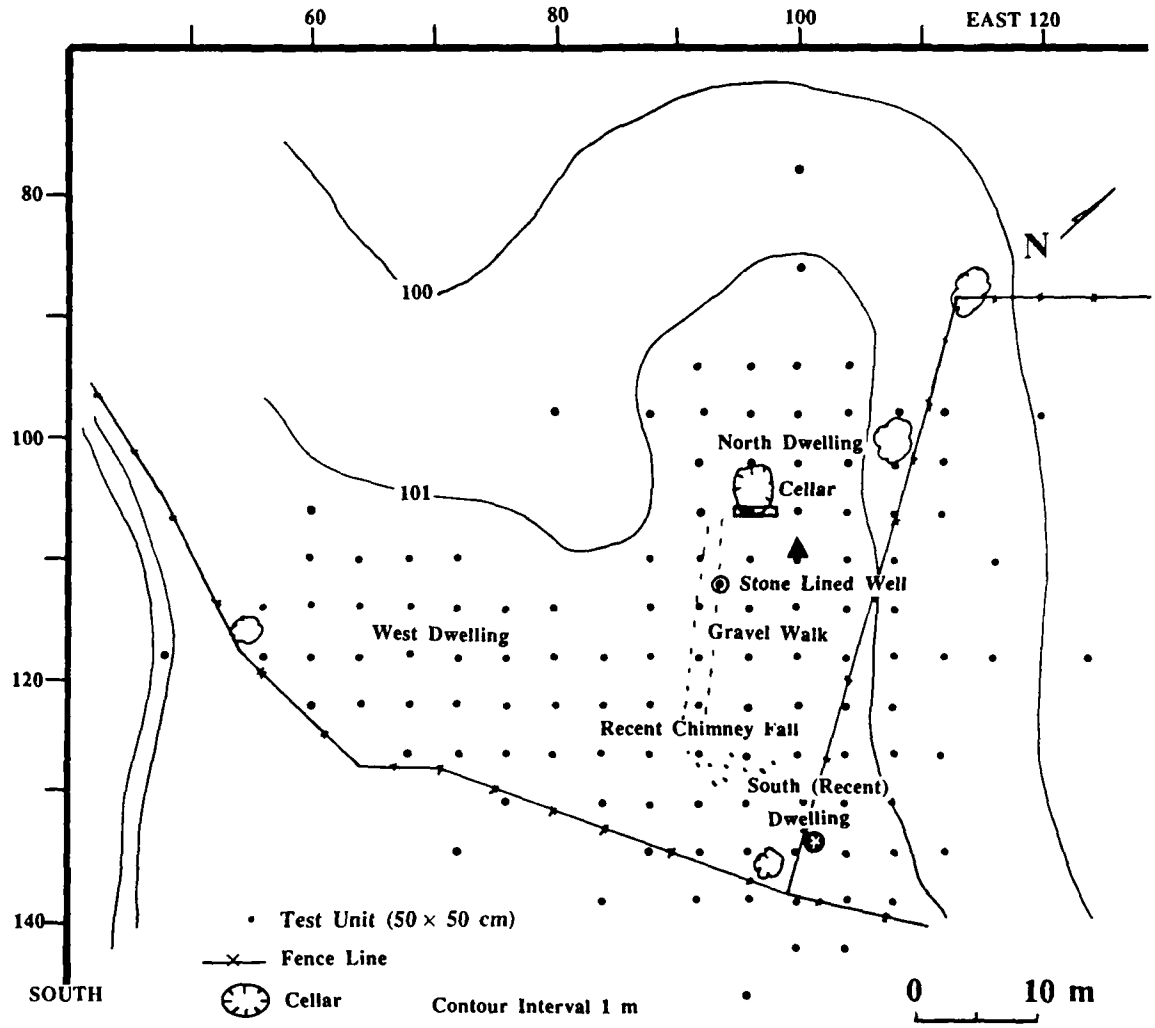


Figure 10-1. Map of the Titterington Tenant Farmstead (41DL267) showing excavation units, the cellar trench, and cultural features.

ARCHITECTURAL OVERVIEW

The only standing architectural remains consisted of a red cedar pole frame, used to raise water by hand from a stone-lined well in the northern portion of the site (Figure 10-1). These poles, with a connecting cross member, were set into concrete .9 m to each side of the 1.4 m diameter well, and were 2.5 m tall. Upon further clearance of the mesquite thicket and archaeological excavations, a second filled well was discovered, with the remains of a similar superstructure near the southern, more recent occupation. In addition, a filled cellar was discovered north of the northern well.

Both dwellings had probably been extensively remodeled and turned into barns and stables, prior to their collapse or burning around the 1940s. The more recent tenant house burned in an apparently intense conflagration, based on the scorched commercial bricks and molten glass recovered from the southern portion of the site. The nails recovered from these areas indicate that the two older dwellings were probably braced frame structures with wooden shingle roofing. The more recent dwelling was probably a box and strip bungalow with modern siding and roofing.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation work at 41DL267 consisted of a systematic 4 m grid sampling of 50 × 50 cm units across the entire site extending to sterile in all directions. This sample encountered several features including the burned and crumbled chimney of the 1900-1940 dwelling with an associated well, and a 1930-1940 cellar located 25 m north of this dwelling. These two areas were joined by a (now buried) gravel walk or drive. The location of the two older dwellings in the northeastern and northwestern portions of the site were clearly demarcated by cut nail concentrations and the older sheet refuse bands that surrounded them.

During clearance of the thicket, a series of northeast trending red cedar fence posts and a northwest trending series of bois d'arc fence posts were discovered (Figure 10-1), which paralleled the sheet refuse bands.

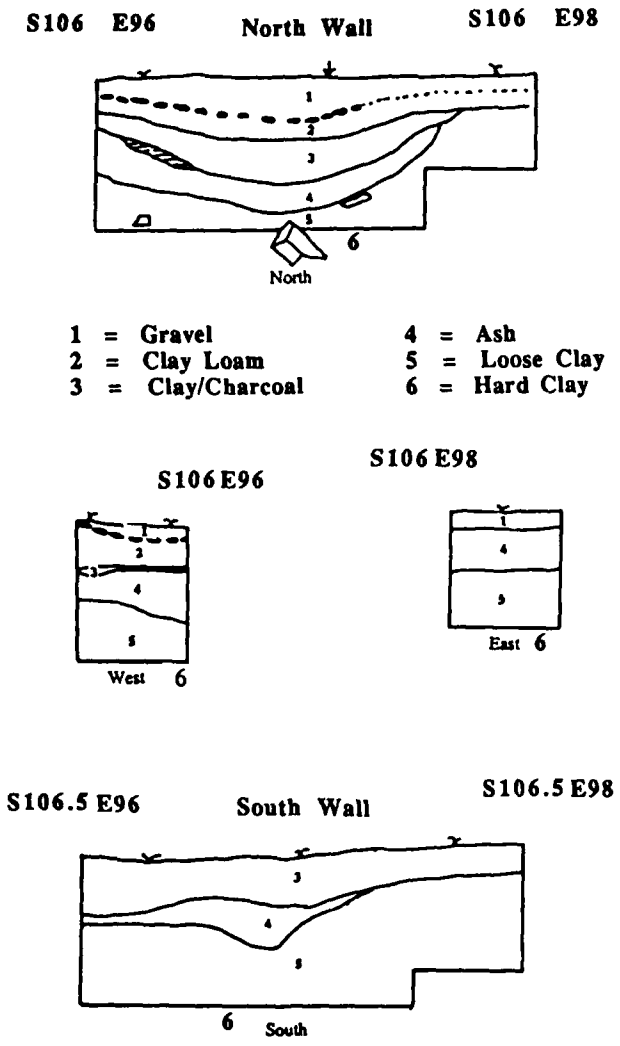


Figure 10-2. Profiles of the cellar trench at 41DL267. Commercial brick and stone were recovered at the base of the slumped root cellar.

The post-occupation use of the site for equipment storage and animal stabling was shown by the distribution of modern machine and vehicle parts, stabling items, wire nails, and thick window glass in the vicinities of the older structures.

Mitigation field work consumed 18 person days and involved hand excavation of 109 50 × 50 cm units, covering 2,880 m^2, and the recovery of 1911 artifacts. Three person days were spent hand excavating a 3 × .5 m profile trench through the cellar recovering 1,885 artifacts.

Artifact densities varied across the site, which can be divided into five components, based on architectural items, features, and the presence of late nineteenth century sheet refuse. The north component (18.9 items per unit) was originally a tenant occupation, later reused for animal stabling and equipment storage. The well area marks a zone of overlap between components, with 16.2 items per unit. The west was also an early tenant occupation, later expanded into a barn and corral area, with 12.2 items per unit. The south (16.1 items per unit) was the latest occupation, dating to the early twentieth century, with brick scatters and a well which clearly define the dwelling location.

The cellar matrix consisted of five layers of fill, but the lowest contained commercial brick and 1940-1950s gilded glass. Thus, the cellar dates to the latest occupation, with the gravel layer extending over a corner of the fill. Sheet refuse from the 1870 - 1890 occupation is included in the fill of the cellar, due to surface washing and deliberate filling. The cellar contained the densest artifact concentration with 56.9 items per unit.

ARTIFACT ASSEMBLAGE

Across the site as a whole, bottle glass was most frequent, comprising 30% of the artifact assemblage (Table 10-1). Architectural remains comprised the second most frequent artifact class, with 17% nails and 6% window glass, along with traces of brick and other architectural items. Ceramics were the only remaining artifact category of any substance, forming 10% of the entire assemblage.

Within the various site components, the artifacts vary in their proportional representation. Only 5% of all items were recovered from the well area, due to the small number of units excavated. Only bottle glass represented any significant proportion of the entire assemblage. Among the remaining site areas, an equal number of units were excavated, 32 in the north, 35 in the west, and 37 in the south. The cellar was investigated with a 3 × .5 m trench, excavated in natural layers. The cellar was nearly a meter deep in the center, and in excavated volume represents slightly over 7 standard 50 × 50 cm units.

The southern portion of the site contained the most recent occupation and dwelling. Several artifact categories were most frequent in this area, showing the immersion into a consumer economy. Bottle glass dominated (9.5%), followed by nails (4.9%), window glass (3.4%), refined earthenware (2.9%), and miscellaneous items (2.5%). Other minor categories included thin metal (1.6%) and other architecture (1.4%). The dwelling was apparently a frame structure with several windows, extensive siding and paneling, a hanging brick chimney, and wooden shake roof. Based on all evidence, the recent dwelling burned, accounting for the dominance of architectural related items. Bottle glass, however was the most frequent item, revealing the dependence on container storage and possible commercial purchase of foods.

The north and west initial occupations contained comparable proportions of certain artifact categories, including 5.9% and 4.8% bottle glass and 2.7% and 2.8 % window glass. The north area contained more ceramics (2.9% to 1.6%). The west area contained more other architecture (1.3%) and brick (1.1%), while only traces were recovered from the north.

The cellar profiles indicate that it was excavated and in use for only a short period of time. A commercial *Lone Star* brick was recovered from the relatively sterile lower clay stratum (Figure 10-2), along with several

Table 10-1
ARTIFACT ASSEMBLAGE FROM SITE 41DL267

	North[1]		Cellar[2]		Well[3]		West[4]		South[5]	
	N	%	N	%	N	%	N	%	N	%
Coarse Earthenware									1	<1
SemiCoarse Earthenware					2	2.1	1	<1	3	<1
Refined Earthenware	54	14.7	56	14.1	11	11.3	30	7.0	54	9.1
Stoneware	15	4.1	26	6.5	4	4.1	7	1.6	8	1.3
Porcelain	8	2.2	6	1.5			7	1.6	8	1.3
Bottle Glass	112	30.4	139	34.9	32	33.0	91	21.3	179	30.1
Table Glass	5	1.4	7	1.8	3	3.1	8	1.9	10	1.7
Lamp Glass	4	<1	8	2.0	3	3.1	6	1.4	6	<1
Unknown Glass	1	<1					3	<1	2	<1
Nails	62	16.8	44	11.1	14	14.4	124	29.0	92	15.5
Brick	8	2.2	4	<1			21	4.9	15	2.5
Window Glass	51	13.8	43	10.8	10	10.3	53	12.4	64	10.8
Other Architecture	14	3.8	8	2.0	3	3.1	25	5.8	27	4.5
Personal	10	2.7	9	2.3	2	2.1	12	2.8	17	2.8
Floral and Faunal	2	t	48	12.1	4	4.1	2	<1	6	<1
Thin Metal	8	2.2	11	2.8	13	13.4	16	3.7	31	5.2
Heavy Metal	9	2.4	8	2.0	2	2.1	9	2.1	11	1.8
Fuel Remains							1	<1	1	<1
Hand Tools	1	<1	2	<1			1	<1	1	<1
Firearms			2	<1					2	<1
Stable Gear	3	<1	1	<1	1	<1	2	<1	1	<1
Electrical Parts			1	<1					1	<1
Miscellaneous Other	1	<1	5	1.3	3	3.1	2	<1	47	7.9
Total	368	19.5	428	21.1	107	5.1	421	22.7	587	31.5
All Total	1911									

1 32 units located between S78-106/E80-112
2 1 50 x 50 unit, 1.3 x .5 m trench
3 6 units located between S114/E88-108
4 35 units located between S110-142/E60-92
5 37 units located between S118-142/ E92-116

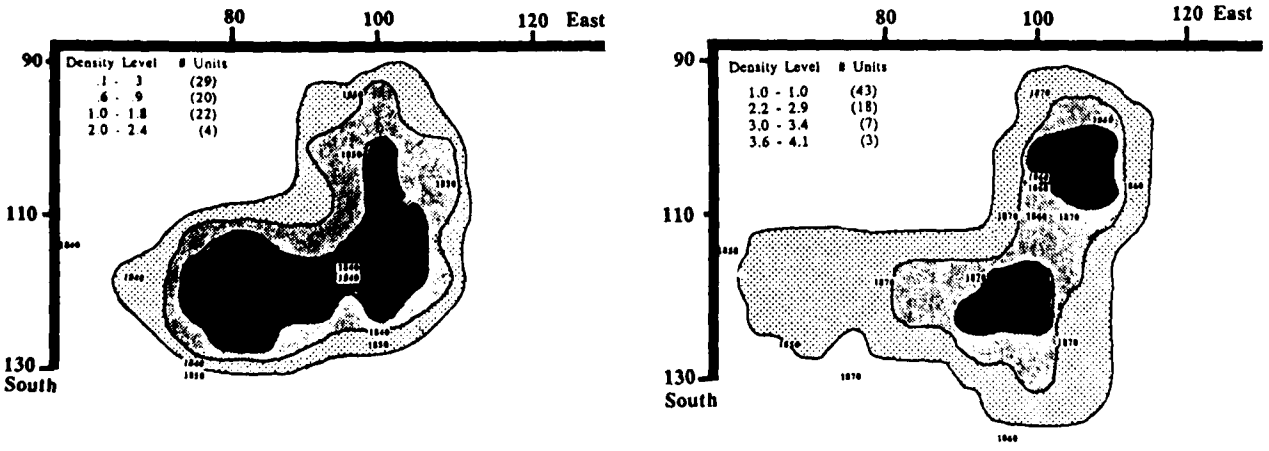


Figure 10-3. Artifact frequency contours using running averages for cut nails (left) and window glass (right) at 41DL267.

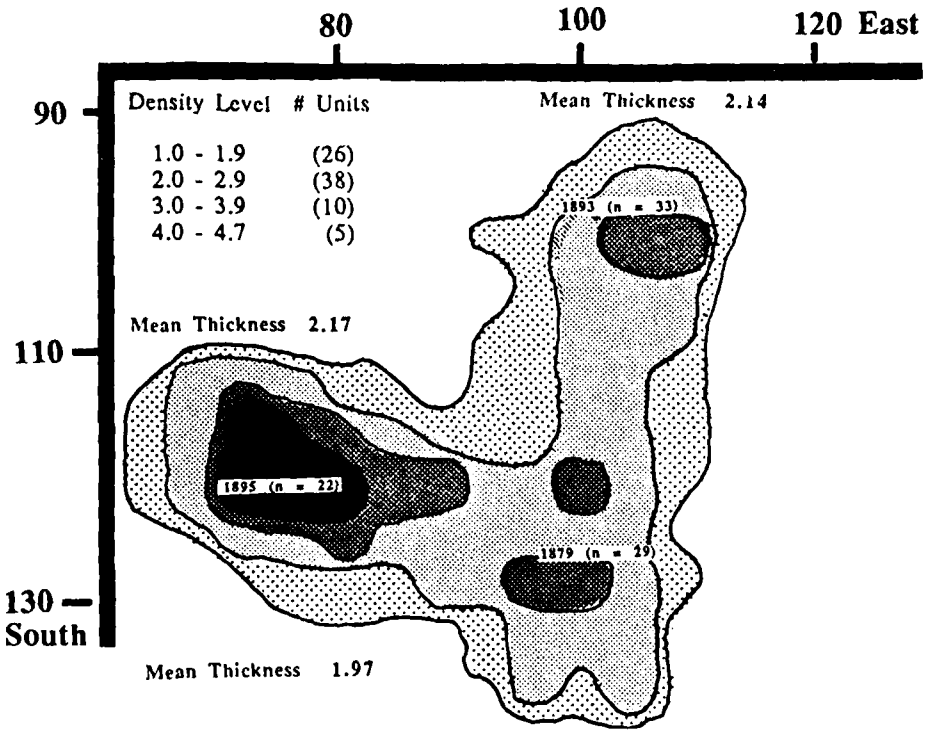


Figure 10-4. Artifact frequency contours using running averages for window glass thicknesses at 41DL267.

Table 10-2
PERCENTAGE OF CUT NAILS TO WIRE NAILS

Area	% Cut to Wire
North	30/70
West	27/73
South	4/96
Transitional	24/76

field stones used for flooring. The lower ash and charcoal layer contained a many of artifacts, including sheet refuse from the north component which appears to have been incidental fill. The ash did contain butchered (sawn) beef and pork bones, along with substantial amounts of white eggshells. These remains were probably from the occupation in the southern, more recent component, deposited directly as refuse. The ash aided in preventing odors. This refuse was then buried with a clay and charcoal fill, which also contained incidental sheet refuse dating from the earliest occupation. A gravel lens, associated with a drive extending from the chimney of the southern house north to the rock lined well, capped the filling episodes. The uppermost layer contained a loose surface wash. However, some older items present included a green bottle base with an embossed 1874 date.

Table 10-3
NUMBER OF SHERDS AND MEAN BEGINNING DATES OF ALL ARTIFACTS MADE PRIOR TO 1880

Area	Glass (sherds/age)	Ceramics (sherds/age)
North	6	3
	1870	1850
West	5	7
	1862	1843
South	3	2
	1867	1845
Cellar	13	27
	1858	1846

Computer analyses of spatial autocorrelation of major artifact categories were performed for the sheet refuse at 41DL267. The results indicate that three spatially distinct areas related to dwellings are present at the site, cojoined by midden areas. Based on these interpretations, the two initial occupations were fairly short, possibly relating to the Peters Colony prior to the Civil War, and lasting into the 1870s. Although the farm was probably used continually, there is a possible hiatus in actual occupation after 1870 until the early twentieth century occupation in the southeast corner of the site.

SUMMARY

Site 41DL267 is a tenant occupation with multiple structures. Two structures served as initial dwellings prior to 1870 based on the distribution of sheet refuse and architectural remains. Spatial analysis has produced a detailed interpretation of the various site components (see Figure 10-3). The chronological information produces somewhat conflicting information due to recycling and remodeling phenomena. Window glass, cut nail, and wire nail distributions were examined using a running mean density contouring method which averaged the values for nine adjacent cells. Based on these distributions, three zones are evident, a northern area with relatively high amounts of cut nails, wire nails, and window glass. This was probably an initial dwelling, later recycled as an outbuilding. A linear (north - south) distribution of each category extends southward where a second structure was located, built entirely of wire nails. A western lobe of the sheet refuse contained the highest density of cut nails, with a large wire nail overlay due to corral and fence construction.

The architectural distributions reflected the *in situ* weathering and decay of the buildings. Window glass dates and cut and wire nail percentages (Table 10-2) indicate 1890 ages for the northern (1892) and western (1895) components, indicating that the structures were occupied/remodeled into the twentieth century. The southern structure was totally twentieth century in construction (commercial brick, wire nails), but produced a window glass date of 1878. This may indicate recycling where the window frames were recycled from older buildings, possibly others at the site.

The beginning ceramic and bottle glass dates were plotted for all sherds predating 1880 (Table 10-3). The cellar fill contained older sheet refuse and over 50% of all diagnostic glass and ceramic sherds recovered at the site. The three sheet refuse areas surrounding the former structures contained relatively similar amounts with some aggregation in the north and west initial occupations. Apparently the twentieth century (south) structure was constructed over a light sheet refuse band associated with the west structure. Thinner window glass also is concentrated along the western boundary of the southern component. Mean beginning dates in bottle glass are 1858 (cellar), 1862 (west), 1867 (south), and 1870 (north). Mean ceramic beginning dates were earlier, 1843 (west), 1845 (south), 1846 (cellar), and 1850 (north).

In conclusion, site 41DL267 produced one of the best structured archaeological deposits for the interpretation of vanished architecture. The material cultural record indicates two initial domestic occupations followed by a single twentieth century domestic occupation which recycled the older buildings as barns and stabling areas. This site has been abandoned and left fallow over 20 years and is a significant repository of mid- to late nineteenth and twentieth century material culture.

SITE 41DL268: TITTERINGTON—GOLDMAN FARM

11

by

David H. Jurney

Site 41DL268 is a two component farmstead located on a bench prairie along the mid-slope of the Cedar Ridge Escarpment landform. The site will be located in the easement area of the dam, administered by the U.S. Army Corps of Engineers. A commercial brick chimney base, several surface depressions, scattered bottles and ceramics, and a fenceline were all that remained at the site, which had not been recorded during previous investigations.

The site was selected because of the detailed informant histories provided by the Goldman Family, which allow an in-depth reconstruction of the former dwelling and activities at the site. The site was not shown on the 1900 Sam Street map (Highland Historical Press 1980), although structures were probably present. The site was evident on the 1920 soils map which depicted a dwelling at this location (Carter et al. 1924).

A short term occupation by Titterington, or possibly a tenant, was present dating from the 1870 - 1880s. The major occupation was by the Goldman Family from 1900 - 1935. The site was subsequently used for hay storage, until the entire farm was sold by Titterington descendants prior to World War II.

ORAL AND DOCUMENTARY INFORMATION

Detailed deed/title and historical research of the Titterington family and informant interviews of the Goldman Family were performed in conjunction with the mitigation of 41DL268. Out of this research comes an intricate history of land acquisition and the fluid nature of farm tenancy.

J. Rockwell was granted 640 acres for his services in the Texas War for Independence (Bounty Warrant 2603), awarded on 3-10-1838 for services rendered from 5-18 to 10-18, 1836 (Miller 1967). He sold his unlocated certificate to B. F. Smith, who paid B. J. Chambers to locate the tract in the Mountain Creek valley, surveyed and marked in the field 11-12-1841. The property was subsequently transferred to H. G. Runnels (Table 11-1) who then transferred the property to R. C. Campbell in 1847. He apparently operated a farm or simply held the land until transferring the property to T. C. Haupe, who immediately sold the property to Daniel Titterington.

Daniel Titterington has a history typical of the glamour of the West. Born in Kentucky in 1828, Daniel left for the California gold fields in 1852, where he successfully mined and lumbered until 1858 (Duncanville Historical Commission 1976), prior to following the eastern trail back to Dallas in 1859. He subsequently purchased a series of land tracts, including the 640 acre J. Rockwell Survey, until he accumulated a 1,302 acre farm along Mountain Creek. He lived until 1910, after which his son, George, continued to maintain the property until 1944.

Titterington is reported to have built a house and possibly lived briefly on site 41DL268. Soon after his marriage to Catherine Bently, they moved into Duncanville, and subsequently to Dallas, reported by

Table 11-1
TITLE CHAIN FOR SITE 41DL268 LOCATED ON THE J. ROCKWELL SURVEY (B-182)[1]

Date	Acres	Grantor	Grantee	Book
1841	640	J. Rockwell	B.F. Smith[2]	GLO
1847	640	?	H.G. Runnels	
1847	640	H. G. Runnels	R.C. Campbell	F:277
1860	640	R. C. Campbell	T.C. Haupe	4:185
1860	640	T. C. Haupe	D. Titterington	G:258
1935	2.6	D. Titterington	Dallas Co.	1933:55
1944	640	G. Titterington	M.O.McClendon	2462:46

1 The Titterington farm encompasses the J. Rockwell, John Scroggy, and John Dodd Surveys. Deed research was not conducted or the last two surveys.

2 Benjamin Fort Smith was a member of a special committee on Public Lands who opposed (along with Sam Houston) "An Act Granting Land To Emigrants", allowing the Peters Colony to enter into an empresario contract with the President of the Republic. The Act was passed February 4, 1841, but extending the location of Third Class certificates (640/320 acres) until January 1, 1842. Smith proposed his own plan "to close all Texas north and west of the Military Road leading from the Nueces to the Red River" to existent Land Certificates, and open this area to Pre-exemption Homesteading (two years residence, five acres in cultivation gave a family 640 acres, a single man 320 acres (c.f. Connor 1959, Box 20 File 1960 Archives of the Texas State Library).

Goldman Family members, descendants of tenants of the Titterington Family.

The following discussion excerpts information obtained from interviews with the Goldman Family conducted by Joe Saunders and Randall Moir. Published family histories are also employed. Thomas Jefferson Goldman was born in Lincoln County, Georgia in 1835, and served as a Confederate soldier. With his first wife, Frances Callahan, he had five children prior to her death in 1872. He subsequently married his wife's younger sister, Catherine Callahan, with whom he had 11 children. In 1878, the nuclear family at that time moved to Texas, first settling in New Hope, Texas. From that location, the family went through a series of movements as tenants, in Harrison, Arkansas; Florence Hill, Texas; Navarro County, Texas; and the Penn Farm near Duncanville (John Wesley or his brothers?). The youngest Goldman son, Lewis, was born on the Penn Farm in 1900. In the same year the family moved to the Titterington farm as tenants.

In 1902, T. J. Goldman returned to Georgia. His wife and sons remained on the Titterington Farm, while his daughters married, through family connections, men from Cleburne. As the male members of the family married, they moved out of the original house and into other houses on the farm provided by Titterington. Only one daughter and her husband, Mr. Loter, remained on the Titterington Farm. Mrs. Catherine Goldman became ill in 1913, and her descendants remember carrying her up the Cedar Escarpment to the railroad at Duncanville by wagon. She remained with her daughter in Cleburne until her death. The sons continued to live in the old house, until each married or left. After the house was abandoned, it was used to store hay. In a barrel beneath a trap door in the kitchen certain family members kept their whiskey.

ARCHITECTURAL OVERVIEW

The original dwelling at 41DL268 was described as a two room house with two front doors (Cumberland), built of box and strip construction with exterior battens. An older barn is also remembered, which may have been the original Titterington (or tenant) dwelling, subsequently reused as a barn. In addition to buildings, the old road, yard fence, and older fence along the Bench Field (Figure 11-1) were discovered when the underbrush was cleared away. An original earthen cellar depression, the ca. 1915 metal storm cellar, and a circular depression (whiskey hole) under the location of the former kitchen were also located upon clearing.

Extremely few wire nails and no cut nails were recovered from the area where the Cumberland was once located. The wire nail sizes indicate light box and strip construction, but based on the low counts it appears that the superstructure was removed from the site. The only cut nails present on the site were located northwest of this dwelling and the size ranges indicate heavier framing, possibly using large timbers. This evidence, and a light sheet refuse band (dating ca. 1880-1890) surrounding the cut nail concentration, indicate a brief occupation of the site prior to the Goldmans arrival. The Goldmans then built the Cumberland structure in 1900. A collapsed animal pen and hog wire fence remnants also indicate stabling areas added during the Goldman occupation.

The original Goldman dwelling (Figure 11-2) was a two room Cumberland, with a full south porch fronting the road. A kitchen was added to the northwest end of the building, providing two rear exits, prior to 1910. The last room was added prior to 1920, and was used as a bedroom. The piers for the house, and some yard fence posts, were brought from Bois d'arc Island, east of Mesquite on the East Fork of the Trinity River. This was because there were no local bois d'arc trees until they were planted at a later date.

DATA RECOVERY INVESTIGATIONS

The site was covered with dense greenbrier and hackberry saplings. Once the brush had been cleared the

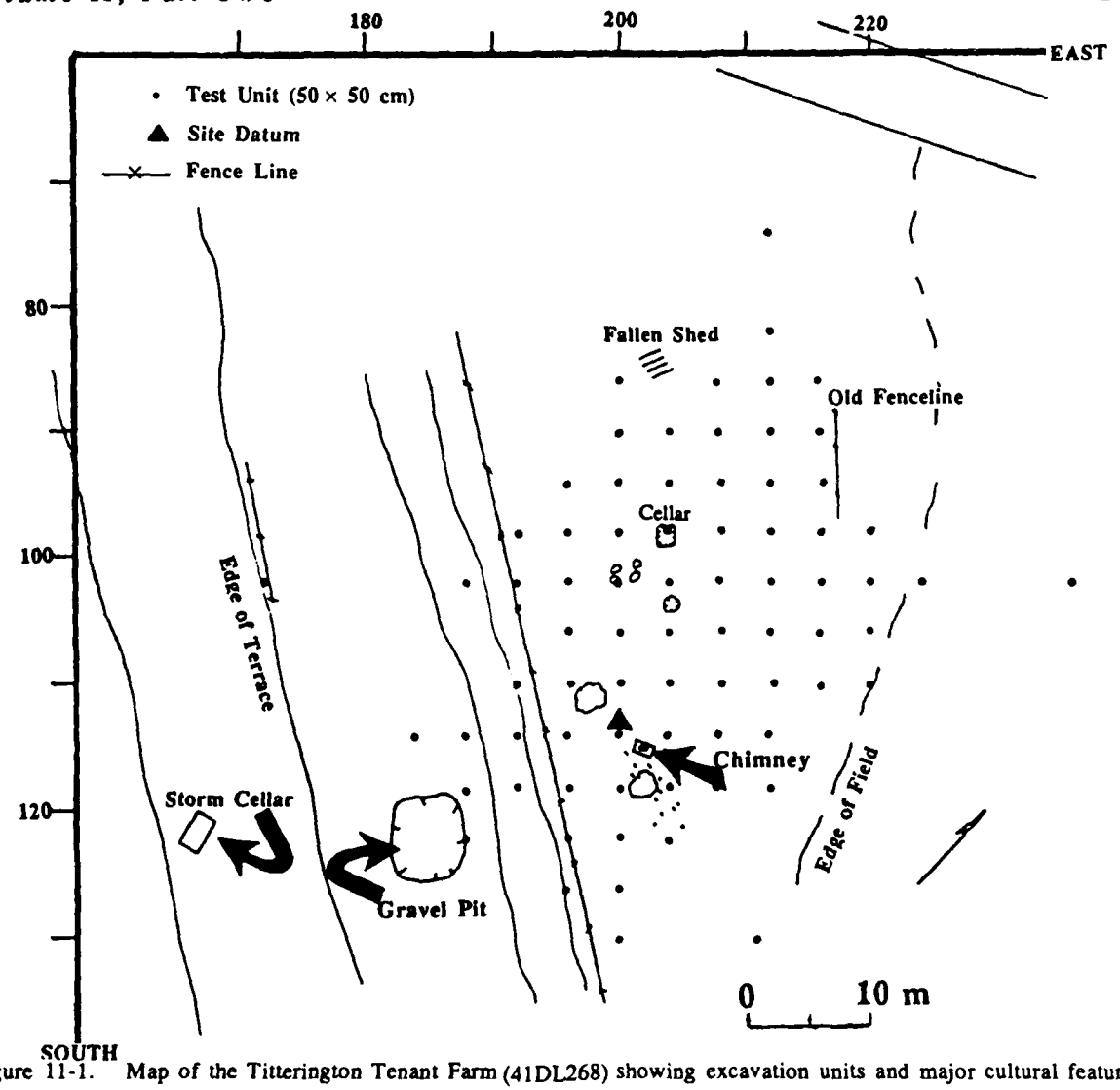


Figure 11-1. Map of the Titterington Tenant Farm (41DL268) showing excavation units and major cultural features.

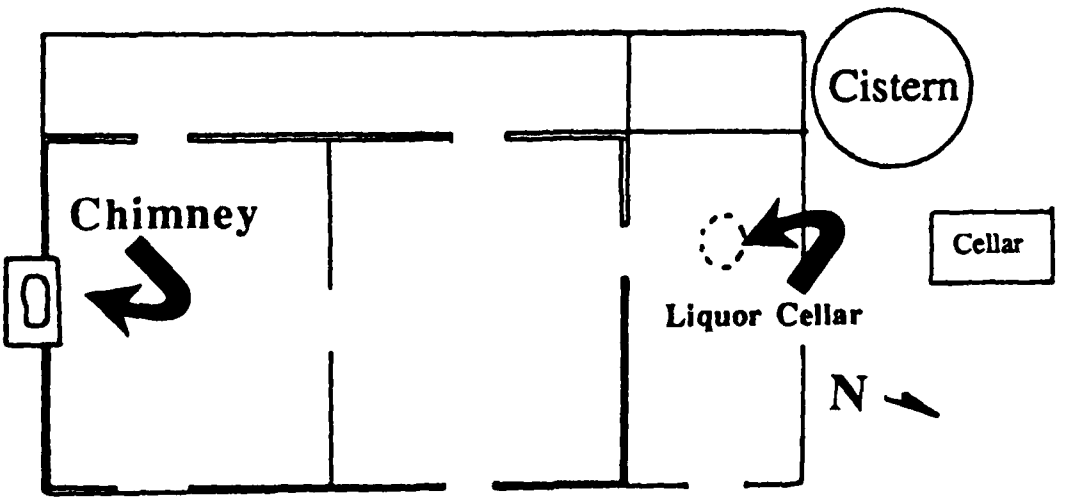


Figure 11-2. Sketch of the Goldman dwelling showing additions and features as recalled onsite by W J., Raymond, and Bob Goldman on May 28, 1986.



Figure 11-3. Map showing the location of the Titterington Farm on the J. Rockwell, John Scroggy, and John Dodd Surveys, based on interviews with the Goldman family.

Table 11-2
ARTIFACT ASSEMBLAGE FROM 41DL268
DISTRIBUTED BY INTRASITE AREAS

	Northwest[1]		Yard[2]		House[3]	
	N	%	N	%	N	%
Refined Earthenware	22	10.6	63	15.0	15	15.2
Stoneware	2	<1	9	2.1	1	<1
Porcelain	1	<1	1	<1		
Bottle Glass	67	31.2	109	26.0	15	15.2
Table Glass	7	3.3	15	3.6	3	3.0
Lamp Glass			2	t	2	2.0
Unknown Glass	1	<1	7	1.7		
Nails	60	30.0	70	16.7	26	26.3
Brick	3	1.4	5	1.2	1	<1
Window Glass	6	2.8	44	10.5	19	19.2
Other Architecture	11	5.1	25	6.0	1	<1
Personal	8	3.7	15	3.6	4	4.0
Floral and Faunal	3	1.4	2	<1	1	<
Thin Metal	11	5.1	23	5.5	6	6.0
Heavy Metal	5	2.3	15	3.6	2	2.0
Fuel Remains			1	<1		
Hand Tools	2	<1	2	<1		
Firearms	4	1.9	5	1.2	3	3.0
Stable Gear			2	<1		
Electrical Parts	2	<1				
Miscellaneous Other			2	<1		
Total	215	29.3	417	57.2	99	13.5
All Total	731					

1 22 units S76-98 E196-220
2 48 units entire yard
3 7 units S106-114 E200-208

chimney base, cellar and whiskey hole depressions, and surface artifacts could be distinguished. A total of 75 units were excavated along a 4 m grid at 41DL268, recovering 733 artifacts. In addition, another 70 artifacts were surface collected, with grid provenience. Five sterile units were excavated along the site periphery, bracketing the entire sheet refuse deposit. The old road and more recent gravel borrow pits along the southern periphery had recent debris, which extended well off the actual yard. The yard was clearly defined by the old barbed wire fence with bois d'arc posts to the south and the old field to the north.

Three definable components were present at this site. The dwelling was clearly marked by the fireplace base and the whiskey hole under the kitchen floor. The Goldman Family could remember various features which aided in the placement of the former dwelling. An ash lens which contained cut nails and older sheet refuse was present in the northwestern portion of the site. The cut nails indicated the presence of an earlier structure, which may have been reused as a barn. Also evidence of a collapsed animal pen and hog wire fence remnant suggested that this area served for animal stabling. The sheet refuse surrounding the more recent dwelling comprised the third yard component. Bottle glass and stonewares were on the surface on each side of the barbed wire fence. A lobe of this sheet refuse extended south toward the storm cellar and along the old road. The rear cellar and the above ground cistern were included in the yard component.

ARTIFACT ASSEMBLAGE

The sheet refuse in the northwest barn area and the yard was similar in artifact density, with 9.8 and 9.1 items per unit. The house contained an average of 14.1 items per unit. These densities indicate that the yard is well preserved and unaltered from the first occupations. Most of the artifacts are on the ground surface or within the upper 10 cm. The house was reused as a hay barn, but was torn down and recycled elsewhere on the Titterington Farm several decades ago. The rain of items due to weathering of the frame building and items dropping through the floorboards contributed to the relatively denser artifact counts in this area.

The artifact categories varied only slightly among the yard areas, with over 57% of the items (n = 491) recovered from the yard around the house. In this yard, the most common items were bottle glass (26%), nails (16.7%), refined earthenware (15%), and window glass (10.5 %).

In the northwest area, bottle glass was most dense encompassing over 31% of the assemblage. Nails followed closely (30%), due to the former presence of animal pens and corrals as well as the older building. Refined earthenwares (10.6%) were less dense than in other areas of the site, but were still common. Only this area contained any substantial amounts of faunal remains.

In the house area, nails (26.3%) and window glass (19.2%) were the dominant items. Bottle glass and refined earthenwares were equally represented.

SUMMARY

The Daniel and George Titterington farm illustrates the typical landowner/tenant structure of the mixed cotton and row crop agriculture of North Central Texas. Figure 11-3 illustrates the distribution of tenant dwellings and core landowner structures based on interviews with the Goldman family who once lived in these dwellings and worked the fields as children and adults. The fields were mutually segregated and each farmed individually. Co-operative efforts were concentrated at harvest time.

Although Daniel Titterington may have briefly lived on his farm in the 1880s, he moved into Duncanville during this time and left much of the farm operation to tenants. His son George moved into Dallas and frequently visited the Goldmans, but left much of the day-to-day operation to the tenants themselves. This may explain why George Titterington maintained kindred tenants on his farm to insure a stable, dependent farming operation.

The Goldman dwelling represents a short term tenant occupation from 1901 to the early 1930s. For most of this time, the house was occupied by unmarried males. The initial occupation included the mother, daughters, and children.

A light, older component was located away from the more recent dwelling. This building may have been

built by Daniel Titterington when he first began his farm, and may have been only shortly occupied. Also he may have had tenants live there briefly. The old building was apparently abandoned as a house and reused as a barn.

The site contains an intact, relatively homogeneous assemblage relating to traditional lifeways at the turn of the century. The site is located in the dam easement area, and thus will be protected from most private development.

SITE 41TR39: LOYD FARM

12

by

David H. Jurney

This house and farm complex is located on a terrace along the south side of a spring fed tributary to Walnut Creek, 2.6 km south of the present town of Webb, Texas. Original research questions posed for further investigations at this site focused on the possible antebellum components (i.e., 1859 - 1860). Subsequent work demonstrated that the site contained primarily postbellum materials. Although verification is still missing, the dwelling which is currently standing may have been built by Francis Marion Loyd or his son Robert in the 1880s to replace the original homestead. On the other hand, the house may be original (i.e., ca. 1859) and, if so, it is the oldest example of board and batten technology using a sawn oak superstructure that we know of in North Central Texas. The present house and farm was continuously occupied by the Loyd family until 1979. The general sheet refuse pattern indicates a focus of activities in the backyard, with a concentration in the center of the entire farmstead. Although the site contains very few definite pre-1860 remains it does reveal evidence for the shift from traditional to popular lifeways within the context of a single family and two generations.

ORAL AND DOCUMENTARY INFORMATION

A Texas Historical Commission marker describes the family background and reported history of the site. In 1980, an interview was conducted by Dr. Reid Ferring and Nancy Reese of North Texas State University with Mrs. Robert Loyd and her son Marion. The original Francis Marion Loyd home was reportedly built in 1859, and was described as a four room dog run style log house (Ferring and Reese 1982:128). In a contradictory statement, it was also reported that the lumber was milled at the Eagle Ford Mill near Dallas and hauled to the site.

The Francis Marion Loyd family came to Texas in 1856, originally from Illinois, stopping briefly in Arkansas, then settling near Dallas. The land containing 41TR39 was surveyed by B. J. Chambers in 1841. The tract containing 41TR39 was granted to Robert Crawford (1-352). Crawford sold the property to W. Terrel in 1854 (Tarrant County Deed Book A:18), who then sold 78 acres to R. Hughes in 1856 (Tarrant County Deed Book:310). Hughes then sold this 78 acre tract to T. S. McDowell in 1858 (Tarrant County Deed Book C:386), who transferred it to A. K. Marrs et al. in 1859 (Tarrant County Deed Book C:387). It was then transferred to Marion and James Loyd later in 1859 (Tarrant County Deed Book C:391). Heirs of the Loyd estate sold it to Robert Loyd in 1929 (Tarrant County Deed Book 1107:336). Based on these deed records, the 78 acre tract containing 41TR39 was never occupied prior to 1859 when it was rapidly turned around by McDowell and Marrs. This suggests land speculation. The time span from 1859 - 1929 suggests that Marion and James Loyd maintained the estate intact until both were dead and Robert took over the farm.

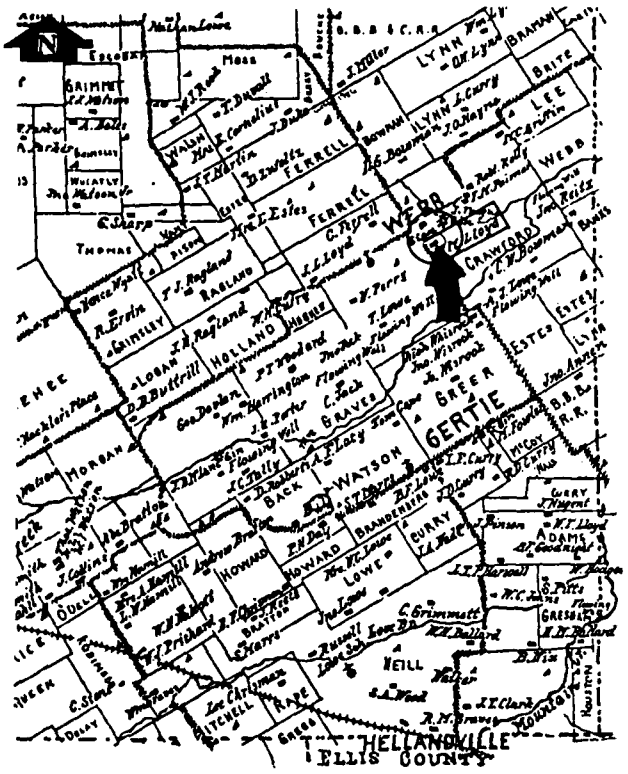


Figure 12-1. Map showing the location of the Francis Marion Loyd dwelling on the 1895 Sam Street's Map of Tarrant County. It was located just south of Webb, a small cross roads with a store and a gin.

Mrs. Robert Loyd (nee Cordie Sprinkle) lived in the Bowman (41TR42) house in 1910, and described the Loyd site (1.76 km west of the Bowman site) when she moved there after her marriage. At that time, a carriage house, a brick-lined cellar, a corral, and a barn were present (Ferring and Reese 1982:130). None of these features remain standing today, and no evidence of these was recovered during our investigations.

Based on our investigations, the oral and documentary records need slight reevaluation. The site is shown in its present location on the 1895 Sam Street Map of Tarrant County (Tarrant County Historical Commission 1985) identified as the land owned by resident Francis Marion Loyd. Interestingly, the location of the town of Webb, with a store and gin, was just north of the Francis Marion Loyd house on this map (Figure 12-1). The gin, located on Bowman Branch, is within the present lake boundary. Today, the town of Webb has been moved 2.6 km north of the 1893 location on Lynn Creek. The move occurred sometime between 1895 and 1920, based on available map information.

The present Loyd house does not match the original four room dogtrot description, but does match the milled lumber report. A few items do date to the earlier reported component, but can be attributed to heirlooms due to their scarcity. Definite evidence of 1859 to 1865 occupation is sparse from the field work carried out. It is possible that the original F. M. Loyd homesite was located elsewhere on the Crawford Survey, or that F. M. Loyd lived in Dallas when he first immigrated. The current dwelling site and farm complex definitely dates from the late 1860s and was continuously occupied until the 1970s by the Loyd family.

The 1930s tax survey inventory for the Marion Loyd property presents an interesting scenario about the site's history and the age of the structures. These data were verbally collected by W.P.A. workers during the early 1930s from the Loyd Family and provide dates of construction at 10 year and 5 year intervals. The 1930s dwelling was termed a cottage built in 1860 with nearly identical dimensions as the double pen core of 41TR39 [i.e., tax record 30 × 28 ft (9 × 8.4 m) compared to an actual 33.5 × 25.4 ft (10.04 × 7.61 m)]. Also described were a 14 × 10 ft (4.19 × 2.99 m) shed (1860), a 50 × 30 ft (14.99 × 9 m) barn (1886), a 13 × 10 ft (3.89 × 2.99 m) plank shed (1900), and two metal sheds (50 × 12 ft (14.99 × 3.6 m), 1915 and 10 × 9 ft (2.99 × 2.7 m), 1925). Tree-ring collections from the dwelling indicate that the lumber (mortise and tenon joinery with cut nails) was cut from fast growing oak trees. Several studs and corner posts were cut from the same tree. Due to the erratic, complacent growth of the specimens (none over 60 years old) they did not crossdate. It may be possible, with further tree-ring collections, to eventually provide an absolute date. A single mortise and tenon beam was collected from a lumber pile near a remote shed on the property. This beam was salvaged from an old building and stored by James Loyd. It was a sensitive, old growth post oak specimen which was eroded. The terminal ring was dated at 1874 (near to outer surface), indicating that in the late 1870s or early 1880s this tree had been cut down. This specimen may have been salvaged from the large 1886 barn recorded in the 1930s tax survey.

Although these tax records suggest an antebellum construction date for 41TR39, they are not conclusive. First, the dates were verbally reported to the tax collector and second, the dimensions are not identical. This may have been due to field estimations rather than accurate measurements by the tax collector. The tax records indicate that the dwelling was weather board construction and all outbuildings were box and strip. This totally conflicts with the standing architecture. Despite these apparent contradictions, the dwelling may be original, dating to 1860.

ARCHITECTURAL OVERVIEW

The Loyd house was originally a two room Cumberland (Figure 12-2) constructed of sawn post oak and pecan lumber. The large (15 × 15 cm) post oak sills are the weight bearers. The 10 × 10 cm corner posts are joined to the sills with mortises and tenons, and standard studs are used along the walls. The exterior was sawn pecan board and batten, the interior faces of which had been milled. Cut nails were used throughout the original construction. Although some rafters and wall studs have bark still attached, none of the 10 samples collected contained a sufficient number of rings for crossdating.

The original structure was subsequently modified with a rear addition. Some of the original wall boards were cut, and the interior was remodeled using shiplap pine lumber. Post oak log floor joists were used for this addition, and the roof was milled pine, all using wire nails.

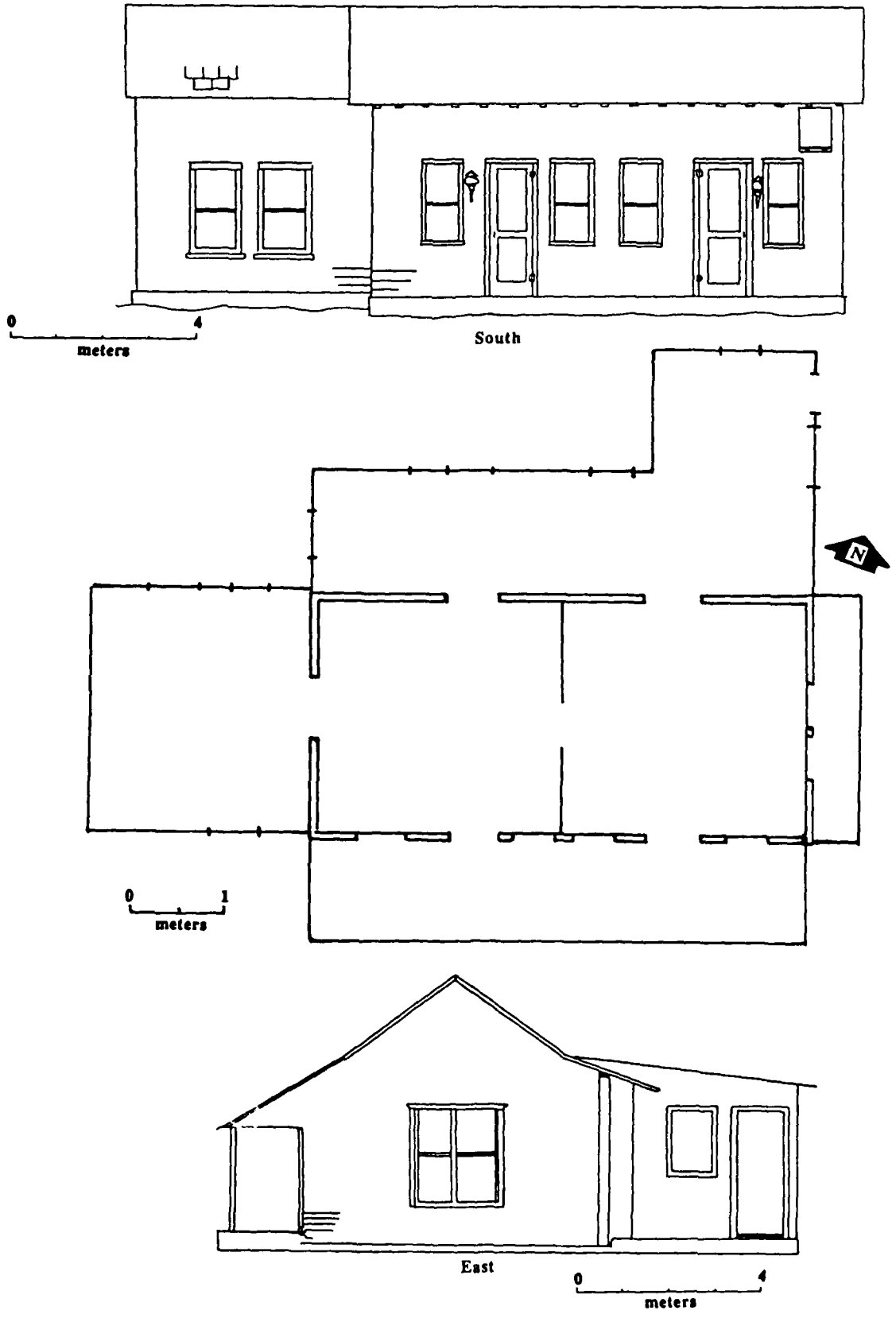


Figure 12-2. Floor plan and elevations of the Loyd dwelling, a double pen built of sawn oak lumber with mortise and tenon joinery.

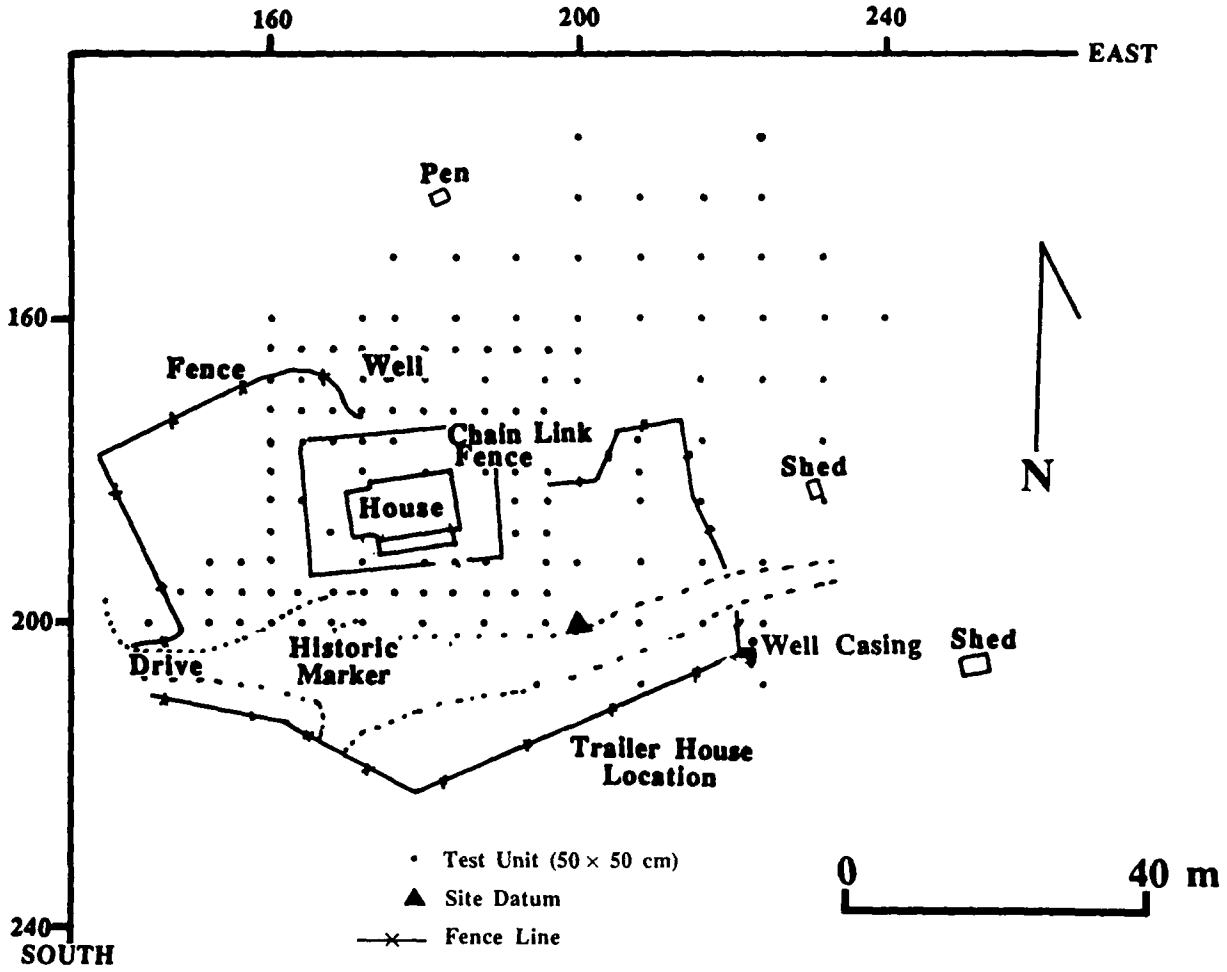


Figure 12-3. Map of the excavations, standing structures, and major cultural features at the Loyd site (41TR39).

A subsequent remodeling episode, a gable addition, occurred along the west wall of the original structure. All milled pine and wire nails were used. The foundation is a linear concrete footing. This phase of construction appears to have occurred after World War II. The final construction phase for the house consisted of enclosing the rear porch built on a concrete slab.

The only remaining structures were a remote barn near the gravel quarry east of the house, and two small chicken coops near the house, but outside the fenced yard. The concrete slab for the most recent well house is located in the eastern corner of the yard. The oak trees in the yard were cored to establish their age. The oldest were planted in the 1890 to 1920 period.

As described in the tax records, the dwelling could date to 1860. Sawmills in the Trinity floodplain were operating at that time. The lumber collected for tree-ring samples matches floodplain growth. If this is an original structure, it is the oldest known board and batten, sawn braced frame in North Central Texas.

DATA RECOVERY INVESTIGATIONS

The main house area received the most extensive excavations. Fieldwork was focused on the sheet refuse deposits outside the present chain link fence erected by the Corps of Engineers. Excavation units consisting of 50 × 50 cm pits located on a 4 m grid were excavated in this area. Other areas of the site were covered with an 8 m grid, and include the reported barn location on the low-lying northeast boundary of the site, the eastern yard, and the former house trailer location to the south (Figure 12-3).

A total of 129 units were excavated in the yard, producing 17,027 artifacts. In addition, a single 1 × 1 m unit was excavated over the buried well north of the dwelling, producing another 8,373 artifacts, primarily remnants of old tin cans. The barn, reportedly northeast of the dwelling, was investigated with 21 units spaced along a 8 m grid.

The area immediately south of the dwelling consisted of several construction episodes related to the twentieth century landscaping. The soil was densely packed with gravel and artifacts distributed within 15 cm of the surface. Downslope, in the vicinity of the buried well, the soil was much thicker. Artifacts were recovered 40 - 50 cm below the surface.

MATERIAL CULTURE ASSEMBLAGE

Thin metal comprised the majority of all artifacts recovered, both from sheet refuse and feature contexts

Table 12-1
MATERIAL CULTURE ASSEMBLAGE FROM SHEET REFUSE AND THE BURIED WELL AT 41TR39

	Sheet Refuse N	Sheet Refuse %	Well[1] N	Well[1] %
Earthenware				
Coarse	6	<1	1	<1
SemiCoarse	4	<1		
Refined	366	2.1	165	2.0
Stoneware	36	<1		
Porcelain	55	<1		
Bottle Glass	3034	17.8	1350	16.1
Table Glass	248	1.5		
Lamp Glass	145	<1		
Unknown Glass	15	<1		
Nails	1405	8.3	1300	15.5
Brick	2442	14.3	168	2.0
Window Glass	42	<1	141	2.0
Other Architecture	1533	9.0		
Clothing Items	73	<1		
Toys	18	<1		
Other Personal	95	<1	49	<1
Floral and Faunal	878	5.2	70	<1
Thin Metal	5174	30.4	4247	50.7
Heavy Metal	361	2.1	53	<1
Fuel Remains	1	<1	1	<1
Hand Tools	16	<1	4	<1
Firearms	25	<1	6	<1
Electrical Parts	17	<1	5	<1
Miscellaneous Other	1035	6.1	635	7.6
Total	17,024		8,195	

1 Well coordinates S168 E176

2 This total may include data not run in SPSS

(Table 12-1). In the sheet refuse of the yard, bottle glass (17.8%) and brick (14.3 %) were the next most frequent items. Other architecture (9%) and nails (8.3%) comprised most of the remaining artifact categories. Faunal remains (5.2%) were surprisingly dense, but were primarily commercially produced beef and pork.

Comparing sheet refuse to the feature fill, the relative proportions of artifact categories are similar except for a few categories. Window glass, nails, and thin metal are proportionately more frequent in the trash filled well (Table 12-1). Due to the heavy twentieth century occupation, consumer items which came in tin cans dominate the well. Architectural items in the well may indicate that scrap lumber containing nails, window glass, and other building debris may have been used to fill it (Figure 1). These items may indicate that the well was filled during the construction of one of the additions mentioned above. Certain items such as lamp and table glass, personal items, and toys were also present. Altogether, these items represent secondary refuse intentionally discarded in the early twentieth century.

CERAMICS

Only 36 stoneware and 55 porcelain sherds were recovered from sheet refuse and none were from the well.

Table 12-2
CERAMIC ASSEMBLAGE FROM THE LOYD SITE, 41TR39

Type/Decoration	Sheet Refuse N	Sheet Refuse %	Well N	Well %
Earthenware Type				
Ironstone WW	20	7.7	3	2.5
Blue Tint Vitrified WW	4	1.5		
Blue Tint NonVitrified WW	54	20.8		
Light Blue Tint WW	47	18.1	5	4.2
Pure White WW	56	21.5	34	28.6
Ivory Tinted WW	57	21.9	49	41.2
Unknown (burned)	15	5.8	20	16.8
Other	7	2.7	8	6.7
Total	260		119	
Decoration				
None	180	69.2	51	42.9
Transfer Printed	6	2.3	4	3.4
Floral Decalcomania	13	5.0	11	9.2
Relief Molded	31	11.9	30	25.2
Hand Painted	6	2.3	3	2.5
Maker's Mark	5	1.9	5	4.2
Royal Rim	6	2.3		
Molded Polygon	5	1.9		
Painted Banding			5	4.2
Other	8	3.1	10	8.4
Total	260		119	

Most of the stoneware fragments were from nineteenth century vessels with only 35% representing twentieth century wares (Table 12-2). Among the refined earthenwares (n = 260) the majority of sherds were pure white (21.5%), ivory tinted (21.9%), blue tinted (20.8%) and light blue tinted (18.1%) whitewares. The remaining categories were rare. Nineteenth and twentieth century vessels were well represented.

Decoration categories from sheet refuse included a range of nineteenth and twentieth century techniques. Nearly 70% were plain, and 11.9% relief molded. Only 2.3% were transfer printed. In the well, only 43% were plain and 25% relief molded. Far fewer nineteenth century items (i.e., transfer printed 3.4%) were recovered. Basically, the two assemblages were quite different. The actual volume of older whitewares was reduced in the well, which represented a narrow segment of occupation in comparison to the sheet refuse assemblage.

In terms of vessel shape, only about half could be identified. In the well, 30% of the rims represented flatware. In the sheet refuse, flatware and hollowware forms were equally represented.

BOTTLE GLASS

Clear glass comprised the majority of both sheet refuse and well assemblages (Table 12-3). This is more typical of twentieth century assemblages. Some nineteenth century glass (i.e., manganese solarized, olive) was present, but not highly frequent. Turn-of-the-

Table 12-3
BOTTLE GLASS ASSEMBLAGE FROM 41TR39

Glass	Sheet Refuse[1] N	%	Well N	%
Color				
Clear	1335	70.0	947	78.2
Manganese	43	2.2	4	<1
Olive	38		3	<1
Emerald Green	2	<1	4	<1
Light Green	77	4.0	34	2.8
Aqua	150	7.8	57	4.7
Dark Blue	24	1.3	8	<1
Brown, Honey	187	9.8	86	7.1
Translucent Milk	13	<1	8	<1
Opaque Milk	18	<1		
Clear w/ Gray Ash Tint	4	<1		
Other	15	<1	63	<1
Total	1906		1211	
Decoration				
Plain	1653	86.7	1055	87.9
Relief	129	6.8	73	6.0
Milled	13	<1	1	<1
Enamel Label	3	<1	5	<1
Maker's Mark	82	4.3	56	4.6
Corrugated	15	<1	5	<1
Pressed	5	<1		
Wheel Engraved	2	<1		
Other	4	<1	6	<1
Total	1906		1211	
Diagnostic Attributes				
None	1738	91.2	1126	93.0
Owens Ring	20	<1	7	<1
Valve Mark	1	<1	2	<1
Corrugated Base	8	<1	2	<1
Machined Lip/Base	66	3.5	37	3.1
Snap Case	6	<1	5	<1
Machine Made Cork Lip	4	<1	4	<1
Ground Lip	1	<1		
Panel Bottle	3	<1		
Continuous Thread Fruit Lip	6	<1	3	<1
Fruit Jar Inset	12	<1	2	<1
Other	41	2.1	21	1.7
Total	1906		1211	

[1] 4 m grid data only

century colors (i.e., aqua, honey) comprised most of the assemblage. Diagnostic attributes were rare. When present, machine made glass and Owens rings were dominant. A few snap case bottle fragments and other nineteenth century items were underrepresented considering the actual age of the site.

ARCHITECTURE

Nails

In the sheet refuse, 44% of the nails were cut, 53% wire, and 16% unidentifiable. This reflects the weathering of the dwelling, and several probable outbuildings in the vicinity of the well and rear yard. Among the cut nail assemblage (n = 110) the nail sizes were tightly distributed. Roofing nail sizes dominated with 3.8 cm (34%) and 3.2 cm (13%). Wall board and superstructure nail sizes 5.1 cm (19%), 6.3 cm (9.1%). and 7.0 cm (8.2%) followed in frequency.

Window Glass

The window glass assemblage (n=42) was fairly limited. Major peaks in thicknesses occurred at 2.0 mm (16.6%), 2.4 mm (15.7%), and 2.2 mm (1.9%), typical of late nineteenth and early twentieth century dwellings. Many of the sherds came from units around windows of the original dwelling. Some of the thicker sherds were probably due to twentieth century remodeling and replacement of original windows with breakage.

Other Remains

The remaining artifact categories were low frequency items, primarily firearms, hand tools, and electrical parts. Clothing, personal items, and toys were rare. Faunal remains comprised 5% of the toal site assemblage assemblage It consisted of mostly beef and pork cuts, chicken, and wild animals.

SUMMARY

The Loyd house was moderate status dwelling. The material culture reflects a lower middle class farmer. The traditional yard pattern of the initial 1859 - 1900 farm has been masked by twentieth century occupation. The shift to consumer goods greatly increased the volume of remains that were deposited as sheet refuse. Also, unused features such as the well became repositories for unwanted trash (i.e., tin cans and lumber).

The primary significance of this property lies in its continuous occupation from the 1860s to the mid-1970s. The original dwelling is typical of tenant and small landowner houses of the mid-1880s. It may date as early as 1860. None of these types of buildings are being preserved as historic exhibits or architectural parks. The architectural significance of this type indicates an early transition in frame technology.

The original structure is covered by the veneer of twentieth century remodeling. This same masking effect is seen in the artifact assemblage, sheet refuse, and feature fill. This evolution of material culture documents the transformation of rural Texan society within a metropolitan periphery. The antebellum components were originally hypothesized by informant reports and archives. Even though the architecture and archaeology do not provide as much support for this early site component, the property is a time capsule of cultural evolution worthy in its own right.

SITE 41TR40: LOWE FARMSTEAD

13

by

Susan A. Lebo

Site 41TR40, the former homestead of Andrew J. and Sarah T. Lowe, is situated on a bluff on the south side of Walnut Creek, near its confluence with Bowman Branch. This area was the location of numerous other farmsteads (Figure 13-1). The farm is located among the Wisrock and Bowman house sites shown on the 1896 and 1900 maps of Tarrant and Dallas Counties.

The Lowe site was occupied from the late 1880s until the 1950s. A 1.5 story dwelling, and three frame displaced outbuildings were located north of the house, with one to the west (Figure 13-2). All of these structures had collapsed before the 1980 season. A stone lined well was identified off the northeast corner of the house, and a collapsed, handmade brick root cellar, on the northwest side of the dwelling. Worn dirt roads crosscut the site along the south and east, and connected a string of landowner and tenant farms along the bluff. In addition, a large disturbed area was recorded along the western periphery of the site where the construction of a high power tension line resulted in the removal of a 12 m wide swath running north - south. Dense 1940s trash deposits were visible in several gullies north of the house, and in outbuilding areas.

ORAL AND DOCUMENTARY INFORMATION

Site 41TR40 is located on the Robert Crawford survey (Table 13-1, and Figure 13-2). The main farmstead complex is situated on the southern part of the 726 acres acquired by I. G. Bowman from Robert and Mary Crawford in 1855. While this land changed ownership several times before A. J. Lowe acquired it in 1887 and 1889, it was owned by members of the Hart, and later the Ragland families, both of which were also related to members of the Lowe family by marriage. The Ragland family also owned the 245 acres A. J. Lowe purchased in the J. Estes survey. No evidence has been found that any of these families had homesteads on this land before A. J. Lowe acquired it.

Records showing land improvement for the Lowe family indicated that in the 1930s (Table 13-2) five structures were standing on the farmstead at 41TR40, and included one dwelling, a barn, and three sheds. Both the house and barn were recorded on the 1890 tax roll, only three years after A. J. Lowe purchased this land for his homestead. The Lowe family continued to occupy 41TR40 until the early 1900s. In 1904, the farmstead property was divided, and Sarah T. Lowe, the wife of A. J. Lowe acquired ownership of 149.7 acres, and A. J. Lowe retained approximately 186 acres. Among the land Sarah T. Lowe acquired was 44.7 acres of the Robert Crawford survey, being all of the 56 acre tract deeded by I. G. Bowman and his wife Mary to Emma S. Campbell in 1893, 25 acres of the southwest tract of the same survey, which was owned by the Lowe family, and 40 acres of her father's (T. J. Ragland) estate. In addition, she acquired six milk cows (two with calves), and several horses, as well as half of the oat, corn, and hay crops, and half of the farm implements. On the other hand, A. J. Lowe acquired full ownership of their 60 acre



Figure 13-1. Map showing location of the Lowe site, 41TR40, and neighboring farmsteads on the Robert Crawford Survey. The Wisrock family had three dwellings to the west (41TR44) on the G. Greer survey, and the Reitz family (41TR45) lived to the east on the Joel Banks survey.

homestead at 41TR40, 40 acres of Carter land (J. Estes survey), and his personal property (Dallas County Book 181:147, 188).

After Sarah T. Lowe's death in 1911, 26.5 acres of the 58 within the Robert Crawford survey were sold by her heirs to J. B. Wisrock who lived on an adjoining farmstead. The farmstead at 41TR40 continued to be owned by the A. J. Lowe family until 1938 when 63 acres were sold to T. N. Stewart.

Site 41TR40 was continuously occupied from 1887 until 1938, except for several years during the period between 1900 and 1910. According to Cordie Sprinkle Loyd and Marion Loyd (1980 Interview), "...the Lowes...moved back to Mansfield for some reason or another [during this period], and then the Wolf family moved in there for a couple of years, and then the Lowe family that owned it moved back." The Wolf family were sharecroppers, and resided at the Lowe farmstead before the Sprinkle family moved into the Bowman Farmstead (41TR42). Cordie Sprinkle Loyd, indicated that the Wolf family worked the Lowe Farmstead before 1907, which correlates with when A. J. and Sarah T. Lowe divided their property, and neither of them occupied their homestead. However, members of the Lowe family moved back several years later.

ARCHITECTURAL OVERVIEW

Full documentation of the dwelling at 41TR40 was not possible during the 1980 season before access to the site was encumbered by the current tenants. By the

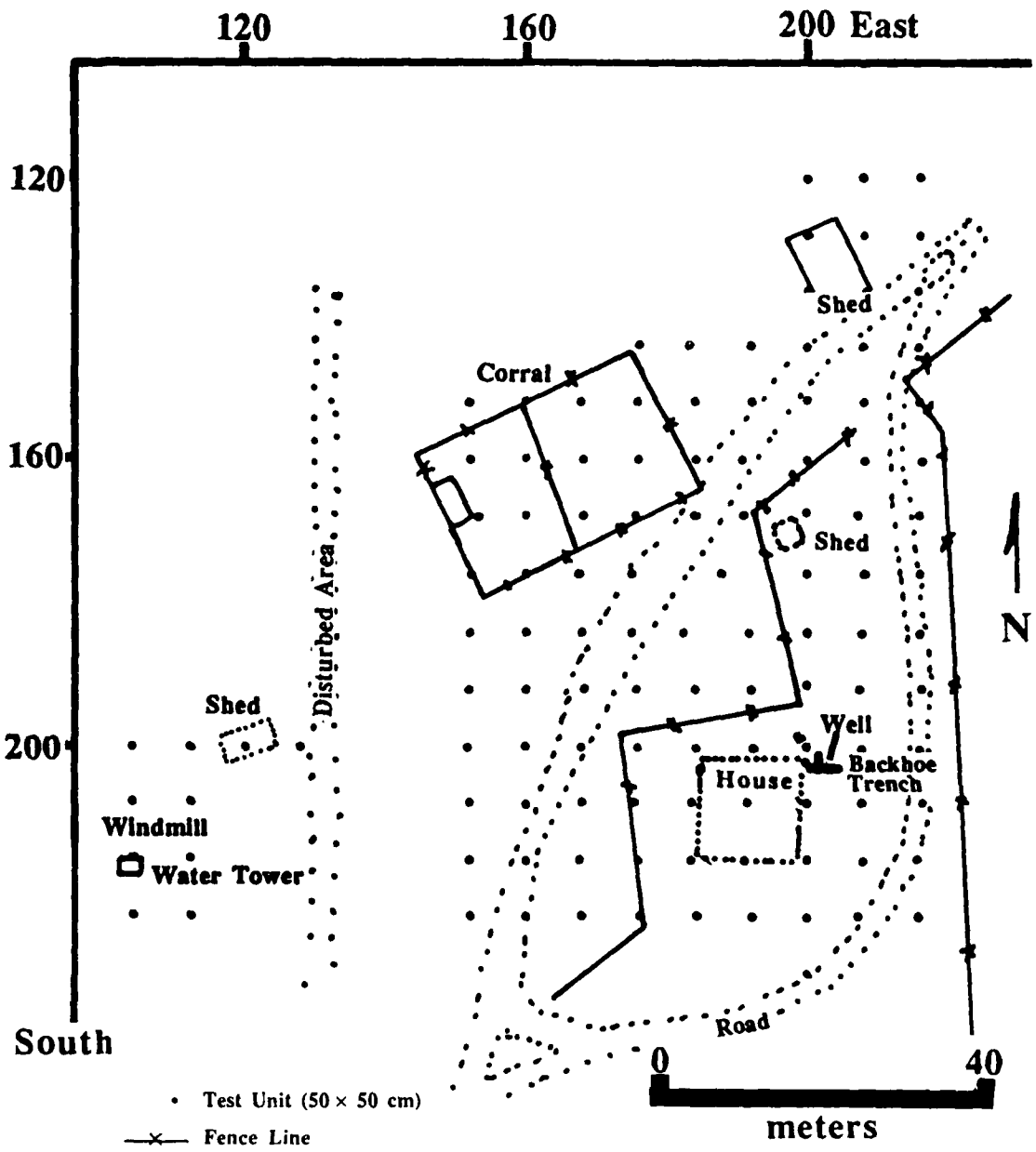


Figure 13-2. Location of cultural features, structures, and excavation units at the Lowe site, 41TR40.

time access was possible, the house had totally collapsed, and portions had decayed or had been removed making observations difficult. The dwelling contains three major technologies including post-in-ground, mortise and tenon braced frame, and pine and red cedar balloon frame. The older portion of the house (dating to ca. 1854) was built on sandstone piers and was framed with roughly hewn cedar poles set in the ground, and mortise and tenon sills. Machine cut nails were almost exclusively used throughout this section of the house. The central hallway was oriented north - south, and the front of the house faced north. A fallen stone chimney was located on the eastern end of the house, and the lower floor had three rectangular rooms, measuring approximately 9.4 × 4.8 m, with the side rooms being slightly smaller than the central room (Figure 13-3). A porch was later added on the western end of the house. The exterior siding was clapboard, and the roof which was originally wood shingles, had been largely replaced by composition shingles.

Architectural documentation during the 1985 season focused on recording detailed floor plans of the ruins, elevational drawings, and obtaining tree-ring samples of all major design elements. In addition, lumber salvage was conducted to recover undecayed architectural elements. These were stored at the Penn farmstead (41DL192) making the wood available if needed for future restoration of other structures.

A pole and frame barn measuring 7.15 × 12.0 m was located at the far northeast corner of the site. A small

Table 13-1
LAND TRACT HISTORY FOR SITE 41TR40

Date	Acres	Grantor	Grantee	Book
Robert Crawford I-352 surveyed by B.J. Chambers 1841				
J. Estes 3-3357 surveyed by J. T. Hooler 1857				
1854	836	State of Texas	Robert Crawford	71:11
1855	726	R. and Mary Crawford	I. G. Bowman	O:197
1886	32.84	Martin Hart	T. J. Ragland	45:263
1887	277.84	T.J. Ragland	A. J. Lowe	48:368
1889	25	E. H. Chorn	A. J. Lowe	55:131
1895	25	E. H. Chorn et ux	W. C. Lowe	111:537
1895	25	E. H. Chorn (rev. Vendors lien)	W. C. Lowe	91:494
1895	25	W. C. Lowe	B. F. Lowe	104:271
1899	44.7	Emma S. Zantzinger	B. F. Lowe	116:555
1904	149.7	B.F. Lowe	Sarah T. Lowe	188:147
1912	26.5	heirs of Sarah T. Lowe	J. B. Wisrock	401:436
1912	12.75	J. M. Back	J. J. Lowe	417:9
1913	14	I. G. Bowman for hiers of C. W. and Alice Bowman (dec'd)	A. J. Lowe	413:582
1913	14	I. G. Bowman	A. J. Lowe	432:62
1919	117.22	Partition deed S.T., A.J., W. Lowe	W. Lowe	
1942	33	W. Lowe(?)	O. R. McMurray et ux	1510:543
1962	33	W. Lowe(?)	Knapp Bros. (interrest from V. M. McMurry, et ux)	3759:421
1963	33	W. Lowe (?)	E. W. McMurry	3779:502

Table 13-2
LAND IMPROVEMENT DATA FOR A. J. LOWE PROPERTY (41TR40)
ON THE ROBERT CRAWFORD SURVEY

Structure	Dimensions	Roof Type	Wall Type	Foundation	Date
Dwelling	48' × 32'	wood shingle	wbd[1]	wood posts	1890
Barn	14' × 20'	wood shingle	box	wood posts	1890
Shack	24' × 26'	wood shingle	box	wood posts	1900
Shed	12' × 14'	wood shingle	box	wood posts	1915
Shed	10' × 12'	corrugated iron	box	wood posts	1925

[1] Weather Board

shed occurred between this barn area and the house on the eastern portion of the site. Most of this structure had been removed. A two-room building in the northwestern portion of the farmstead probably served as a chicken coop. A fourth outbuilding was located west of the house and high power line. This structure was pole and frame and measured 3.70 × 5.4 m, with loft doors which indicated that it may have served as a small hay barn. Also associated with this building was a windmill, above ground water tank, a water trough, and several pieces of abandoned farm machinery which dated to the last portion of occupation at 41TR40.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation work at site 41TR40 focused on (1) retrieving a systematic sample of the sheet refuse midden across the site and (2) investigating such specialized features as a stone well, a collapsed root cellar, and a post 1940 trash dump.

The sheet refuse investigations consumed 36 person days, and resulted in the recovery of 4,347 artifacts. A total of 120 50 × 50 cm units were excavated on an 8 m

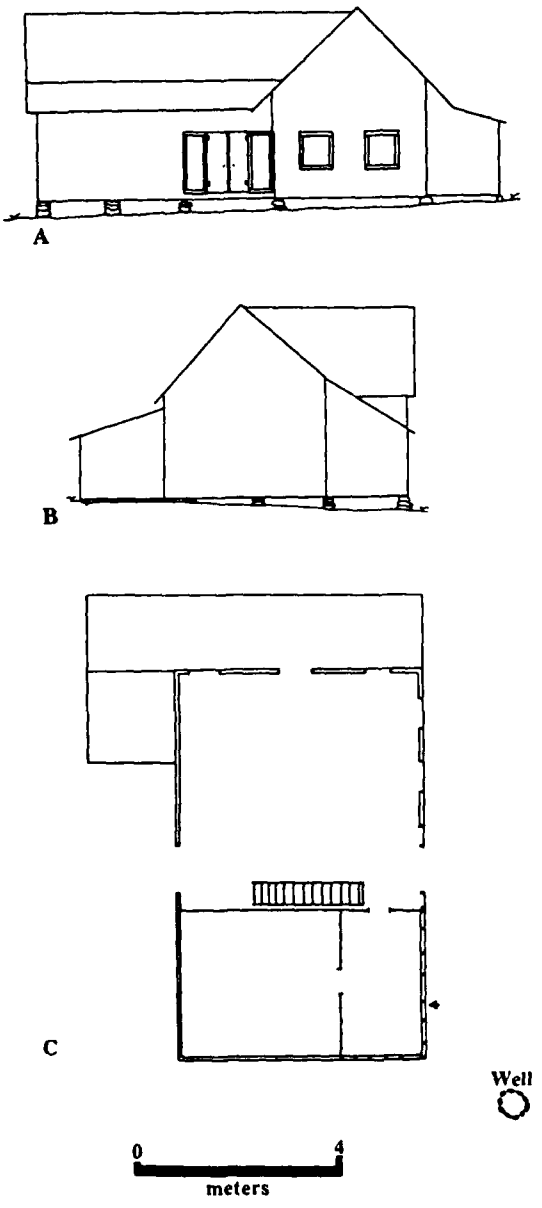


Figure 13-3. The (a) north (b) south elevations and the floor plan (c) of the Lowe dwelling, reconstructed from the remaining ruins. The structure was a ca. 1880 central hall with a T-floor plan, and was constructed of sawn pine lumber with cut nails and mortise and tenon joinery. Note that the northeast room had red cedar posts set into the ground. This was an original part of the two story construction.

grid across the site, including the outbuilding complex west of the high power tension line. These units indicated that (1) the site had been occupied primarily from the 1880s up to the 1940s, and (2) a small veneer of earlier material was recorded west of the house. A high percentage of post-occupational trash deposits in gullies and ravines was also recorded at the site. In addition, the unit at S192 E192 revealed evidence of an early handmade brick structure, which based on its size and location, was used as a root cellar.

A second phase of work was directed towards intensive investigation of the root cellar, and a buried stone well. This work was accomplished in 8 person days, and resulted in the recovery of 2,578 artifacts from units excavated above the collapsed root cellar, and 2,256 from within the well fill.

SOIL AND CULTURAL DEPOSITION

The soil matrix at site 41TR40 was silty sand with few to no gravels. The A horizon was very shallow in the western portion of the site as a result of the construction of the high tension power line which not only removed over a 12 m wide swath, but also created extensive erosion. Highly eroded areas were evident between E152 and E168 west of the dwelling, as well as the dirt road that bisected the site between the house and outbuilding areas. Post 1940s trash deposits were identified in all major erosional gullies, and along both dirt roads (see Figure 13-1). Units containing high density artifact deposits were not limited to these trash filled gullies, and included many units situated in the dwelling area, as well as directly outside the barbed wire fence located between the house and the northern outbuilding areas.

ARTIFACT ASSEMBLAGE

Major artifact categories varied considerably in frequency and distribution between the assemblages recovered from the sheet refuse midden and specialized features, including a stone well and several trash deposits (Table 13-3). The midden contains cultural material dating to the Lowe and Wolf family occupations, while items deposited after 1940 occurred primarily in dense trash deposits (Features 2 through 5). Bottle glass is more common in specialized features (except for Feature 2) than in the midden, while the reverse pattern is evident for ceramic vessels, including refined earthenwares and stonewares. Tin can remains are also considerably higher in the specialized features at the site than in the midden. Low frequency items vary in the type of items represented within each feature.

CERAMICS

Refined earthenwares accounted for between 54.9% and 75.5% of the ceramic assemblage from the sheet refuse midden and specialized features (excluding Feature 2). Stonewares were the second most common, accounting for 12.5% of the ceramics in the sheet refuse, and also occurring only in features containing late nineteenth and early twentieth century sheet refuse (Features 1, 5, and 6). Porcelains were more common in Features 1 and 6 than stoneware sherds, and were also more frequent than in the sheet refuse midden. Porcelain sherds in these features may reflect styles of the nineteenth century while later twentieth century styled vessels are found in the midden.

Refined earthenwares in the midden, as well as in Features 1 and 6, included 1900 - 1940s whitewares and ivory tinted wares, as well as a number of bluish tinted

Table 13-3
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE AND SPECIALIZED FEATURES[1]

	Sheet Refuse: Dwelling & Major OB		Sheet Refuse: Windmill Complex		Well Feature 1		S160 E202 Feature 2		S168 E184 Feature 3		Root Cellar Feature 5		S192 E192 Feature 6		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Earthenware																
Coarse	12	.3													12	.1
Refined	79	1.8			48	2.1	1	.1	5	1.2	28	1.1	20	2.5	181	1.5
Stoneware	35	.8			3	.1					8	.3	2	.2	48	.4
Porcelain	18	.4			27	1.2			3	.7	1	<.1	13	1.6	62	.5
Bottle Glass	967	22.6	30	41.1	303	13.4	77	4.0	292	68.1	898	34.8	250	30.6	2817	22.8
Table Glass	20	.5			26	1.2	8	.4	26	1.2	17	.7	19	2.3	93	.8
Lamp Glass	54	1.3			84	3.7	59	3.1	1	.2	42	1.6	7	.9	247	2.0
Unknown Glass	2	<.1					23	1.2							25	.2
Architecture																
Nails	577	13.5	7	9.6	242	10.7	18	.9	6	1.4	187	7.3	71	8.7	1108	9.0
Brick	775	18.1			166	7.4			42	9.8	148	5.7	67	8.2	1198	9.7
Window Glass	364	8.5	15	20.5	288	12.8	2	.1	12	2.8	108	4.2	71	8.7	800	6.5
Other	551	12.9	13	17.8	136	6.0	317	16.5	24	5.6	376	14.6	92	11.3	1509	12.2
Clothing Items	23	.5	2	2.7	19	.8	11	.6	3	.7	28	1.1	5	.6	91	.7
Toys	6	.1			5	.2	5	.3			5	.2			21	.2
Other Personal	21	.5			6	.3	7	.4	4	.9	21	.8	1	.1	60	.5
Faunal/Floral Remains	70	1.6			50	2.2	51	2.7	2	.5	54	2.1	11	1.3	238	1.9
Thin Metal	451	10.6	6	8.2	779	34.5	1267	66.0	19	4.4	515	20.0	157	19.2	3194	25.9
Heavy Iron	63	1.5			9	.4	3	.2	1	.2	56	2.2	16	2.0	148	1.2
Fuel Remains	10	.2			5	.2	1	.1	1	.2	1	<.1			18	.1
Hand Tools	34	.8			12	.5					3	.1	6	.7	55	.4
Firearms	7	.2			3	.1			1	.2	5	.2			16	.1
Stable Gear	3	.1													3	<.1
Electrical Parts	14	.3			1	<.1	2	.1			51	2.0			68	.6
Misc. Other	118	2.8			104	4.6	67	3.5	10	2.3	26	1.0	8	1.0	333	2.7
Total	4274		73		2316		1919		452		2578		816		12345	

1 Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, hand tools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on additional analyses.

whitewares and ironstones. These latter styles were less common in other features. Fiesta glazed whitewares were very uncommon at 41TR40. Relief molded decoration and decalcomania decorations were the most frequent, and the latter included a *PASTORAL USA* pattern dating to October, 1958 produced by Homer Laughlin (Gates and Ormerod 1982:129,156) on an ivory tinted ware recovered from a 1 × 1 m unit at S192.5 E188 excavated in 1979 - 1980.

The stoneware assemblage was recovered primarily from the sheet refuse midden and sheet refuse in the fills of Features 1, 5, and 6. These sherds included vessels that ranged in age from the 1880s up to the early twentieth century. The majority of the sherds were from natural clay slipped interior and exterior vessels which included both jugs and crocks. A small number of natural clay slipped interior and salt glazed exterior vessels were also represented. On the other hand, bristol glazed stonewares were uncommon, including kitchenware vessels with cobalt blue decoration.

VESSEL GLASS

The vessel glass assemblage from 41TR40 included 2,817 bottle glass sherds, 116 table glass, 247 lamp, and 25 unidentifiable sherds (see Table 13-3). A breakdown by color (Table 13-4) indicated that clear bottles predominated in the sheet refuse midden and all specialized features. However, other bottle glass colors varied considerably between deposits, reflecting both temporal and spatial differences. Although constituting a small percentage of all contexts, manganese bottles were most frequent in Feature 1, and olive bottle fragments were most common in Feature 6. Both deposits contained a mixture of late nineteenth century sheet refuse and early twentieth century trash. In addition, Features 2 and 5 contained a smaller range of vessel glass colors reflecting the short deposition represented by these deposits. On the other hand, a wider variety of colors were recorded for Feature 3, which contained some sheet refuse which had washed

Table 13-4
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE AND SPECIALIZED FEATURES AT THE LOWE SITE, 41TR40

	Sheet Refuse[1]		Well Feature 1		S160 E208 Feature 2		S168 E184 Feature 3		Root Cellar Feature 5		S192 E192 Feature 6	
	N	%	N	%	N	%	N	%	N	%	N	%
Glass Color:												
Clear	679	70.2	140	48.1	63	81.8	231	79.1	798	88.9	186	74.4
Manganese	73	7.5	49	16.8			11	3.8	9	1.0	7	2.8
Olive Green	6	.6	2	.7			2	.7	5	.6	4	1.6
Emerald Green	4	.4					4	1.4				
Light Green	49	5.1	27	9.3			4	1.4	26	2.9	2	.8
Aqua	43	4.4	55	18.9	1	1.3	1	.3	46	5.1	11	4.4
Dark Blue	6	.6	2	.7			6	2.1	1	.1		
Crystal Blue	2	.2					3	1.0			5	
Brown, Honey	94	9.7	8	2.7	13	16.9	34	11.6	10	1.1	32	12.8
Yellow											1	.4
Translucent Milk	1	.1	1	.3			1	.3				
Opaque Colored Milk	8	.8	5	1.7			6	2.1	3	.3	1	.4
Vaseline Colored Milk	1	.1					1	.3				
Clear Gray Ash Tint	1	.1	2	.7			2	.7				
Decoration:												
Plain	873	90.3	270	92.8	62	80.5	265		643	71.6	232	92.8
Relief	49	5.1	17	5.8	12	15.6	29	10.0	87	9.7	14	5.6
Corrugated	15	1.6					1	.3	28	3.1	2	.8
Printed									1	.1		
Milled			1	.3					1	.1		
Enamel Label, painted	4	.4							19	2.1		
Maker's Mark	26	2.7	3	1.0	3	3.9	11	3.8	119	13.3	2	.1
Diagnostic Attributes:												
None	912	94.3	256		66	85.7	251	86.0	102	78.2	243	97.2
Bodies:												
Embossed Panel Bottle									2	.2		
Bases and Rims:												
Snap Case	2	.2							4	.4		
Owens Ring	5	.5	2	.7			3	1.0	6	.7		
Valve Mark									4	.4		
Corrugated Pattern on Base	11	1.1					3	.10	10	11.1	1	.4
Ground Base											1	.4
Machine Made Base or Lip	18	1.9	7	2.4	9	11.7	11	3.8	51	5.7	4	1.6
Clear Continuous Thread Lip							8	2.7	12	1.4	1	.4
Milled Vessel	1	.1										
Snuff Jar	1	.1										
Inset Cap	6	.6	2	.7			2	.7	1	.1		
Fruit Jar	11	1.1							62	6.9		
Total	967		291		77		306		898		249	

downslope from the dwelling area, as well as post 1940s trash. In addition, this pattern was evident among the types and age of the vessels found. A wider range of vessel types occurred in the sheet refuse midden followed by Features 1 and 6, with less variability in Features 2, 3, and 5.

ARCHITECTURAL REMAINS

Architectural remains comprised the largest percentage of cultural material recovered from the sheet refuse midden in the dwelling and major outbuilding areas, as well as Feature 6 (see Table 13-3). They were

Table 13-5
MACHINE CUT AND WIRE NAIL ASSEMBLAGES FROM SHEET REFUSE AND SPECIALIZED FEATURES

	Sheet Refuse[1]		Feature 1		Feature 2		Feature 3		Feature 5		Feature 6		Units within 4m of House	
	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire	Cut	Wire
Whole Nails (cm):														
1.0		4				6				2	1			
1.9	3	2	2	1						1		2	4	1
2.5	5	16							1	1		2		14
3.2	7	48	4	26		1	1		15	13			1	31
3.8	8	18	3	13					2	2		1	12	15
4.4	18	26		5						9	1		22	23
5.1	12	29		4		2			6	14		1	7	25
5.7	1	8		3						10				
6.3	2	60	2	10		1		1	2	27		4	1	26
7.0	10	12	18	15						17			10	3
7.6	2	4		3		1			2	6		2	1	1
8.3	2	6		4				1		1		2		2
8.9		19		2						2		1		5
9.5		3		2						5				
10.2	1	2		1						2		1	1	1
10.8		2												
11.4		3												
12.1				1						1				
12.7									1					
13.3				1										
14.6				1										
15.3		1												
Total (Whole)	71	283	29	92		11	1	2	28	113	2	16	59	147
Broken Nails:	85	80	38	78	1	6	3		14	32	13	37	24	50
Total (All)	156	343	67	170	1	17	4	2	42	145	15	53	83	197

the second most frequent category in the remaining specialized features where they accounted for between 17.5% of the assemblage at Feature 2, and 34.2% at Feature 1. Nails were the most common architectural remains in the main dwelling and outbuilding sheet refuse midden, and were second most common at features located near the house (Features 1, 5, and 6). Window glass and other architectural remains dominated in the windmill area.

NAILS

Wire nails predominated in both the sheet refuse and features (except Feature 3), accounting for 70.4% of the nails recovered from 50 × 50 cm units under the house or within 4 m of the dwelling. These nails were from modifications made to the house and the construction of major outbuildings during the twentieth century. Feature 1 (well) contained 2.55 times as many wire nails as machine cut, and the sheet refuse contained 2.33 times as many. However, Features 5 (root cellar) and 6 (trash deposit) exhibited a wire to cut ratio of 3.45 to 1 and 3.6 to 1, respectively. In addition, a higher percentage of broken machine cut nails than wire nails was recovered in the sheet refuse and all features. A total of 51.3% of all machine cut nails were broken and only 30.6% of all wire nails. These nails accounted for 40.7% of the broken machine cut nails and 25.4% of the wire nails from units under or within 4 m of the dwelling.

Machine cut nails at 41TR40 (Table 13-5) ranged in size from 1.0 cm to 10.2 cm with 98% ranging between 1.9 cm and 8.3 cm. The most frequent machine cut nail sizes found in the sheet refuse midden were 7.0 cm nails used for joists and sills, and 4.4 cm and 5.1 cm nails used for major construction (Jurney 1987a). Machine cut nails in units located under or within 4 m of the dwelling ranged in size from 1.9 cm to 10.2 cm with all but two nails occurring between 3.2 cm and 7.6 cm in size. The most frequent nail sizes were 4.4 cm, 3.8 cm, and 7.0 cm, respectively.

Wire nails at the site ranged in size from 1.0 cm to 15.3 cm with 94.0% ranging between 2.5 cm and 8.9 cm. The most frequent sizes found in the sheet refuse midden were 6.3 cm, 5.1 cm, and 3.2 cm, respectively, while the most common sizes found in units under or within 4 m of the dwelling were 3.2 cm, 6.3 cm, and 5.1 cm, respectively. In addition, the range of sizes for wire nails in these latter units was from 1.9 cm to 10. 2 cm and included a higher percentage of small (less than 3.2 cm) and large (greater than 6.3 cm) nails than was recorded for machine cut nails.

Table 13-6
WINDOW GLASS ASSEMBLAGE FROM SHEET REFUSE AND SPECIALIZED FEATURES

Fragment (*mm*)	Sheet Refuse[1]		Well Feature 1		S160 E208 Feature 2		S168 E184 Feature 3		Root Cellar Feature 5		S192 E192 Feature 6		Units within 4m of House	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
1.2			1	.4										
1.4			8	3.6					1	.9	18	25.4		
1.5	1	.3	1	.4									1	.4
1.6	6	1.8	3	1.3					2	1.9	1	1.4	1	.4
1.7	3	.9	2	.9					1	.9			2	.8
1.8	8	2.4	24	10.7					5	4.7	22	31.0	4	1.7
1.9	14	4.2	23	10.3							9	12.7	7	2.9
2.0	35	10.5	16	7.1			1	10.0	27	25.5	9	12.7	31	13.0
2.1	12	3.6											2	.8
2.2	18	5.4	13	5.8			2	20.0	24	22.6	3	4.2	20	8.4
2.3	44	13.3	3	1.3					2	1.9			37	15.5
2.4	42	12.7	31	13.8					8	7.5	1	1.4	67	28.2
2.5	4	1.2	1	.4			2	20.0					9	3.8
2.6	25	7.5	37	16.5			1	10.0	22	20.8	1	1.4	22	9.2
2.7	5	1.5	29	12.9			2	20.0					4	1.7
2.8	17	5.1	25	11.2			1	10.0	5	4.7	2	2.8	11	4.6
2.9	5	1.5	4	1.8			1	10.0	2	1.9	1	1.4	11	4.6
3.0	10	3.0	2	.9	2	100.0			5	4.7	2	2.8	7	2.9
3.2	2	.6	1	.4					2	1.9	2	2.8	1	.8
>3.2	23		1				2						9	
Total	251		224		2		10		106		71		237	
No measurement			3						2					

BRICK

Brick accounted for 18.1% of the sheet refuse assemblage in the dwelling and major outbuilding areas. No brick was found in the windmill area or Feature 2. No significant difference was found in the percentage of brick fragments for Features 1, 3, 5, and 6. However, 14.3% of the bricks in Feature 3 were machine made, while Features 1, 5, and 6, which were associated with the dwelling, contained 0 to 3.6% machine made brick.

Only 4.8% of the brick fragments recovered from 41TR40 were machine made varieties, with the remaining 95.2% comprised of soft, crude handmade and transitional (mass produced, denser, well-shaped) handmade varieties. The chimney associated with the original portion of the dwelling was comprised of crude handmade bricks while transitional bricks were used in the construction of the root cellar (Feature 5), probably a short time after the house was completed. The distribution of machine made bricks indicates that these fragments cluster in units away from the dwelling, in the roadbed that crosscuts the farmstead east of the house (along the E216 line), and in units in the northeastern corner of the site where bricks have been used as fill material. Only two units in the house area contained machine made brick fragments.

WINDOW GLASS

Window glass sherds accounted for 8.5% of the sheet refuse assemblage in the dwelling and major outbuilding areas and 16.0% of the total architectural remains from the midden of site 41TR40 (see Table 13-3). Flat glass sherds were also found in two 50 x 50 cm units in the windmill area, but were uncommon in specialized trash features (Features 2, 3 and 5) containing primarily post 1940s remains. A higher percentage of sherds were found in Feature 6 which contained primarily late nineteenth and early twentieth century material, and the filled well (Feature 1) which contained mixed deposits.

Window glass sherds ranged in thickness from 1.2 mm to 3.2 mm while speciality flat glass ranged between 3.3 mm and 6.6 mm (Table 13-6). Within the sheet refuse, window glass ranged from 1.5 mm to 3.2 mm with major peaks at 2.3 mm, 2.4 mm, and 2.0 mm respectively. A mean thickness value of 2.2 mm was calculated for these sherds. Units located under or within 4 m of the dwelling also contained sherds that ranged in thickness from 1.5 mm to 3.2 mm, with a mean thickness of 2.37 mm indicating that a higher percentage of thinner sherds (less than 1.5 mm) were recovered in specialized features. In addition, sherds from units within 4 m of the house include a mixture of fragments from some of the original panes, as well as later, replacement panes. On the other hand, Feature 6 (S192 E192) contained 18 window glass sherds that measured 1.4 mm thick with other major peaks at 1.8 mm, 1.9 mm, and 2.0 mm. A mean thickness value of 1.89 mm was obtained for sherds in Feature 6, which probably reflects a high accumulation of pane fragments from the original windows in the dwelling.

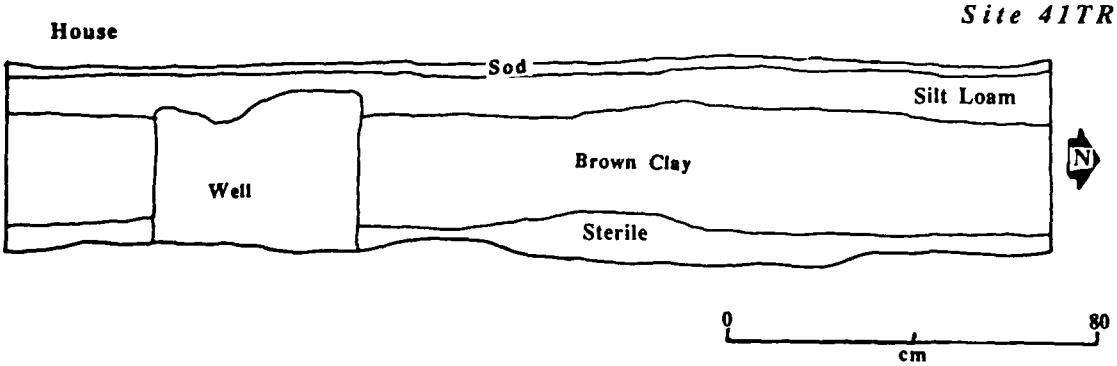


Figure 13-4. Profile of the west wall of the backhoe trench through the stone lined well at 41TR40.

OTHER ARCHITECTURE

Other architectural remains at 41TR40 included building hardware, interior furnishings, and fence wire. A total of 45 mortar and cement fragments were recovered, and were primarily found directly around the dwelling, and in the two roadbeds in the northeastern portion of the site. Building hardware included 438 asphalt shingles, two pieces of tar paper, five boards, four metal hardware, one piece of slate, '3 window screen fragments, one cut stone fragment, one bathroom fixture part, and three pieces of plaster. These items were concentrated in units associated with the house. The remaining architectural remains included 195 pieces of plain and barbed wire which were found in both the dwelling and major outbuilding areas.

OTHER REMAINS

Other remains found at 41TR40 included personal items, faunal and floral remains, thin metal, heavy iron parts, fuel remains, hand tools, firearms, stable gear, electrical parts, and unidentifiable plastic, glass, and organic items (see Table 13-3).

Personal items were most common in the dwelling area, and in Features 1 and 5 which contained primarily domestic remains. Clothing items including buttons, shoe and boot parts, and metal fasteners accounted for the bulk of the personal items. Recreation and leisure items were also common and included phonographic record fragments, as well as children's toys. Hygiene and grooming items, and miscellaneous personal items such as purse parts, jewelry, coins, and writing implements were uncommon. Household remains included electrical parts, although a small number of cooking vessels, flatware, stove parts, and furniture parts were also found. Outdoor remains included firearms, miscellaneous hardware (e.g., nuts, bolts, chain), and a small number of horse and stable gear. These remains are discussed more fully in Chapter 23.

Fauna and flora remains varied greatly across the site, accounting for 1.6% of the assemblage from the sheet refuse midden in the dwelling and major outbuilding areas. These remains were absent in the windmill area, but ranged from .5% at Feature 3 to 2.7% in Feature 2. Large bone fragments were found in Feature 6, within a dense ash and charcoal matrix. Major fauna and flora remains are identified and examined in detail in Chapter 25.

Thin metal fragments at 41TR40 were comprised of corroded tin can fragments and were recovered from the sheet refuse, and all specialized features (see Table 13-3). Features containing post 1940s trash produced the highest percentage of tin can fragments, and included Feature 2 (S160 E208), Feature 1 (well), and Feature 5 (root cellar). Dense trash deposits recorded in several gullies at the northern extent of the site also contained a high percentage of tin can fragments.

Fuel remains and electrical remains were not well represented. A total of 2.0% of the assemblage from Feature 5 was comprised of battery fragments. Metal farm related items were also poorly represented and included primarily horse and stable gear, and wagon and machine parts.

FEATURES

Four specialized features were intensively investigated. Three of these were associated with the Lowe occupation at 41TR40 (Features 1, 5, and 6), and one dated to a tenant occupation (Feature 2). Other features recorded at the site included two additional post-occupation trash deposits (Features 3 and 4), which contained deposits similar to those identified in Feature 2.

FEATURE 1

Feature 1 is a dry laid, stone well probably constructed along with the dwelling, and dates to the late nineteenth century. It was filled in during the twentieth century after the windmill complex on the western periphery of the site was built to provide water for the farmstead. The well is situated approximately 2 m east of the northeastern corner of the dwelling, and was constructed using numerous local limestone slabs derived from the Austin Chalk Formation.

Two backhoe trenches were excavated to expose the east wall of the well: one oriented north - south, and the second oriented east - west (see Figure 13-2). The west face of the north - south trench was profiled and photographed, and all artifacts found during machine excavation were recovered. No soil was screened from these trenches which measured approximately 1 m wide, 3 m long, and 80 cm deep. The east wall of the well was drawn, and indicated that Feature 1 had vertical walls and was definitely a well rather than a cistern (see Ferring and Reese 1982), and that a builder's trench was not used (Figure 13-4).

A 1.5 x 1.5 m unit containing the well was hand excavated to expose the entire top of Feature 1. This

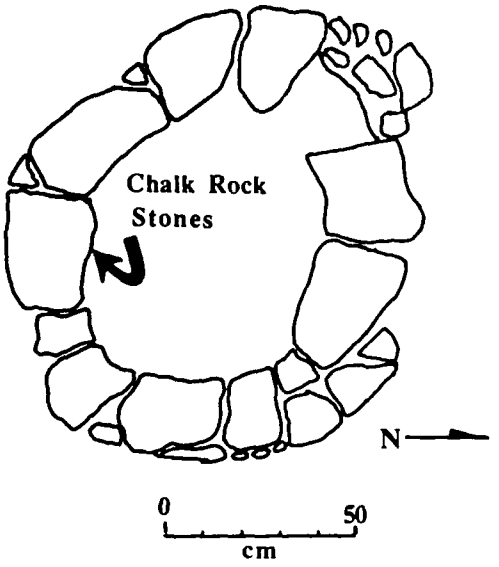


Figure 13-5. Plan view of the stone lined well at 41TR40.

unit was located at S203.5 E201.5 with the east edge of the unit corresponding to the west wall edge of the north - south backhoe trench. Material recovered from this unit, the backhoe trenches, and from the fill within the well were kept separate. The interior of the well was excavated in arbitrary 10 cm levels and the width of each level was defined by the interior walls of the well. All stones from the well were left *in situ*. Plans, profiles, photographs, and flotation samples were obtained for each level (Figure 13-5). All of the levels sampled contained mixed fill deposits.

A total of 2,256 artifacts were recovered from the well fill, and primarily included tin can fragments, architectural items, and bottle glass. The high percentage of architectural items represents remains that were derived from the original dwelling as well as later renovation episodes (see Tables 13-3). Bottle glass accounted for 13.4% of the assemblage and was comprised primarily of clear, aqua, and manganese glass. Fruit jars and inset caps accounted for 60% of the identifiable sherds (see Table 13-4). All bottles were machine made, and included both narrow mouth cork and continuous threaded wide mouth bottles. No maker's marks were identified among the bottle glass. The table glass assemblage included acid etched, and pressed clear, milk, and pink vessels. A milled tumbler fragment was also found. The lamp glass included both plain and beaded rim varieties. Few refined earthenwares were found in Feature 1 and plates were the most common, followed by porcelain cups and saucers. Three maker's marks were represented and included *C. P. Co.* on a undecorated plate with a scalloped rim; *NORTAKE MADE IN JAPAN* on a porcelain cup; and *MAD*[E....] *MAR*[ ] on a porcelain plate or saucer. Major decorative styles included scalloped rims on plates, gilding and hand painted motifs on porcelain cups and saucers, as well as one plate fragment with thick blue bands along the rim, and a flatware sherd with a light green Fiesta style glaze. Clothing items accounted for the majority of the personal items. Only a few kitchen or outdoor low frequency remains including flatware, vessels, furniture and stove parts, as well as horse and stable gear, wagon, and machine parts, and firearms were found. Overall, these remains were less common in Feature 1 than the general sheet refuse midden.

FEATURE 2

Feature 2 is a post 1940s trash deposit located south of the large outbuilding situated at the north-eastern corner of the farmstead (see Figure 13-1). This feature is situated in a shallow gully bounded on both the north and east sides by the two roads that crosscut the site. Major remains recorded on the surface in this gully included porcelain bathroom fixtures, as well as numerous tin cans, and bottles, and a large metal wash basin. This feature dates after 1940, and a single 50 × 50 cm unit was excavated in order to sample Feature 2.

Tin can fragments accounted for 66.0% of the assemblage within Feature 2, followed by architectural items (17.5%), and bottle glass (4.0%). All other remains were uncommon.

FEATURE 3

Feature 3 is a post 1940s trash deposit, which is similar in age to Features 2 and 4. It is located in a shallow gully along the road that bisects the site, and is situated just south of the fence that surrounds the chicken coop. A single 50 × 50 cm unit was excavated to recover a sample of Feature 3 (see Table 13-3). Bottle glass comprised the largest percentage of remains in Feature 3, followed by architectural items, and tin cans, exhibiting a reverse pattern to the Feature 2 assemblage.

FEATURE 4

Feature 4 is a post 1940s trash dump located in a deep gully along the northern extent of the site. This feature is similar in age and contents as Features 2 and 3, and was not sampled. Trash recorded in the field included large bottles, stoneware crocks, tablewares, tin cans (primarily food stuffs, but also included paint cans), metal appliance parts, as well as children's toys, furniture parts, and fixtures.

FEATURE 5

Feature 5 is a post 1940s trash deposit located in the depression which formed when the root cellar situated near the back of the house collapsed sometime during the early twentieth century. The root cellar was constructed of recycled crude and transitional handmade bricks. The root cellar was first encountered in the unit at S200 E176 and appeared as a distinct soil change containing numerous brick fragments. A large elliptical depression was noted in the field south of this unit, similar in size and shape to other depressions in the Project area that had been identified as root cellars. A north - south oriented backhoe trench was excavated through the center of the depression to a depth of 45 cm below surface. The trench was then enlarged by hand excavation to 1 m × 3 m, and was excavated further as three contiguous 1 × 1 m units using arbitrary 10 cm levels to a depth of 65 cm (see Figure 13-6).

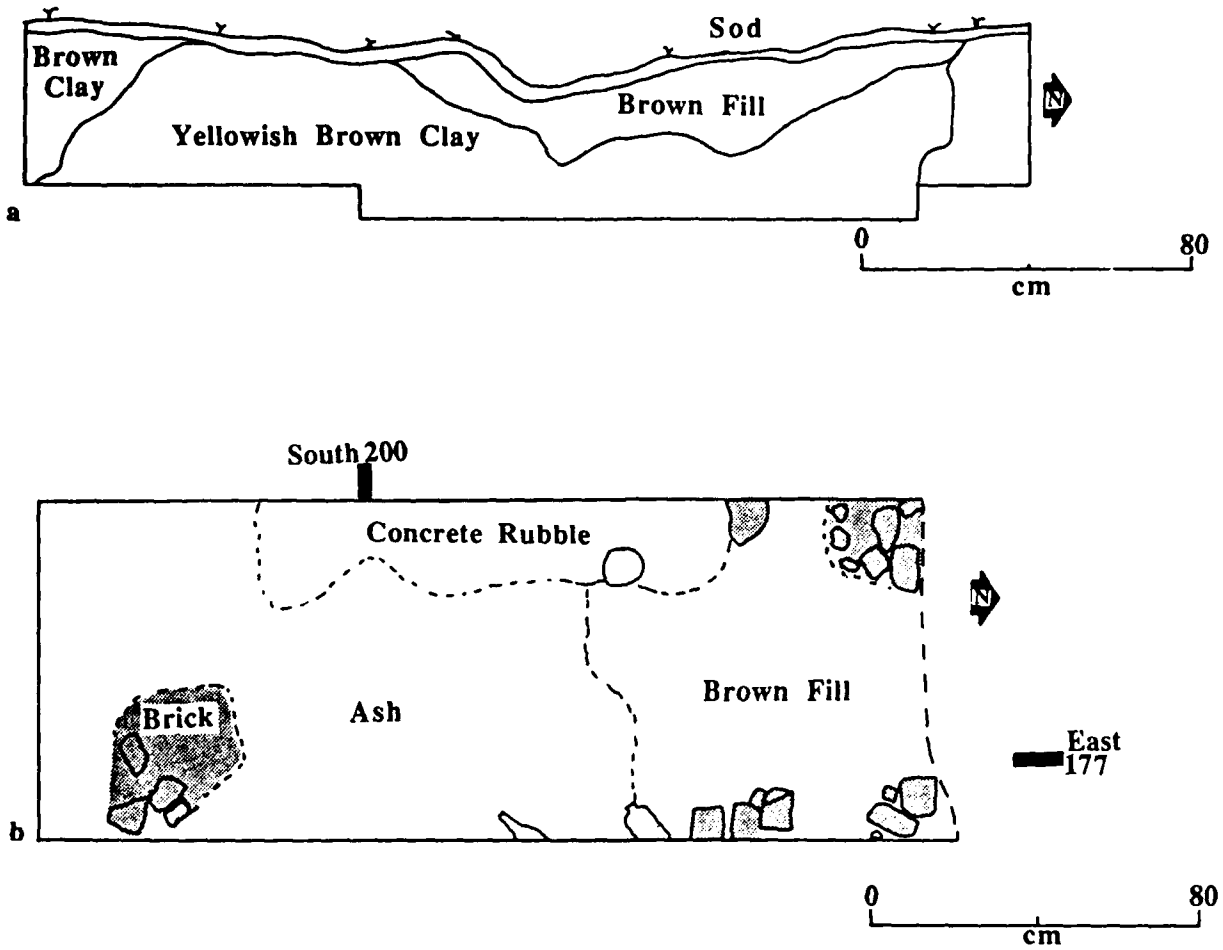


Figure 13-6. West profile (a) and plan view (b) of the earthen cellar at 41TR40.

The bricks from the top of the collapsed root cellar were encountered at 55 cm. Matrix outside the depression was excavated separately, and was nearly void of artifacts. A heavy concentration of ash, bottle glass, and metal remains was found within the depression, with the densest deposit occurring in the middle 1 × 1 m unit. Cultural material in the north and south 1 × 1 m units was less dense, consisting mostly of bricks, glass, and metal items.

The artifact assemblage from Feature 5 included primarily bottle glass, architectural items, and tin cans. Architectural remains included those associated with the dwelling and bricks from the root cellar itself. The bottle glass assemblage included a high percentage of complete or freshly broken bottles, and large metal artifacts including several metal buckets, and machinery parts.

A breakdown of the bottle glass assemblage by color (see Table 13-4) indicates that clear bottles account for 88.9% of the assemblage. Manganese, light green, and aqua are the next most common, but together account for only 9% of all bo[illegible]. A higher percentage of bottles with maker's marks were found in Feature 5 than elsewhere at the site, and included: *BALL PERFECT MASON, ANCHORGLAS, DURAGLASS, ROYAL CROWN COLA, MASON, OWENS, PEPSI COLA*, and *DR. PEPPER*. Several pre-1900 bottles (less than 1%) from sheet refuse were found, while the remaining bottles were machine made and included both cork and crown narrow neck and continuous threaded wide mouth bottles. Fruit jars accounted for the majority of all bottles found in Feature 5, and included over 20 clear and two aqua continuous threaded bottles. Soda bottles accounted for the next most frequent bottle type and included both relief and enamel maker's marks. Extract and medicinal bottles, and clear liquor bottles were also well represented, while snuff and olive liquor bottles were very rare. Ceramic tablewares and stoneware vessels were also uncommon and included primarily twentieth century sherds. Earlier vessels were infrequent and, based on their sherd size, were probably deposited as sheet refuse fill. Two refined earthenware vessels were found, and included 33 pieces of a chamber pot, and 17 pieces of an ivory tinted cup. With the exception of these two vessels, the refined earthenware assemblage is comprised of plain cups and plates, and several special vessels that may have had a long curation and use period.

Low frequency remains including personal items, kitchen and household utensils, gadgets, furniture parts, and outdoor remains such as firearms, horse and stable gear, and tools accounted for a small part of the remains in Feature 5. Personal items primarily included buttons,

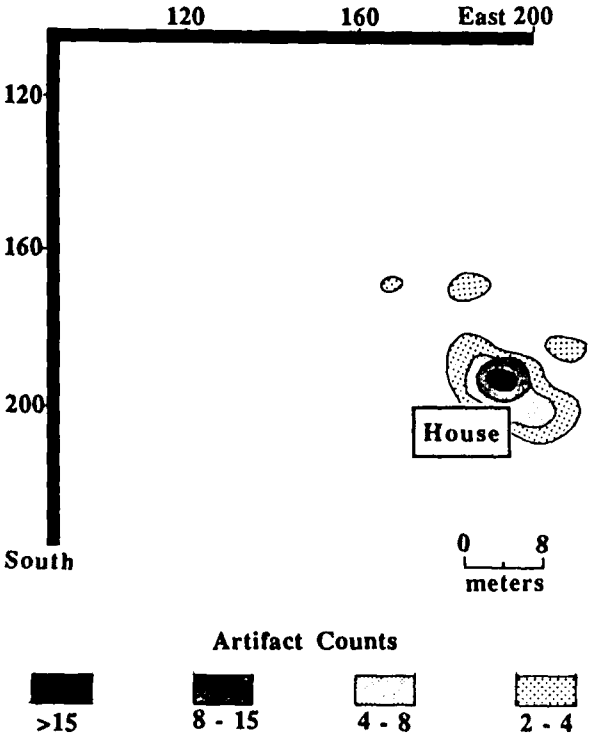


Figure 13-7. Renditions of the SYMAP distribution of ironstone whiteware based on 50 × 50 cm units on an 8 m grid at 41TR40.

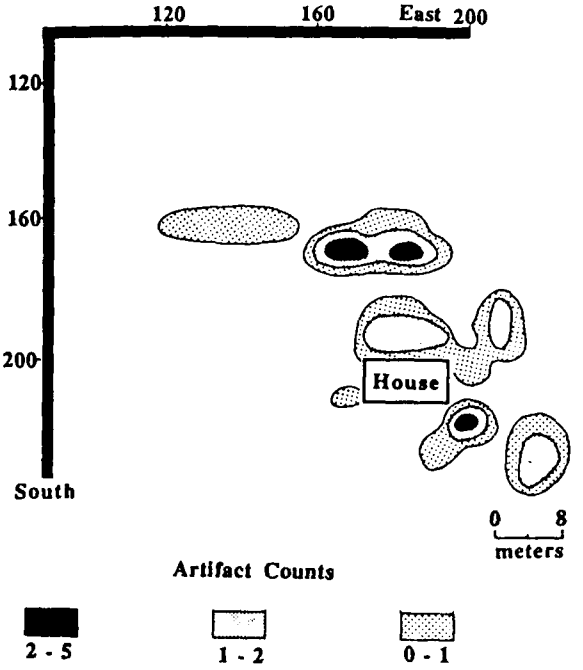


Figure 13-8. Renditions of the SYMAP distribution of stoneware based on 50 × 50 cm units on an 8 m grid at 41TR40.

shoe and boot parts, children's toys, and several miscellaneous possessions (watch, purse, jewelry, and pencil parts). Electrical remains accounted for 2% of the assemblage, while outdoor items comprised 1.2%.

FEATURE 6

Feature 6 is a dense artifact trash deposit encountered in a 50 × 50 cm unit on the 8 m grid at 41TR40. It was encountered at Unit S192 E192, situated about 10 m north of the dwelling, and just north of an old barbed wire fence (Figure 13-7). This unit contained both nineteenth and twentieth century material. Bottle glass, architectural remains, and tin can fragments accounted for the majority of the cultural remains in Feature 6 (see Table 13-3). As noted earlier, the original dwelling was built with the front facing north, and the placement of this trash deposit dates after the floorplan was reversed with the front oriented towards the south.

Based on counts recorded in the field, a total of 312 items were recovered in Level 1 (0-10 cm below surface), 357 in Level 2, and 196 in Level 3. Level 4 was sterile, and indicated that while the deposit contained a dense amount of trash, it was shallow, and no intrusive pit was evident that extended into the B horizon. Instead, Feature 6 was located entirely within the A horizon, and contained considerable ash and charcoal remains in Levels 1 through 3.

The artifact assemblage from Feature 6 reflected a pattern similar to that recorded for the sheet refuse midden in the dwelling area, as well as Features 1 (well) and 5 (root cellar). Architectural items accounted for the highest percentage of cultural material, followed by bottle glass, and thin metal. However, a higher percentage of late nineteenth century material was found in Feature 6 than in other specialized features at 41TR40. In addition, as mentioned earlier, window glass sherds, handmade brick, and nails from the original dwelling were found in Feature 6. Larger bone fragments, bottle glass and ceramic tableware sherds, and heavy metal items were found in this feature, than Feature 1, but were similar to many found in Feature 5.

INTRASITE PATTERNING

Low density cultural deposits occurred in highly disturbed areas of the site including the dirt road that bisected the farmstead between the dwelling and main outbuildings, the area between the house and high power tension line, as well as the windmill complex. Low to moderate densities were recorded in major outbuilding areas, with higher densities occurring in units within the main yard area, as well as in specialized features, including the filled well, and dense trash deposits.

Refined earthenware sherds were recovered in a major band around the south, east, and north side of the dwelling (Figure 13-8). Units in each of these areas contained only one to two sherds, with higher densities occurring in four units. Two units were located within 4 m of the north side of the house, while the remaining two included Features 3 and 6. The highest frequency occurred in Feature 6 which contained over 15 sherds within a 50 × 50 cm unit. This pattern indicated that refined earthenwares were extremely poorly represented in outbuildings, including the windmill complex, and

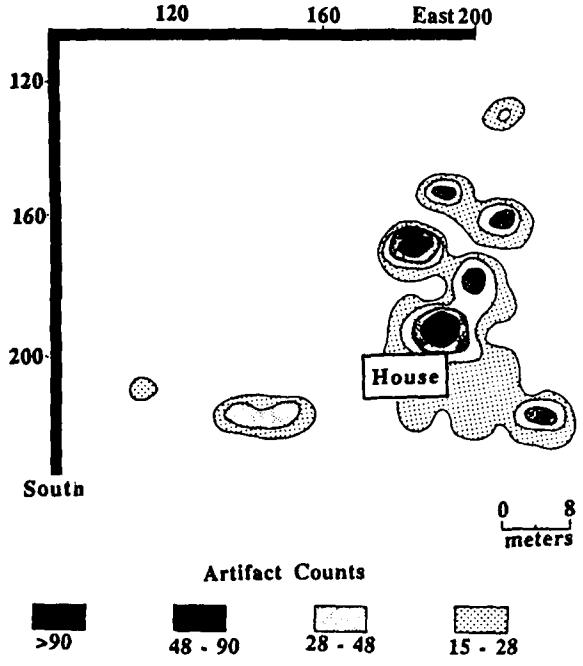


Figure 13-9. Renditions of the SYMAP distribution of bottle glass based on 50 × 50 cm units on an 8 m grid at 41TR40.

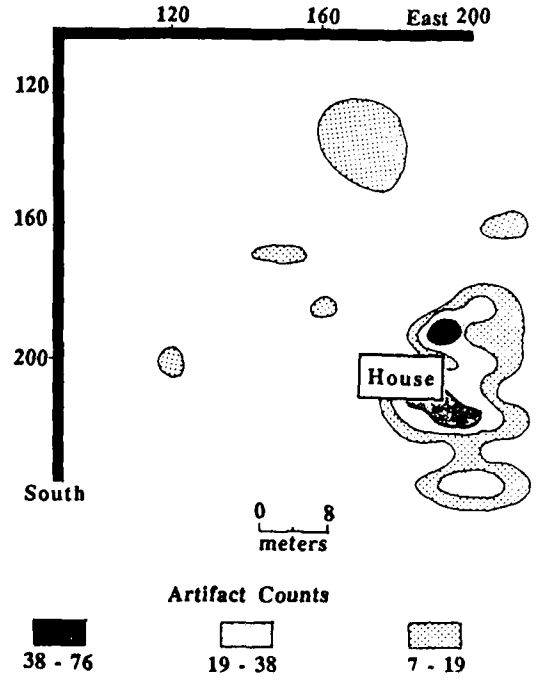


Figure 13-10. Rendition of the SYMAP distribution of nail based on 50 × 50 cm units on an 8 m grid at 41TR40.

that the heaviest concentration of sherds occurred on the north side of the house. As such, although the front of the house originally faced north, the distribution of refined earthenwares indicated that the north yard was used as the main activity area associated with the dwelling, and reflects the pattern seen for the "backyard" at other sites in the Project area. In addition, the location of Feature 6, and the collapsed well (Feature 5) reflect this same pattern.

Stoneware vessels exhibited a diffuse pattern, and were recovered primarily in outbuilding areas, and dense trash features (Figure 13-9). The highest frequency of stoneware sherds occurred in the chicken coop and surrounding fenced yard area, and Features 3 and 6. No stonewares were found in the windmill area, or Feature 3 (S160 E208), which dated to the later portion of occupation at the site. The high frequency in Feature 2 reflects evidence of downslope erosion of sheet refuse deposits between the dwelling and the major outbuildings at the north end of the site, as well as the occurrence of twentieth century stoneware styles. Similar stonewares were recorded in the gully north of this unit and the fence around the chicken coop. Older stoneware styles were recovered in Feature 6. Few stonewares were found in the main dwelling yard, included primarily sherds recovered from units near a gate at S192 E200 and units located in the road area southeast of the house.

Bottle glass sherds (Figure 13-10) were scattered across the main dwelling yard, and all major outbuilding areas, with the highest frequencies recorded in dense trash deposits (Features 2, 3, and 6), and units containing disturbed deposits (e.g., S216 E152). Low bottle glass frequencies were recorded in the windmill area, the chicken coop area, and the outbuilding at the far northeastern extent of the site. In addition, a higher frequency of bottle glass sherds was recorded for units close to the house rather than for those located further away, particularly on the west and south sides of the dwelling. On the other hand, table glass sherds occurred in units within the main dwelling area, and Features 2, 3, and 6. No sherds were found in any of the outbuilding areas.

Very different spatial patterns were also evident among the different types of architectural remains recovered at 41TR40. Nails were highly clustered directly under the dwelling, and in Feature 6 (Figure 13-11). They were also recovered in all outbuilding areas where they ranged from 0 to 19 nails per 50 × 50 cm unit. Few nails were found in Features 2 and 3, which contained primarily domestic trash (e.g., bottles, tin cans).

Brick fragments exhibited a tightly clustered concentration in 50 × 50 cm units up to 16 m north of the dwelling, and included bricks associated with the original handmade brick chimney located on the north wall (Figure 13-12). In addition, the unit at S200 E176 contained handmade brick fragments from the root cellar (Feature 5). No brick fragments were found in the unit at S208 E184, excavated under the house. Bricks were also recovered from Features 2, 3, and 4, and the gully between the house and north outbuildings. Few bricks were found in the outbuilding areas. However, a small cluster of bricks which may have been used as fill for the roadbed was recorded in the far northeastern portion of the farmstead (see Figure 13-1).

Window glass sherds were concentrated around the dwelling, with the highest frequencies occurring up to 4 m from the house, and in Features 1, 3, 5 and 6. Isolated pieces of window glass were found in the outbuilding areas, where counts ranged from 0 to 2 sherds per 50 ×

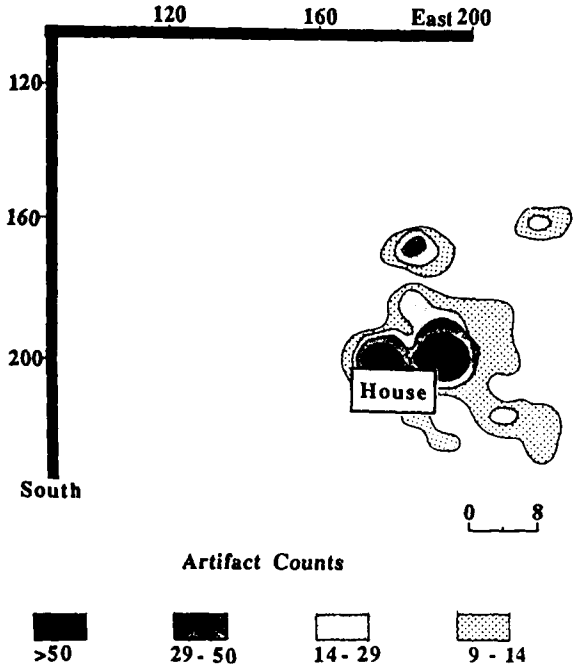


Figure 13-11. Rendition of the SYMAP distribution of brick based on 50 × 50 cm units on an 8 m grid at 41TR40.

50 cm unit. Several units in the northeastern outbuilding (S128 E200 and S136 E216) contained primarily specialty plate glass, measuring over 3.3 mm thick. Other units containing sherds over 3.3 mm thick included Feature 3 (S168 E184), S176 E192, and four units in the house area, three of which were located along exterior wall lines (S208 E184, E208 E200, S216 E200), and S200 E208.

SUMMARY

Site 41TR40 is significant in its relationship to four other farmsteads located on the bluff on the south side of Walnut Creek. These sites are situated near the confluence of Walnut Creek and Bowman Branch, and were initially settled in the late 1870s and early 1880s. Members of the Lowe family are buried in the Estes Cemetery which is located just southwest of the site, and at the Pleasant Valley Cemetery (see Appendix C, Cemeteries).

This site was the homestead of the Lowe family from the late 1880s until ca. 1940. A number of standing structures and architectural features remained, including a one and a half story frame dwelling which exhibited three major building technologies, and four frame outbuildings. Detailed architectural documentation yielded considerable information on the construction and modification of the house, and the development of a major farm complex. The dwelling was similar to the house at 41TR48 which was built and occupied by a tenant family.

A dry laid stone well (Feature 1), constructed about the same time as the dwelling, was identified approximately 2 m east of the house. A handmade brick root cellar was located off the northwest corner of the house. It was abandoned before 1940 when the depression left after the cellar roof collapsed and was filled with trash. Similar trash deposits were identified in several gullies in the outbuilding area north of the house (Features 2 through 4). The four support structures included one possible hay barn on the western periphery of the site, one chicken coop, a large barn, and a small shed. All of these structures dated to the twentieth century, and indicated a diverse, self-sufficient farm economy. The surrounding acreage supported cotton farming and grain agriculture.

Intensive sheet refuse investigations indicated intact cultural deposits which dated from ca. 1880 to 1940 with material primarily associated with the Lowe family. Based on archaeological evidence and oral documentation, the tenant occupation of site 41TR40 appears to have been very brief near the turn of the century, and again after 1940. Considerable variability was evident in the frequency and distribution of major artifact categories across the sheet refuse midden at the site and in major specialized features. This variability reflected the separation of different household and outdoor activities between the dwelling and outbuilding areas, as well as the difference in the length and age of deposition for the sheet refuse midden and specialized features at 41TR40.

SITE 41TR42: BOWMAN-SPRINKLE FARMSTEAD

14

by

Susan A. Lebo

Site 41TR42, the former farmstead of the Charles W. Bowman family, is located on a bluff on the south side of Walnut Creek (Figure 14-1). It was occupied by the Bowman family between ca. 1907 and 1913. After Charles died in 1913 the farmstead was acquired by Sam and J. K. Williams who retained ownership in the farm until 1925. During this period the site was occupied by the Sprinkle family who worked the farm as tenants. After 1925, the property passed through another five owners before being purchased by the U.S. Army Corps of Engineers.

Six major structures remain(standing on the property when mitigation began in 1985. The house (Figure 14-2), which was well documented in 1980, was extensively re-examined in 1985. Elements of this dwelling were removed for storage and possible reuse for restoration work at the Penn farmstead.

This site was selected for intensive investigation because of its potential for yielding important information on early twentieth century tenant lifeways, and because the house was identified as the only Late Victorian dwelling in the Project area (Ferring and Reese 1982:143).

ORAL AND DOCUMENTARY INFORMATION

The Bowman family owned considerable land in the Joe Pool Lake area beginning in 1854 when the I. G. Bowman grant was surveyed by A. J. Lee (Figure 14-1). In 1855, Isaac G. Bowman acquired additional land including 726 acres of the Robert Crawford survey. This farmstead appears on the 1895 Sam Street's Map of Tarrant County (Tarrant County Historical Commission 1985), and is identified as the I. G. Bowman residence, located just north of the town of Webb. However, it does not appear to have been occupied by the Bowman family (Table 14-1). Instead, between 1860 and 1902 this land was divided into a number of different tracts that were sold. Charles Bowman acquired 90 acres of this land from G. A. Bowman in 1902, and an additional 50 acres in 1907 from B. B. Haney. In 1909, Charles secured an additional 12 acres from G. A. and I. G. Bowman, and 52 acres in 1911 from I. G. Bowman and his wife, Mary (deceased). Together this land included 204 acres which co -prised the Bowman farmstead at 41TR42 until late in 1911, when Charles sold 63 acres to Joe S. Haswell. In 1913, Charles sold 7.9 acres to A. W. Collins, and the main farmstead, including 63.21 acres to brothers, Sam and J. K. Williams. La.er in 1913, his heirs sold an additional 50 acres to the Williams, and after Sam Williams' death in 1919, the entire Bowman farm was acquired by J. K. Williams.

While the land was owned by Sam and J. K. Williams, it was occupied by the Sprinkle family who worked as tenant farmers for the Williams brothers between 1913 and 1924 (Cordie Sprinkle Loyd, 1980 Interview). After Sam Williams' death in 1919, J. K. Williams inherited the entire farm. Other tenant families occupied the site after 1924. The Dallas Joint Stock Land Bank acquired 53 acres in 1925, and between 1938



Figure 14-1. Map showing the Bowman/Sprinkle site (41TR42) ca.1895, on the Robert Crawford survey in relation to its nearest neighbors.



Figure 14-2. Photograph of the Bowman/Sprinkle dwelling ca. 1980, view of rear facing the eastward.

and 1944, the entire farm was acquired by T. N. and T. F. Stewart, and by R. B. Wilchar in 1952.

The first house may have been built by Charles Bowman since he is listed as a landowner on the 1895 Tarrant County map. However, the current architecture suggests an early 1900-1910 construction reusing older buildings, one of which had burned. These recycled buildings may have been C. W. Bowman's original house, located within the immediate proximity of 41TR42. Other improvements were added to the property over a number of years of occupation (Table 14-2).

According to Cordie Sprinkle Loyd (1980 Interview) her family lived at 41TR42 when it belonged to Sam and J. K. Williams, during which period it was called the *Williams Farm*. The Sprinkle family raised mostly cotton, corn, and a little bit of small grain on one-half of the land, and cattle and horses on the other. The major support structures at the site were added prior to

Table 14-1
LAND TRACT HISTORY FOR SITE 41TR42

Date	Acres	Grantor	Grantee	Book
Robert Crawfcrd I-352 surveyed by B.J. Chambers (1841)				
J. Estes 3-3357 surveyed by J. T. Hooler (1857)				
1854	836	State of Texas	Robert Crawford	71:11
1855	726	R and Mary Crawford	I. G. Bowman	O:197
1860	90	I. G. Bowman	J. C. Hancock	H:229
1878	32.84	I. G. Bowman	Sarah E. Hart	J:63
1878	179.5	I. G. Bowman	J. C. Hancock	L:223, E:247
1878	141	Charles W. and I. G. Bowman	B. B. Haney	L:239
1883	90	I. G. Bowman	Charles W. Bowman	29:166
1890	17.5	Mary and I. G. Bowman, Sr.	I. G. Bowman, Jr.	71:315
1890	17.5	Martha and I. G. Bowman, Jr.	J. S. Griffith	69:386
1890	69	I. G. Bowman	Almer, Forrest, Lela, and Terrell Campbell	69:553
1893	108.5	Mary C. and I. G. Bowman	Emma S. Campbell	87:591
1893	56	C. W. Bowman, et al.	Emma S. Campbell	87:591
1896	64	C. W. Bowman	T. E. Kelly, et ux	123:124
1896	64	I. G. Bowman	C. W. Bowman	117:384
1901	106.2	Cynthia Barnes	J. O. and B. B. Haney	156:332
1901	13.35	A. J. Dukes, C. W. Bowman and H. Poe	J. O. and B. B. Haney	156:333
1901	13.35	C.W. Bowman	J. O. and B. B. Haney	156:333
1907	50	B. B. Haney	Charles W. Bowman	266:23
1907	171	I. G., G. A., C.W. Bowman and E. S. Campbell, M. C. McKinley	A. J. Bowman (quit claim deed)	
1909	12	G.A. and I. G. Bowman	C. W. Bowman	331:417
1911	52	Mary C. and I. G. Bowman	C. W. and Mary C. Bowman, Jr.	380:342
1911	63	C. W. Bowman	Joe S. Haswell	397:234
1913	63.21	C. W. Bowman	Williams Bros.	403:472
1913	12	C. W. Bowman (dec'd)	Janie, Mamie, Mimmie, Will	424:318
1913	17.5	G. A. Bowman	Public	372:281
1913	726	I. G. Bowman, dec'd	I. G. Bowman, Jr.	372:282
1913	50	Bowman heirs	William Bros.	426:88
1913	7.88	C. W. Bowman	A. W. Collins	436:8
1919	109.5	hiers of Sam Williams	J. K. Williams	626:38
1921	70	Union Central Life Insurance Co., Cincinnati, Ohio	Joe S. Haswell and wife	705:103
1925	63	Williams Bros(?)	J. J. Haswell	1162:413
1925	63.5	Glenn Day	Dallas Joint Stock Land Bank	881:619
1932	63	J. J. Haswell	Dallas Joint Stock Land Bank by default	
1938	63	Bank?	T. N. Stewart	1360.195
1944	63	?	T. F. Stewart	1650:575
1952	63	?	R. B. Wilchar	2507:359

Table 14-2
LAND IMPROVEMENT DATA FOR CHARLES W. BOWMAN PROPERTY (41TR42) ON THE ROBERT CRAWFORD SURVEY

Structure	Dimensions	Roof Type	Wall Type	Foundation	Date
Barn	28' × 20'	wood shingle	box	wood post	1890
Shack	20' × 10'	wood shingle	box	wood post	1890
Dwelling	28' × 22'	wood shingle	box	wood post	1900
Shed	12' × 9'	corrugated iron	box	wood post	1925
Shed	12' × 10'	corrugated iron	box	wood post	1932



Figure 14-3. Photograph of the Sprinkle family, ca. 1915. The orientation is north toward the dwelling which was built ca. 1907 (taken from Ferring and Reese 1982:Figure 11-8).

the 1950s. A photograph of the Sprinkle family taken in front of the house around 1915 shows several barns north of the dwelling, and what appears to be a swept yard which was fenced from the surrounding pastures and outbuildings (Ferring and Reese 1982:Figure 11-8). One of the barns was used as sleeping quarters for the Sprinkle boys, apparently because the house was too small. A windmill was added in the 1950s.

ARCHITECTURAL OVERVIEW

Initial architectural documentation of the standing structures began in 1980. However, because access to the site was restricted, this work could not be completed. Additional documentation was conducted in 1985 and focused on the house and included detailed material culture observations, measured drawings, and lumber salvage. The pine lumber was composed of 80 - 100 year old trees, none of which crossdate.

Mrs. Loyd reported that a board over a back window had a 1907 graffito (Ferring and Reese 1982:137). This is supported by the general architectural style, use of wire nails, and construction technology which indicate a ca. 1900-1910 construction date. The house was built using recycled elements from four or five structures.

A photograph of the Sprinkle family taken around 1915 (Figure 14-3) reveals details that are not present today. The house type is a Folk Victorian with gable front and wing (McAlester and McAlester 1984:309). The actual floorplan varies, in that it is a cross gable with a rear porch symmetrically opposite to the front porch. Of three chimneys, shown in 1915, only one was for a full brick fireplace in the east room, whereas the other two were hanging brick chimneys for stove flues placed in the west and south rooms. A full wooden skirt extended around the house. Porches with chamfered corner square posts spanned both south and north sides. Turned spindles and cornice-like brackets were present on each elevation of the dwelling, and have since been removed by vandals. The trim was commercial herringbone woodwork on the front and side gables. Remnants of bright sky blue paint on the porch ceiling, door, and window trims suggested that the exterior of the house was also probably brightly painted. The style of the exterior and interior trim resembles that used in turn-of-the-century houses along Swiss Avenue in Dallas, possibly derived from the same mill (Gary Cox, personal communication 1985).

The floorplan is symmetrical (Figure 14-4), and included four rooms with a kitchen on the west, a parlor on the south, and sitting rooms and bedrooms on the north and east (Ferring and Reese 1982:137). A full brick fireplace using machine made *GLOBE* bricks was constructed on the east wall of the east room. The limestone and rubble base was loosely mortared. Salvaged planks from three or four box and strip buildings were used to finish all interior walls and were

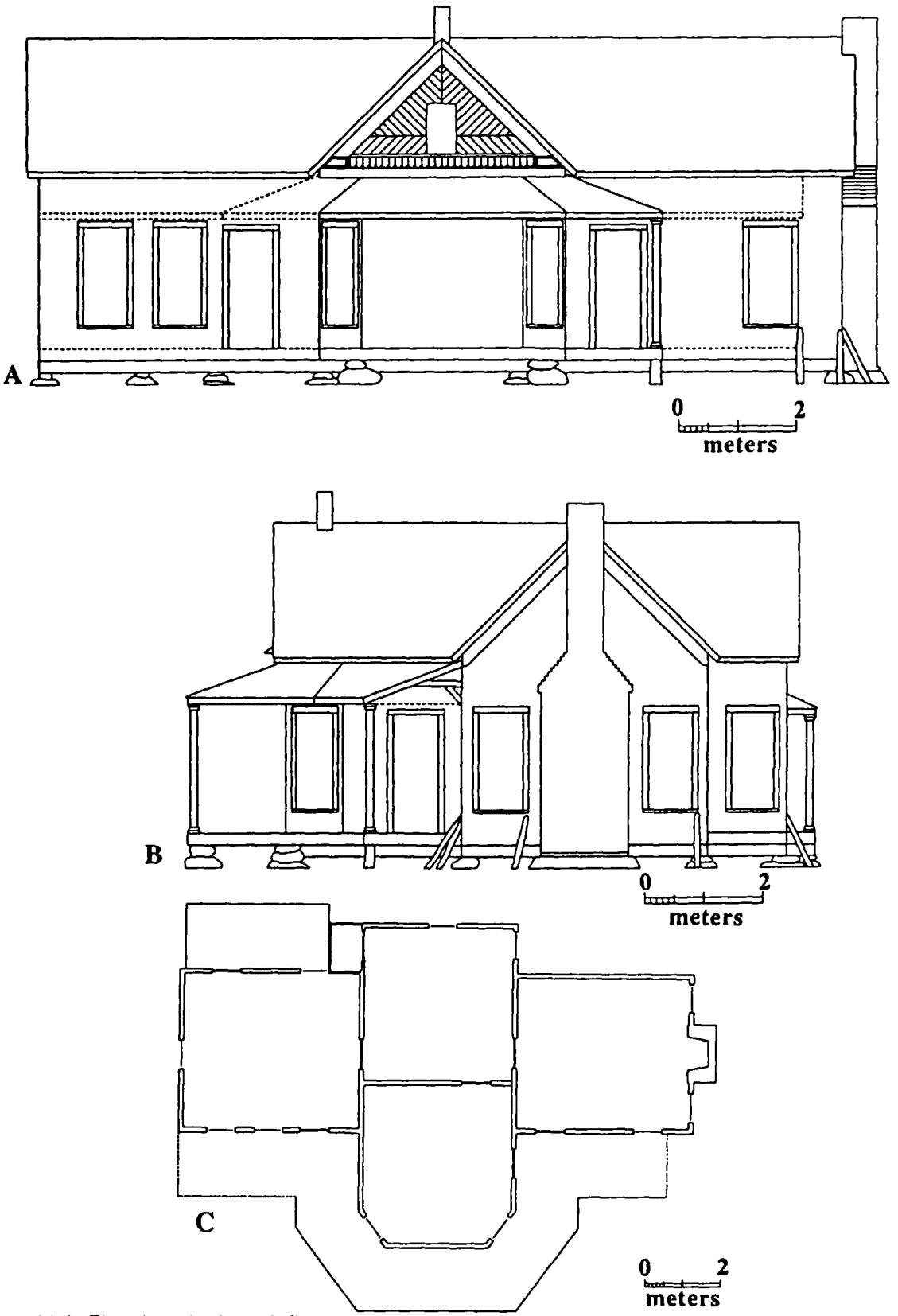


Figure 14-4. Elevations (a, b) and floor plan (c) of the dwelling at 41TR42 (taken from Ferring and Reese 1982:Figure 11-9.)

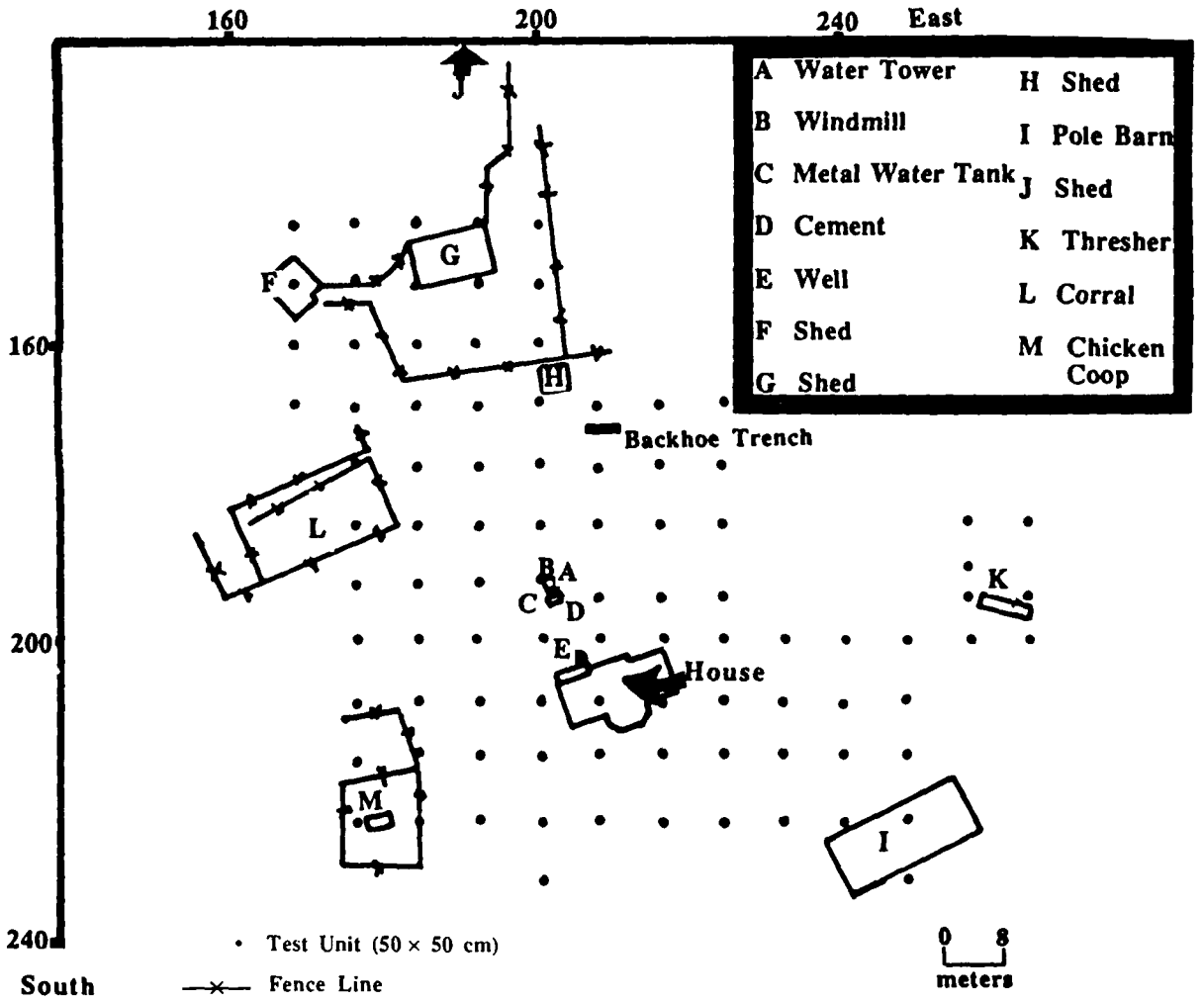


Figure 14-5. Map of excavation units, cultural features, and structures at 41TR42.

covered with wallpaper. Elaborate door trim, moldings, and baseboards were noted throughout the house. The foundation, with large 5 × 8 inch (12.7 × 20.32 cm) sills with lap joints, and 3 × 12 inch (7.62 × 30.48 cm) floor lap joists, was set on mortared limestone piers. All sills were recycled from earlier structures with old mortises and tenons and evidence of burning prior to reuse. The large floor joists were also recycled. The wall studs were split beams with wire nails used to attach them to the sills. The exterior contained wire nails throughout. The roof was wood shingled, with bois d'arc piers used as underpinning.

In addition to the house (structure 1), a total of nine outbuildings remained in 1985 (Figure 14-5). Architectural assessments of these structures indicated that three outbuildings (structures 6, 7, and 8) were early twentieth century, dating to the time of and just after the Sprinkle occupation. The remaining were mid-twentieth century, all relating to tenant occupation of the Williams Farm. Structure 2 is a large open garage with a metal pole superstructure. It has a pitched lean-to roof, and the south wall is sheathed with corrugated metal. The remaining three sides are open, with the entrance facing north towards the house. Several pieces of abandoned farm equipment were recorded inside this building, including a 1940s corn picker. Structure 3 is a water tower and windmill complex which was added in the 1950s (Cordie Sprinkle Loyd, 1980 Interview) to replace the hand dug well (Figure 14-5) as the major water source for the farmstead. Additional water was obtained from site 41TR45. Structures 4 and 5 were used for barnyard animals, including chickens. Structure 4 is a single pen building which measures 2.2 × 3.2 m and is constructed entirely of sheet metal with a pitched lean-to roof. Structure 5 is wood with a sheet metal roof, and measures 2.0 × 3.3 m. Both are recent, dating after the site was no longer occupied by the Sprinkle family.

Structure 6 is a small corral, and structures 7 and 8 are small barns; 9 is a garage; and 10 is a sheet metal shed. With the exception of structure 10, these buildings appear to date to the Bowman and Sprinkle occupations. Structure 7 measures 7.3 × 6 m, structure 8 is 8.2 × 4.4 m with a small additional room which measures 2.6 × 4.8 m, and structure 9 is 3.4 × 4.2 m. These structures along with the corral (structure 6), are located along an old dirt road that bisects the farm (Figure 14-5). Structure 10, recent in age, is a small sheet metal shed which measures 1.3 × 1.6 m (Ferring and Reese 1982:137).

Table 14-3
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE AND SPECIALIZED FEATURES RECOVERED DURING TESTING AND MITIGATION FIELD WORK

	Testing				Mitigation			
	Sheet Refuse[2]		Feature 3		Sheet Refuse[2]		Dense Feature 3	
	N	%	N	%	N	%	N	%
Coarse Earthenware	5	.2	3	.3	3	.1		
SemiCoarse Earthenware	1	<.1			1	<.1		
Refined Earthenware	24	1.2	17	1.5	56	2.0	27	.7
Stoneware	8	.4	6	.5	25	.9		
Porcelain	4	.2	8	.7	8	.3	8	.2
Bottle Glass	394	19.1	591	50.8	647	22.7	1536	37.4
Table Glass	11	.5	26	2.2	9	.3	38	.9
Lamp Glass	25	1.2	1	<.1	14	.5	28	.7
Unknown Glass					1	<.1		
Nails	139	6.7	54	4.6	698	24.5	234	5.7
Brick	2	.1	1	<.1	30	1.1	2	<.1
Window Glass	1110	53.7	126	10.8	148	5.2	88	1.7
Other Architecture	94	4.5	17	1.5	445	15.6	92	2.2
Clothing Items	12	.6	26	2.2	10	.4	11	.3
Toys	3	.1	5	.4	3	.1	8	.2
Other Personal	19	.9	8	.7	17	.6	27	.7
Faunal/Floral Remains	44	2.1	2	.2	48	1.7	102	2.5
Thin Metal	75	3.6	190	16.3	373	13.1	1368	33.3
Heavy Iron	66	3.2	19	1.6	96	3.4	22	.5
Fuel Remains					2	.1		
Hand Tools	3	.1			11	.4	3	.1
Firearms	4	.2	1	<.1	13	.5	1	<.1
Stable Gear								
Electrical Parts	5	.2	17	1.5	9	.3	8	.2
Miscellaneous Other	20	1.0	46	4.0	186	6.5	519	12.7
Total	2068		1164		2853		4122	

[1] Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, handtools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on more intensive analyses.

[2] Cultural material from specialized features and trash deposits were not included in these counts

DATA RECOVERY INVESTIGATIONS

Previous work at site 41TR42 focused on retrieving a sample of the sheet refuse midden from around the dwelling. Four 1 × 1 m test pits were excavated (see Figure 14-5) within 10 m of the house, including one under the north (back) wall and another under the west wall. A fifth 1 × 1 m unit was excavated in a dense trash deposit located in a gully northwest of the house. This deposit postdated the Bowman and Sprinkle occupations, and appeared to date to the 1940s. No pre-1900 material was recovered from any of the five units.

Archaeological mitigation focused on retrieving a systematic sample of the sheet refuse midden across the site, isolating features, and recovering detailed architectural information. Two features were intensively investigated: a root cellar located approximately 32 m behind the house and the dense trash deposit sampled in 1980.

The sheet refuse investigations focused on excavating a series of 50 × 50 cm units on an 8 m grid across the site. These units indicated that the house had been occupied from the turn of the century to at least the 1940s, and that dense trash deposits located in low gullies were deposited after the 1940s, and included material from later tenant occupations recorded by North Texas State University in 1980 (Ferring and Reese 1982:139-143).

Mitigation consumed 33 person days hand excavating 96 50 × 50 cm^2 units over 4,300 m^2, and recovering 2,793 artifacts. An additional 4,102 artifacts were recovered from two 50 × 50 cm units (S200 E176, S200 E184) excavated in the trash deposits. Only 36 artifacts were collected from the root cellar excavations which uncovered mostly sterile fill or recent trash (i.e., post 1950 material).

SOIL AND CULTURAL DEPOSITION

The soil matrix at site 41TR42 was clay loam located on a broad floodplain above Walnut Creek. Few to no calcium carbonate gravels were evident and the transition from the A horizon to the B generally

occurred between 20 and 30 cm below surface. The cultural deposits at the site were located primarily in the A horizon, with few units containing material below 20 to 25 cm. Several units located near the house and water tower contained disturbed deposits, with material still present 40 to 60 cm below surface.

ARTIFACT ASSEMBLAGE

The artifact assemblage recovered during testing in 1980 (Table 14-3) included material from the general sheet refuse midden as well as a sample of a dense, post 1940s trash deposit located northwest of the dwelling. According to Ferring and Reese (1982:137), most of the artifacts dated to the early decades of the twentieth century and consisted of domestic (e.g., ceramic and glass vessels) and architectural items.

Considerable variability was evident in the frequency of specific artifact categories between the assemblages recovered during testing (1980; Ferring and Reese 1982:137-141) and mitigation (1985) work at 41TR42. The placement of two test units along wall lines of the house (see Figure 14-5) greatly inflated the percentage of architectural remains recovered during testing. This material reflected architectural debris related to the deterioration of the dwelling, as well as recent vandalism. Unit 3 contained 991 window glass sherds, probably from the same pane, while Unit 5 contained 126 sherds. The remaining units contained between 0 and 70 sherds, primarily fragments that had been deposited due to deterioration of the buildings (e.g., Feature 3).

Material recovered from the sheet refuse midden during mitigation indicated that architectural items dominated, accounting for 54.3% of the assemblage, rather than the 65.0% recorded during testing. Tin can fragments, vessel glass, and ceramic vessel sherds were more common in the mitigation sample than the testing, and reflected the recovery of more sheet refuse material than house debris.

On the other hand, Feature 3, a dense trash deposit, contained little house debris and a larger percentage of domestic trash. Architectural remains accounted for 11.6% of the assemblage from Feature 3, while bottle glass accounted for 40.2%, and tin cans totalled 29.5%.

The sheet refuse midden contained cultural material dating to all occupations. Dense trash features, including Feature 3 contained material deposited in the early 1940s, in gullies and along fence lines near outbuildings at the site. A small, but recent trash deposit was present in the depression that formed when the root cellar roof collapsed.

CERAMICS

Refined earthenwares accounted for 59.3% of the ceramic assemblage from the sheet refuse midden, and 63.8% of the ceramics in Feature 3. Stonewares were more common in the sheet refuse (24.4%) than Feature 3 (8.7%), while the reverse was evident for porcelains, which accounted for only 8.9% of the sheet refuse ceramics, and 23.2% of the assemblage from Feature 3. Coarse earthenwares (flower pots) and semicoarse earthenwares were uncommon in both assemblages.

Major refined earthenware types found at 41TR42 included bluish tinted ironstones and ivory tinted whitewares, and both types were found in the sheet refuse midden and Feature 3. However, they varied considerably in frequency between the two assemblages. Light ivory tinted whitewares were most common in Feature 3 and included cup, saucer, and plate sherds. The majority were from plain, undecorated vessels, although four plate and one cup sherds had floral decalcomania decorations. The plate fragments were from the same vessel, but the cup design represented a different pattern. One molded Fiesta cup, and several intrusive sheet refuse fragments were also found in Feature 3. Light ivory tinted vessels found in the sheet refuse midden were primarily plain, although several cup and saucer fragments were recovered with relief molded fluting which matched a vessel from Feature 3.

Bluish tinted whiteware sherds were found during testing in Unit 2 which was located near the house. Additional sherds were recovered from the sheet refuse midden during the 1985 field season, and were tightly clustered north and west of the dwelling (S192 to S216, E176 E208), as well as around the root cellar (S168 E200, E208, and E216). The majority of the sherds were undecorated and included fragments from plates, and were styles produced after 1890. A smaller number of hollowware vessels also occurred. A worn sherd with a blue transfer (?) printed decoration was found in S184 E184, and two sherds with overglazed floral decalcomania were recovered in the sheet refuse midden. A small number of pure white whitewares also occurred in the midden, and were more widely dispersed across the site. A revival flow blue sherd was found in Test Unit 4, along with a twentieth century blue Willow pattern plate sherd which also matched a sherd in Test Unit 3 at site 41TR42.

The porcelains found at 41TR42 all dated to the twentieth century, and primarily included geometric and floral decalcomania decorated sherds. The vast majority of all sherds were from Feature 3. In addition, seven sherds of a dinner plate were found in Test Unit 5 which was excavated during the 1980 testing season. An additional sherd from this type of plate was found in the sheet refuse midden in the unit at S152 E192. The remaining sherds were primarily cup fragments, and included a geometric decalcomania decorated cup from S152 E184. Approximately half of the porcelain sherds were from units along the E176 and E184 lines, which were located in outbuilding areas, and the others were from units on the E208 and E216 line, occurring in units within 8 m of the dwelling. Porcelain sherds found in Feature 3 included four fragments from a large soup plate with a floral decalcomania pattern around the rim, and three fragments from a saucer. The saucer was decorated with a thin black band near the cup rim in the center of the vessel, and a blue stenciled pattern and band along the rim of the saucer. A partial maker's mark was present, indicating *MADE IN JAPAN*.

The stoneware assemblage contained primarily turn of the century to 1920s vessels. Three nineteenth century vessels were also represented and probably were brought as part of the household belongings when the Bowman family built the house (see Chapter 22). Major glaze styles represented at the site included natural clay slipped interior and exterior vessels, natural clay with bristol exterior, and bristol interior and exterior. No modern (post 1920s or 1930s) kitchenware vessels were found.

Table 14-4
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE AND FEATURE 3[1]

	Sheet Refuse N	Sheet Refuse %	Feature 3 N	Feature 3 %
Glass Color				
Clear	399	61.7	1230	80.1
Manganese	22	3.4	14	.9
Olive Green	6	.9	5	.3
Emerald Green	20	3.1	37	2.4
Light Green	48	7.4	6	.4
Aqua	23	3.6		
Dark Blue	6	.9	8	.5
Brown, Honey	104	16.1	229	14.9
Translucent Milk	4	.6		
Opaque	9	1.4	6	.4
Foggy	2	.3		
Crystal	1	.2		
Clear Gray Ash Tint	3	.5		
Pink			1	.1
Decoration:				
Plain	583	90.1	1288	83.9
Relief	36	5.6	142	9.2
Corrugated	5	.8	16	1.0
Milled	2	.3		
Enamel Mark	6	.9	54	3.5
Maker's Mark	15	2.3	36	2.3
Diagnostic Attributes:				
None	606	93.7	1472	95.8
Embossed Panel Bottle	2	.3		
Non-Embossed Panel	5	.8		
Owens Ring	2	.3	9	.6
Valve Mark	4	.6	1	.1
Corrugated Pattern on Base	3	.5	19	1.2
Machine Made Base/Lip	14	2.2		
Milled Vessel	2	.2		
Snuff Jar	2	.2		
Inset Cap	3	.5		
Fruit Jar	4	.6		
Twisted Applied Lip			2	.1
Total	647		1536	

[1] Counts are based on mitigation data only

Table 14-5
FREQUENCY OF WHOLE MACHINE CUT AND WIRE NAILS FROM SHEET REFUSE AND SPECIALIZED FEATURES[1]

Nail Size (*cm*)	Sheet Refuse Cut N	Sheet Refuse Cut %	Sheet Refuse Wire N	Sheet Refuse Wire %	Feature 3 Cut N	Feature 3 Cut %	Feature 3 Wire N	Feature 3 Wire %
1.0							3	1.9
1.9			5	1.2			1	.6
2.5			22	5.3			9	5.7
3.2	4	25.0	41	9.8	1	20.0	23	14.6
3.8	1	6.3	17	4.1	2	40.0	6	3.8
4.4	2	12.5	20	4.8	1	20.0	4	2.5
5.1			48	11.5			23	14.6
5.7			9	2.1			3	1.9
6.3	6	37.5	117	27.9	1	20.0	28	17.8
7.0	1	6.3	32	7.6			20	12.7
7.6	1	6.3	37	8.8			2	1.3
8.3	1	6.3	19	4.5			3	1.9
8.9			26	6.2			17	10.8
9.5			13	3.1			13	8.3
10.2			8	1.9				
10.8			1	.2			1	.6
11.4			2	.5			1	.6
13.3			1	.2				
15.9			1	.2				
Unid. Nails	26							
Broken	41		196		9		63	
Whole	16		419		5		157	
Total	57		615		14		220	

[1] Counts are based on mitigation data only

VESSEL GLASS

Vessel glass sherds were 14.7 times as numerous as ceramic sherds in the sheet refuse midden at 41TR42. A breakdown by color indicated that clear vessels dominated (61.7%), followed by brown (16.1%), light green (7.4%), and aqua, manganese, and emerald green (3.6, 3.4, and 3.1%). All other glass colors were extremely uncommon, accounting for generally less than 1% of all vessel glass. In general, a greater variety of glass colors was recorded for the sheet refuse midden than occurred in Feature 3 (Table 14-4). In addition, several bottle types that were absent in Feature 3 occurred in the sheet refuse and included fruit jars, panel bottles, and snuff bottles. Major vessel glass colors recorded for Feature 3 included clear (80.1%), brown (14.9%), and emerald green (2.4%). All other colors accounted for less than 1% of the assemblage. In addition, fewer colors were represented in Feature 3, and included primarily post 1930s colors and vessels, including emerald green soda bottles, Depression glass, brown beer bottle fragments, and a myriad of clear narrow and wide mouth bottles and jars.

The majority of all bottle glass sherds were from plain, undecorated containers (see Table 14-4). Decoration included primarily relief molding and maker's marks. Enamel marks were three times more frequent in Feature 3 than the sheet refuse midden, while milled vessels occurred in the midden, but not in Feature 3. All decorative styles dated to the twentieth century, and among the diagnostic fragments, only two pre-1900 embossed panel bottle fragments, and two bottles with twisted applied lip finishes were recovered. All other diagnostic bottle sherds dated after 1900. Machine made lip or base fragments were the most common diagnostic sherds found in the sheet refuse midden and Feature 3.

ARCHITECTURAL REMAINS

Architectural remains were the most common artifact category in the sheet refuse midden at 41TR42.

Table 14-6
FREQUENCY OF WINDOW GLASS BY THICKNESS FROM SHEET REFUSE AND SPECIALIZED FEATURES[1]

Thickness (*mm*)	Sheet Refuse N	Sheet Refuse %	Feature 3 N	Feature 3 %
1.2			1	1.2
1.3	1	.7		
1.6	2	1.4		
1.7	1	.7		
1.8	13	9.4		
1.9	5	3.6		
2.0	9	6.5	20	23.3
2.1	2	1.4		
2.2	19	13.8	20	23.3
2.3	32	23.2	1	1.2
2.4	27	19.6	26	30.2
2.5	4	2.9		
2.6	7	5.1	5	5.8
2.7	1	.7		
2.8	8	5.8	4	4.7
2.9	4	2.9	2	2.3
3.0	1	.7	1	1.2
3.1	1	.7	1	1.2
3.2	1	.7	5	
>3.2	6			
Unknown	4		2	
Total	148		88	

[1] Counts are based on mitigation data only

Nails comprised 24.5% of the assemblage recovered in 1985, other architecture accounted for 15.6% and window glass 5.2%. Wire nails dominated the assemblages from sheet refuse (91.5%) and Feature 3 (94.0%). Machine cut nails within Feature 3 probably reflect earlier sheet refuse, or architectural elements which had been recycled from extant structures elsewhere. Whole wire nails in the sheet refuse midden ranged in size from 1.9 cm tacks to 15.9 cm spikes (Table 14-5). Three major peaks occurred at 6.3 cm, 5.1 cm, and 3.2 cm. Within Feature 3, whole wire nails ranged from 1.0 cm tacks to 11.4 cm spikes, with major peaks at 6.3 cm, 5.1 cm, and 3.2 cm, as in the sheet refuse midden. Machine cut nails were very uncommon at 41TR42 and ranged in size from 3.2 cm to 8.3 cm in the sheet refuse midden and from 3.2 cm to 6.3 cm in Feature 3. Major sizes were 6.3 cm and 3.2 cm, respectively, and 4.4 cm nails were also common in the midden.

Bricks accounted for 1.1% of the sheet refuse assemblage, and less than .1% of the material from Feature 3. Several fragments were found at S184 E184 near the corral, at S168 E200 near the north outbuilding, and S192 E264 under the collapsed shed. However, the majority occurred in units directly associated with the chimney located on the east wall of the dwelling which was constructed using machine made bricks stamped *GLOBE*. A small number of machine made bricks were also found in units directly behind the house.

Window glass sherds were most common in units directly associated with the dwelling, including two test pits excavated against the house in 1980 (see Table 14-3 and Figure 14-5). A total of 148 sherds (Table 14-6) were recovered in the midden in 1985, and 86 in Feature 3, and ranged in thickness from 1.3 mm to 3.2 mm in the midden and from 2.0 mm to 3.2 mm, with a single outlier at 1.2 mm in Feature 3. Major peaks occurred at 2.3 mm, 2.4 mm, and 2.2 mm in the midden, and 2.4 mm, 2.2 mm, and 2.0 mm in Feature 3. Several pieces of specialized flat glass measuring over 3.3 mm thick were found in the sheet refuse midden.

Other architectural remains recovered at 41TR42 included 30 pieces of concrete and mortar, 40 staples and screws, 12 pieces of building hardware, and 322 wire fragments. Building hardware items clustered around the dwelling, while concrete, mortar, staples and screws, and wire fragments were scattered across the entire site.

OTHER REMAINS

Tin can fragments (i.e., thin metal) were more common in Feature 3 (see Table 14-3) while floral and faunal remains were equally represented in the sheet refuse midden and Feature 3. Low frequency remains, including personal, household, and outdoor items were uncommon in both assemblages (2%), and varied considerably between the two. Outdoor items, such as firearms, tools, miscellaneous hardware, horse and stable gear, wagon, and machine parts, were more frequent in the sheet refuse contexts than any in features. They accounted for 68.6% of all low frequency items in the midden, and only 18% in Feature 3. On the other hand, personal remains including clothing, recreation and toys, hygiene, and miscellaneous personal items were more frequent in Feature 3, where they accounted for 64.0% of the low frequency remains. They accounted for only 21.6% in the sheet refuse midden. Kitchen and household items (stove, laundry, furniture, and electrical parts) were uncommon in both assemblages, and represented 9.8% of the assemblage in the sheet refuse midden, and 18.0% in Feature 3. Differences were also visible within specific low frequency categories between the two assemblages. Recreation items and toys accounted for the highest percentage of personal items in each area, while hygiene items (i.e., toothpaste and medicinal tubes) was second highest in Feature 3, and clothing items (i.e., buttons, fasteners, etc.) was second highest in the sheet refuse midden. Similar kitchen and household items were recovered in both areas, but outdoor items varied greatly. Miscellaneous hardware remains accounted for 77.8% of the outdoor items in Feature 3, and only 57.1% in the midden area. Additionally to these items, ammunition, farm tools, and horse and stable gear were also common items within the sheet refuse area, but were infrequent within Feature 3.

Floral and faunal remains were also relatively infrequent at 41TR42, accounting for approximately 2% of the assemblage in both the sheet refuse midden and Feature 3 (see Chapter 25).

FEATURES

Three features were recorded along with several extant pieces of farm equipment associated with later

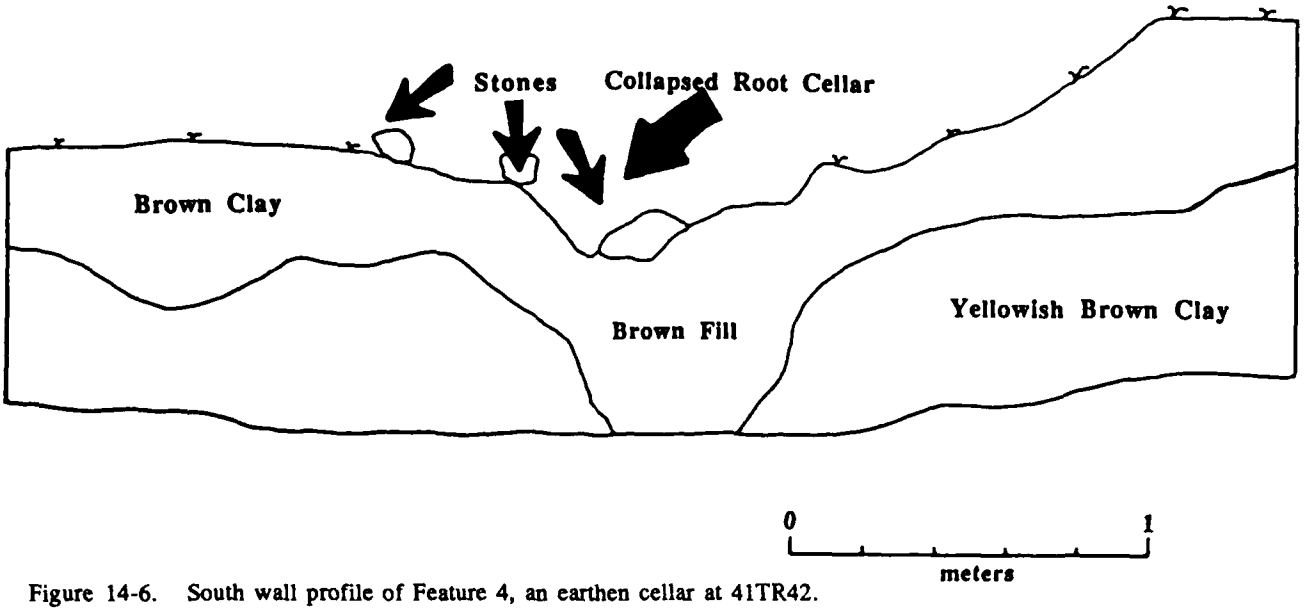


Figure 14-6. South wall profile of Feature 4, an earthen cellar at 41TR42.

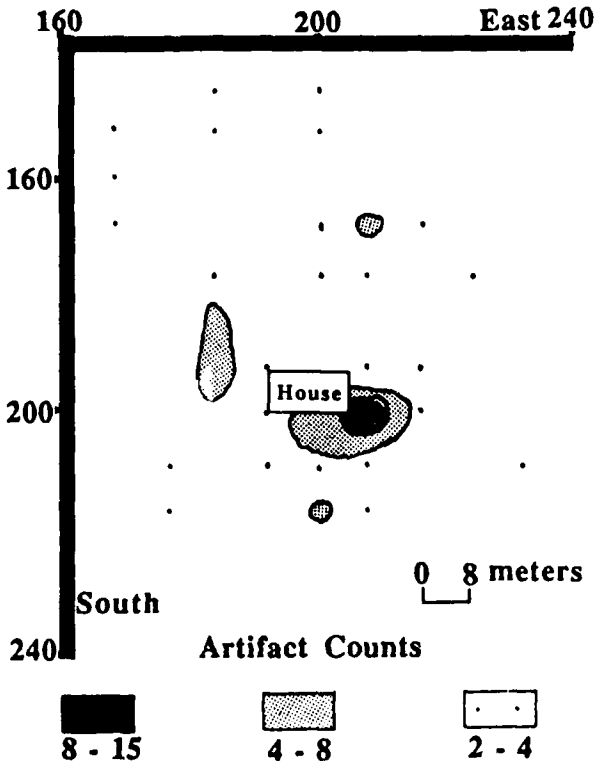


Figure 14-7. Rendition of the SYMAP distributions of refined earthenware based on 50 × 50 cm units on an 8 m grid.

occupations. Feature 1 is a stone lined well situated off the northwest porch of the dwelling. The well remains open, and is loosely filled with boards, a large cooking stove, and other recent debris. The well continued to be used until the water tower and windmill complex were added behind the house in the 1950s. A large metal stock tank is also associated with the structures. The farm equipment was given a Feature 2 designation and includes a thresher, a combine, and a corn picker, as well as several 1930-1940s fragmentary plows and wagons. The thresher is located in the east side yard, adjacent to a large, collapsed frame shed at S184 to S200 and E256 to E264. The combine is located in the open metal garage (structure 2), while the corn picker and other miscellaneous equipment are situated south of the structures 4 and 5.

FEATURE 3

Feature 3 is an dense trash deposit located northwest of the dwelling, sampled using a 1 × 1 m unit in 1980 (Ferring and Reese 1982:137-138), and two 50 × 50 cm units in 1985 (see Table 14-3). These units were hand excavated, and all material screened. A total of 5,286 artifacts were recovered from the three units, and included bottle glass, tin can fragments, and architectural remains. A small number of general sheet refuse items were recovered, and included 14 machine cut nails and some older pieces of bottle glass. The remaining material dated after 1940.

FEATURE 4

Feature 4 was a collapsed root cellar. It is located over 24 m from the house, similar to the location of the storm cellar at 41DL268 (see Chapter 11). Root cellars generally occurred within 8 to 12 m of houses (Moir 1983a). Feature 4 was a large elliptical depression near several collapsed outbuildings (see Figure 14-5). A large trash deposit was present on the surface northeast of the cellar. A small refuse deposit accumulated within the depression that formed after the cellar roof collapsed. A backhoe was used to excavate an east - west trench through the cellar, parallel to the stairway or entry. A southern profile of the cellar (Figure 14-6) indicated that the cellar had not been lined, and that it was similar in construction to the cellar (Feature 2) recorded at 41TR48 (see Chapter 16). No evidence of concrete, brick or stone slabs were found within the cellar, and the high

organic content of the soil indicated that the roof was probably wood. Corrugated tin may also have been used. The walls and floor were dirt, and the cellar measured over 3.6 m long. The width varied between 1.5 and 2.0 m.

Few cultural remains were found within the cellar fill, and included bottle glass and architectural remains related to the cellar roof and door. Root cellars were generally left standing open after they were no longer used. They were not dismantled or immediately filled with trash. After the roof had collapsed, the depression that was left was usually used for trash disposal. These filling episodes usually postdated 1940 which may be generally associated with the final occupation at the site, or post abandonment dumping.

INTRASITE PATTERNING

The spatial distribution of specific artifact categories recovered at 41TR42 indicated a strong association with different yard areas and structures. For example, refined earthenwares were recovered from the main yard surrounding the dwelling and from around the root cellar (Figure 14-7). On the other hand, bottle glass was present in significant quantities in both the dwelling and outbuilding areas (Figures 14-8 and 14-9).

CERAMIC VESSELS

Refined earthenwares frequently occur in banding patterns around the back and one side of the dwellings on late nineteenth century farmsteads in the Richland Creek area (Moir 1982a; Jurney 1983; Jurney and Moir 1987; Moir and Jurney 1987a), and at other sites in the Joe Pool area (e.g., 41DL196, 41TR48). Refined earthenwares at 41TR42 exhibited a broader and more diffuse spatial distribution which included a number of units located near the house, as well as units excavated well away from the dwelling (Figure 14-7). The highest frequency of refined earthenwares was within 8 to 12 m of the house, further back about 16 to 24 m, and near the root cellar about 30 m to the north. Several sherds were also found in the chicken coop area, and near several outbuildings well behind the house. No sherds were found in the more recent outbuildings, along the eastern and southeastern portions of the site. In addition, few sherds were found in the front yard, or east of the house.

Stoneware sherds were most frequent in the main dwelling yard, and occurred primarily northwest of the house, and near the old dirt roads that bisected the site (Figure 14-8). No stonewares were found in the chicken coop, the front yard, or the more recent outbuildings east and southeast of the house. In addition, few sherds were recovered in the major outbuildings north of the dwelling, or in the corral. Stoneware sherds were also not frequent near the root cellar (Feature 4), or within the cellar fill.

VESSEL GLASS

Bottle glass sherds were recovered from over 90% of the units excavated at 41TR42, and exhibited several distributional patterns different than those of refined

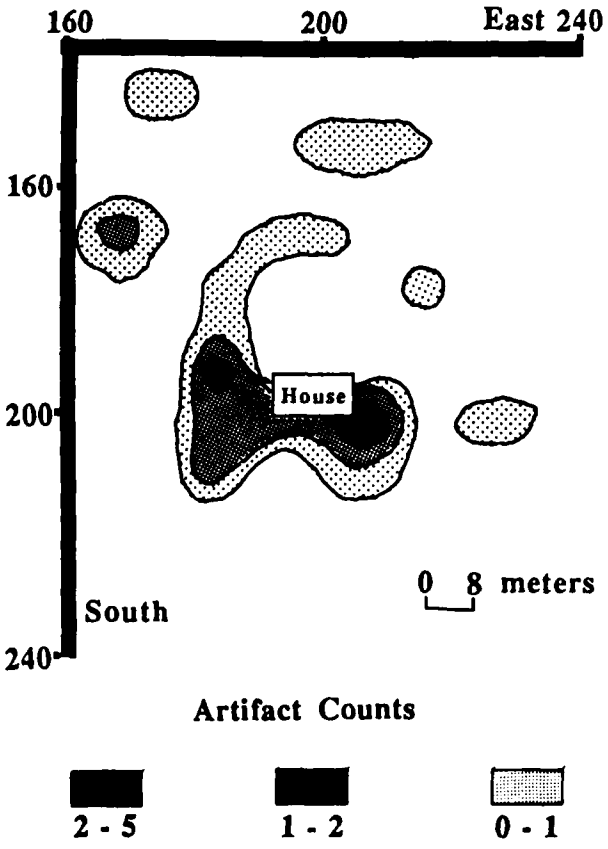


Figure 14-8. Rendition of the SYMAP distributions of stoneware based on 50 × 50 cm units on an 8 m grid.

earthenwares and stonewares (Figure 14-9). The highest frequencies were recorded in units located directly around the house and Feature 3, while lower densities were identified across the remainder of the main farmstead area, including units within each outbuilding area. The recent garage and small shed east of the dwelling also contained a small amount of bottle glass.

Table glass sherds exhibited a diffuse pattern, occurring only in post 1940s trash deposits, rather than the sheet refuse midden. The highest frequencies were recorded around the corral which contained several trash dumps, and near a large dump east of the root cellar. No table glass sherds were found in the chicken coop, east shed, or the large garage areas. Sherds found in the northern outbuilding area were isolated fragments, and may have been associated with the old road in this area.

ARCHITECTURE

SYMAP distributions of major architectural items indicated that nails and window glass sherds clustered near the dwelling, while other architectural items occurred away from the house. Nails were recovered from units associated with the dwelling as well as all major outbuildings at 41TR42. Three major clusters were identified (Figure 14-10). One was located 10 m behind the house (S192 E208) where an above ground water tower and windmill were located (now deteriorated and collapsed). The second cluster occurred southeast of the

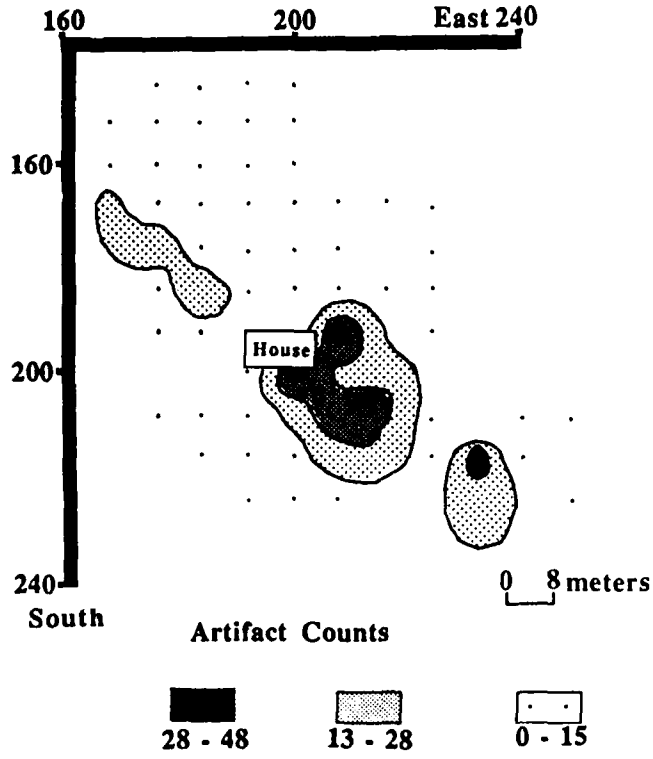


Figure 14-9. Rendition of SYMAP distributions of bottle glass based on 50 × 50 cm units on an 8 m grid.

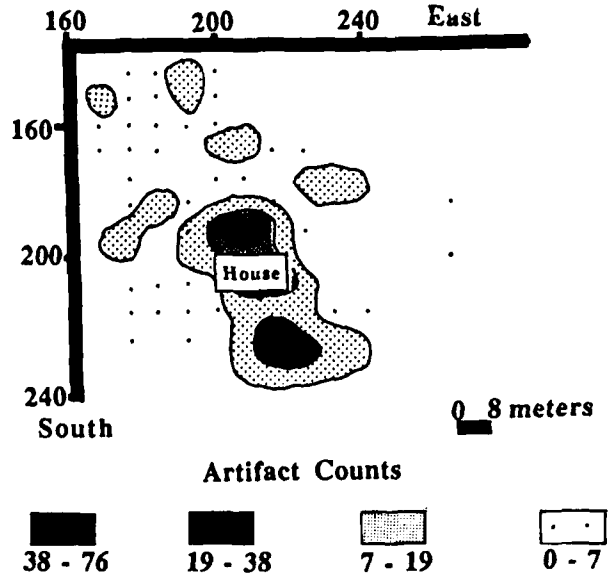


Figure 14-10. Rendition of SYMAP distributions of nail based on 50 × 50 cm units on an 8 m grid.

house at S224 E216. A total of 185 wire nails were recovered in the upper 10 cm of this unit, including 76 broken, and 109 whole nails ranging in size from 1.9 cm to 10.8 cm, with major peaks at 6.3 cm, 8.9 cm, 3.2 cm, 8.3 cm, and 4.4 cm. This nail concentration may reflect the location of a collapsed outbuilding. The third major cluster, located between the other two, represented the house itself. Elsewhere on the site, small nail clusters were evident along fence lines (e.g., corral and north outbuilding area), near the collapsed root cellar, and in units adjacent to collapsed portions of the house (particularly the front and back porches). A small cluster was also recorded near an earlier above ground water tower located northeast of the house (S176 E224), and a circular depression possibly a well at S178 E220.

Window glass sherds clustered in units directly around the dwelling, particularly on the north, west, and south sides (Figure 14-11). Smaller clusters occurred along the fence of the corral, and in the north outbuilding area. No sherds were found over 10 m from the house in the main yard area, or in the chicken coop or outbuildings south and east of the dwelling. Feature 3 contained a large number of window glass sherds, including 24 at S200 E176 and 64 at S200 E184. As mentioned earlier, these sherds reflect a similar size range as those found within 8 m of the dwelling.

Other architectural remains, including an assortment of building hardware and interior furnishings (e.g., wall paper), were recovered across the site. Major clusters occurred in units up to 8 m from the house; the chicken coop area; and northeast of the root cellar, where post 1940s trash deposits were recorded on the surface. Units near the house contained cement, mortar, screws, and building materials, as well as some wire. Units located in major outbuilding areas contained primarily plain and barbed wire fragments. Feature 3 also contained a high frequency of other architectural remains which included both building materials and wire fragments.

SUMMARY

Site 41TR42 provided significant information on post 1900 lifeways in the Project area which could be contrasted and compared with data from sites initially occupied before the turn of the century (e.g., 41TR40). The dwelling was of particular architectural interest because it was the only standing rural dwelling with Victorian elements. It was a high style Late Victorian (McAlester and McAlester 1984:177) house that had been constructed using primarily commercially cut lumber which had been recycled from as many as four or five different earlier structures. Some of the buildings represented in the house may have been from an earlier dwelling occupied by Hob Bowman, or tenant families that worked the land for the Bowman family during the nineteenth century.

The construction of this structure also indicated that while the Bowmans were landowners, they fully utilized available resources. This pattern was also evident at the Penn Farmstead (see Chapter 8), particularly in the construction of the 1918 barn which included two earlier structures that had been recycled and moved, and a superstructure that was constructed using scrap lumber and elements from other disassembled buildings.

The Bowman house also contained elements that reflected their higher socioeconomic status including a polygonal front room, painted herringbone woodwork on the front and side gables, commercially cut lumber and trim, decorative wainscoting, and gingerbread.

Charles Bowman built the dwelling around 1907 based on the graffito date recorded over one of the back

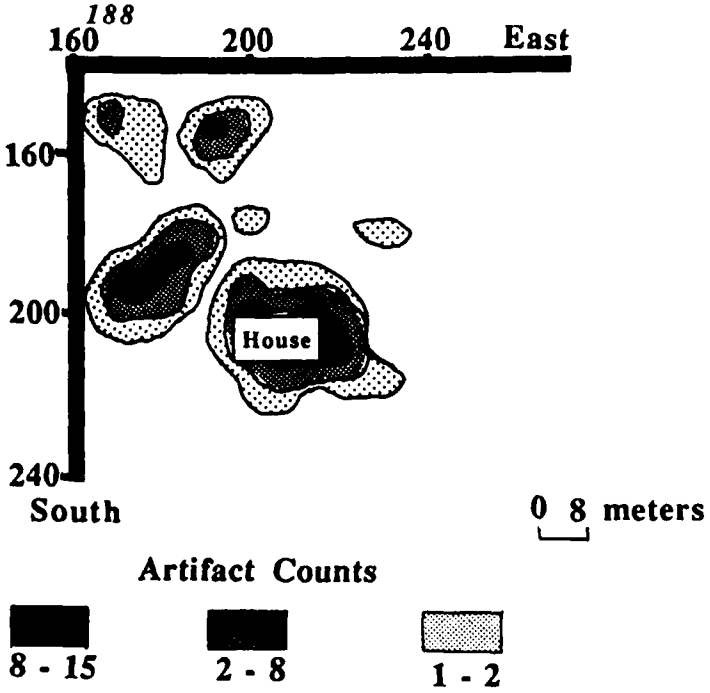


Figure 14-11. Rendition of the SYMAP distributions of widow glass based on 50 × 50 cm units on an 8 m grid.

windows, and initially resided there with his father, Hob, and later with his wife and children. After his death in 1913, the Williams brothers acquired the farmstead, but never resided there. The Sprinkle family worked the farm as tenants until ca. 1924, and between this period and the 1940s, other tenant families resided at 41TR42.

The assemblages recovered during the 1980 and 1985 seasons were very similar, made up of mostly post 1900 cultural material (Table 14-3). A small number of older (ca. 1890s) items were found, and they probably reflected earlier nondomestic activity or curated items brought with members of the Bowman family when they first occupied the site. The 1980 assemblage reflected the placement of several units under or along the wall lines of the dwelling during the testing phase. Units excavated during the 1985 mitigation phase focused on recovering a systematic sample of the sheet refuse midden.

Architectural remains were the most frequent artifacts recovered during testing. These were the second most frequent category in the sheet refuse assemblage recovered in 1985. They were also uncommon in Feature 3 (Table 14-3). Bottle glass sherds were the most common remains found in Feature 3 and the sheet refuse midden. Tin can fragments were also common in both, while all other categories were relatively infrequent.

A number of support structures were documented at 41TR42, and included a well located off the back porch, a root cellar, a chicken coop, corral, and several shacks, garages, sheds, and barns. Several above ground water towers were also recorded. Prior to 1915, a number of the support structures were built after the house was completed.

The Bowman/Sprinkle site represents a serial occupation of landowners and tenants during the early twentieth century. The emphasis on recycling in the dwelling indicates a frugality that is still common among some Texans. Even though the property was located in a cotton producing area, the finished dwelling conveyed a popularized urban image, which was present at the same period along Swiss Avenue in Dallas. This site contains evidence for the interface of traditional lifeways and yard activities, as well as the immersion into a consumer economy.

The sheet refuse assemblage at 41TR42 did not differ significantly from those recorded for landowner farmsteads occupied after 1900. As such, differences in socioeconomic status were not evident in the type of artifacts recovered.

SITE 41TR45: REITZ FARMSTEAD

15

by

David H. Jurney

This site is located on the western edge of the prairie uplands overlooking the Walnut Creek Valley. The site once consisted of two clusters of structures. The western cluster contained the main house, garage, cellar, barn, smokehouse, and several small outbuildings, cattle pens, and corrals. The eastern cluster contained an earlier component with barn foundations and a blacksmith shop (Ferring and Reese 1982:148). Prior to our investigations, the eastern section of the site was destroyed by the highway construction of the new Beltline Road.

The site was reported to have been continuously occupied by the J. B. Reitz family as early as 1876 (Ferring and Reese 1982:153). The present house was shown on the Sam Street's 1895 Map of Tarrant County (Tarrant County Historical Commission 1985).

ORAL AND DOCUMENTARY INFORMATION

The Reitz family reported (1979 - 1980 Field Notes) that their ancestors moved to this location prior to 1876, based on land deeds. However, the remaining architecture and archaeological deposits do not support this data. The site was surveyed for tax purposes in the 1930s listing all standing buildings (Tarrant County Tax Records n.d.). The field recorders appear to combine both generalized estimates (decade intervals) and specific dates. Based on a review of these records in Navarro, Dallas, and Tarrant counties, this was a common tax practice. A 1890 dwelling (36 x 28 ft or 10.8 x 8.4 m), a 1900 barn (30 x 20 ft or 9 x 5.99), an 1890 shed (12 x 12 ft or 3.6 x 3.6 m), and four sheds dating from 1900, 1913, 1920 and 1920 (8 x 6, 10 x 8, 20 x 8, and 28 x 20 ft or 2.4 x 1.8, 2.9 x 2.4, 5.99 x 2.4, 8.4 x 5.99 m respectively) were recorded in these records. All were box and strip with wooden pier foundations. Two sheds and the large barn were covered with metal, all others with wood shingles. Only one structure, a small shed was given a date (1913) that did not fall on a decade interval.

Based on the map and deed title information, J. B. Reitz purchased 320 acres of the Joel Banks Survey from F. A. Elliot in 1876 (Tarrant County Deed Book 30:202). Apparently he had located his dwelling and a shed in the northwest corner of this tract by 1895. By the 1930s he had enlarged the complex to include an additional five structures that were taxable.

ARCHITECTURAL OVERVIEW

Comparing the 1930s tax survey records to the 1979 - 1980 site plan revealed that all seven 1930 structures can be identified (Figure 15-1). The 1930s measurements were scaled to the 1980 site map (Ferring and Reese 1982:149) and, although not exact, provide close brackets to identify the structures. Both the dwelling and a remote shed were present in 1890. By 1900, the large barn had been added along with the superstructure over the cellar. In 1913, a small shed was

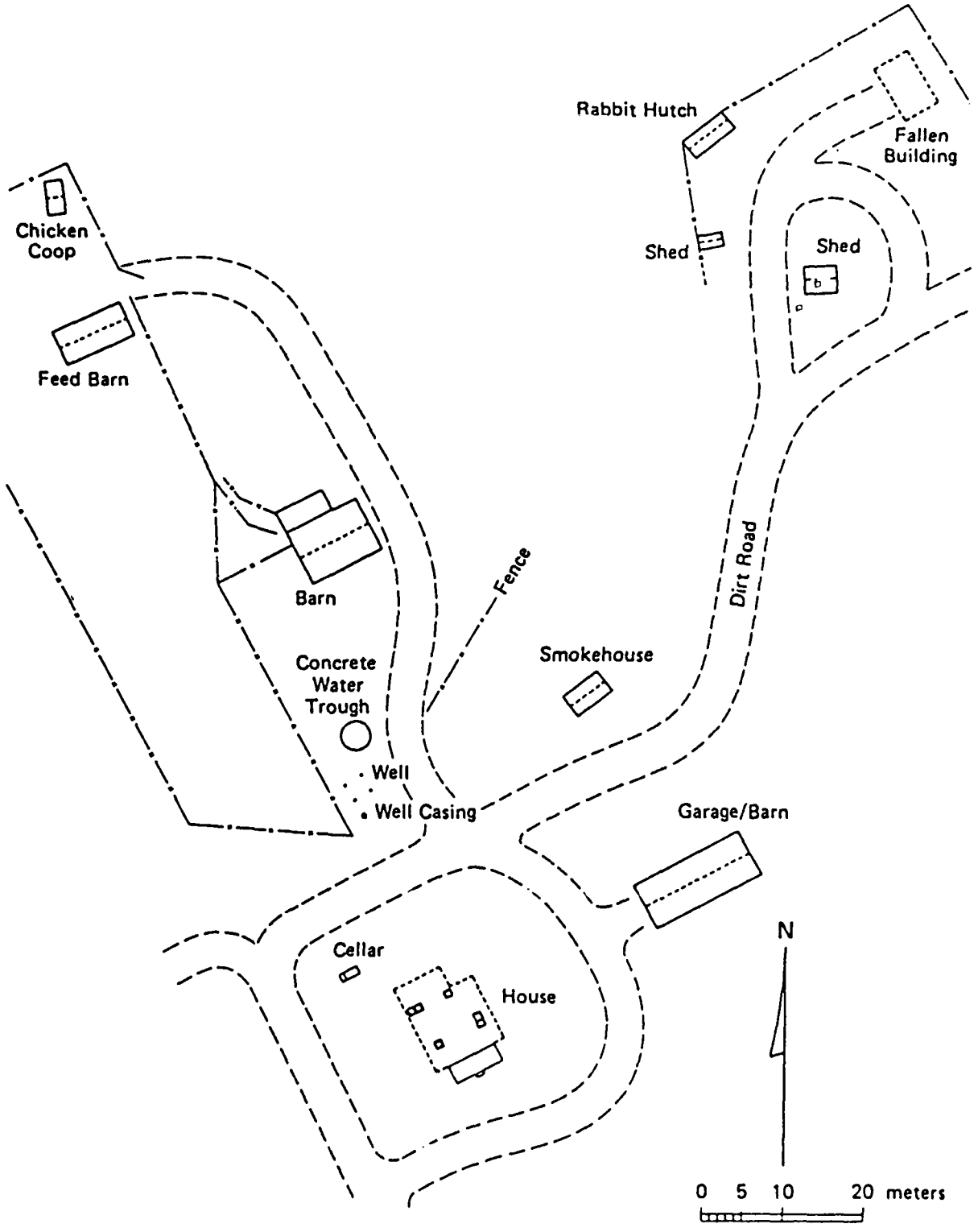


Figure 15-1. Map showing the excavations and structures at the Reitz site, 41TR45, during the 1979 - 1980 season (Ferring and Reese 1982:Figure 11-14).

added near the rabbit hutch, and in 1920 remote sheds on the northeast and northwest corners of the site were added. The concrete feed barn, garage/barn, smokehouse, and rabbit hutch were all added after the 1930s.

All structures were described in detail by Ferring and Reese (1982:148-153) and will be briefly summarized here including data from our 1985 architectural review of the remaining buildings. According to Ferring and Reese

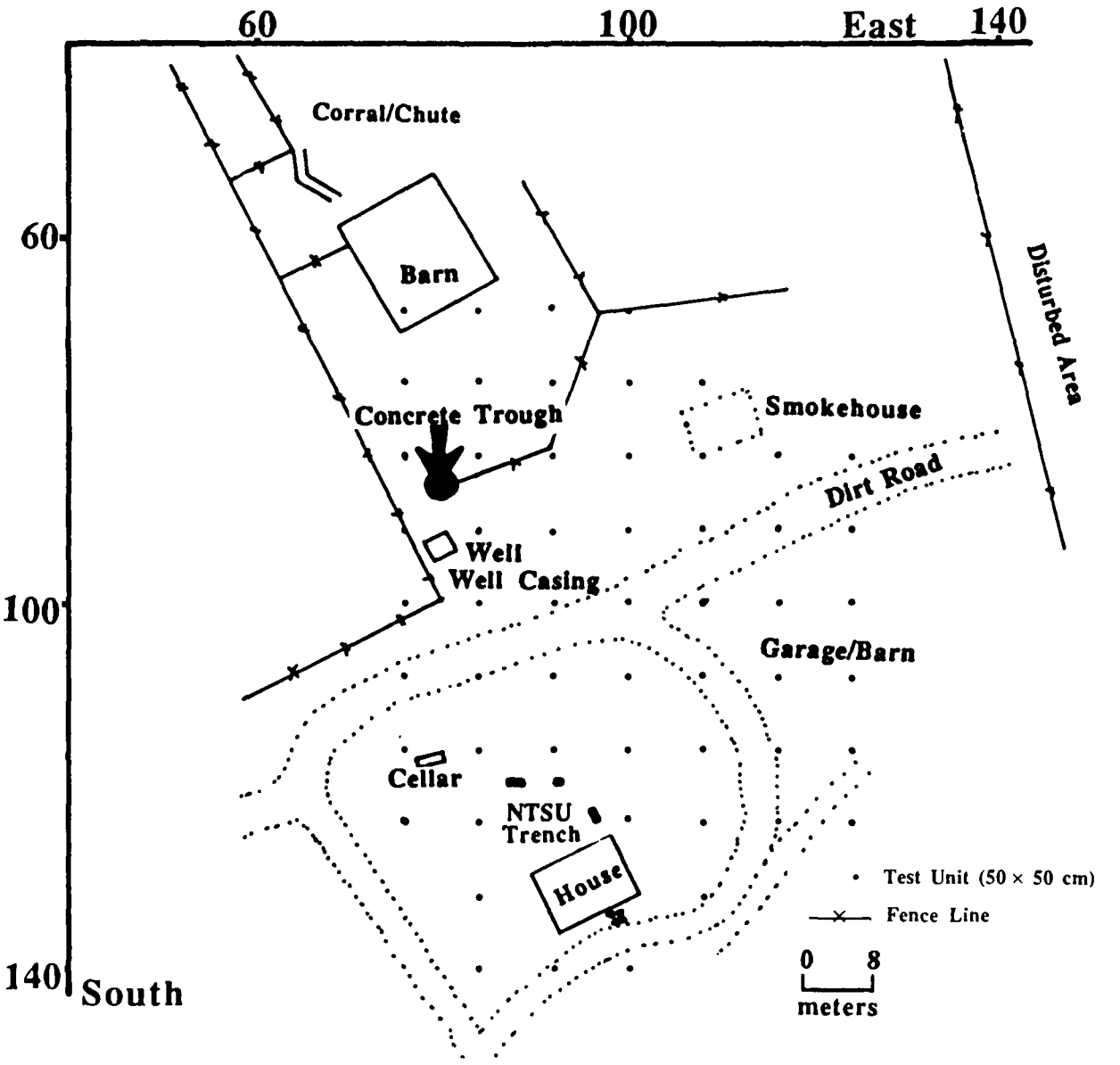


Figure 15-2. Map showing the 1985 excavations, features, structures, and structural remains at the Reitz site.

(1982:148), the original dwelling (structure 1) was inferred to have been a two pen plank house later enlarged into a three room house. Based on the estimated floor area, however, it appears that it may have been a four room double pen with an ell addition. Two hanging chimneys were present. All that remains today are the bois d'arc piers, plumbing fixtures, the concrete front porch, and a stone walkway. The house was removed from this location in the early 1970s.

The oldest outbuilding (structure 4) was destroyed along with most of the eastern complex during construction of the new Beltline Road. This structure was in ruin in 1979, but the massive sills remained. These were pegged with lap joints, and only cut nails were used. The square floor plan and transitional braced frame construction suggest that it may have been a granary with a stabling wing.

The remaining large barn (structure 2) consists of large lapped sills sitting on bois d'arc piers with a braced frame superstructure of sawn pine. A single post oak pier was tree-ring dated at 1932 (see Chapter 28) indicating a remodeling episode, possibly during the construction of the north wing. All cut nails were used in the initial construction. Although the tax records suggest a 1900 construction date, the nails and construction style suggest a date closer to 1890.

The cellar (structure 3) was constructed of poured concrete which may have been added after initial construction. The 1930s tax records indicate a shed, which was probably the initial superstructure itself, that matches the dimensions of the cellar.

Two additional sheds (structures 5 & 6) were recorded on the eastern complex in the 1930s Tax Survey. The larger one (structure 6) was reported to have

been constructed in 1920, the smaller one in 1913. Both were board and batten with all wire nails. The larger barn was reportedly used as a blacksmith shop.

The last structure identifiable from the tax records was a chicken coop on the northwestern edge of the site. This was reportedly built in 1920 (Tarrant County Tax Records n.d.). All remaining structures post date the 1930s. This includes the poured concrete feed barn/dairy, the rabbit hutch, smokehouse, and garage. The garage is the largest structure on the farm and contained partitions for equipment storage.

DATA RECOVERY INVESTIGATIONS

During the 1979 - 1980 investigations a total of eight 1 x 1 m units were excavated. Two units were located near the older barn (structure 4) in the eastern complex, one inside it and the other just outside. Six units were located under the dwelling. A total of 1,787 artifacts were recovered, although only two units were excavated near the old barn. A total of 55% of all items were from these units. These were primarily unidentifiable iron, tools, and slag from blacksmith activities, and general wire and architecture from animal stabling and corrals.

In the dwelling area, kitchen and architectural items comprised 32% and 46%, respectively, of the domestic assemblage. This dominance is due to the recycling of the dwelling, where nails, window glass, and debris were left behind when the building was salvaged.

Due to the narrow concentration on these two structures, the items recovered during testing did not reveal information on the farm complex as a whole. During the 1985 season, a systematic 8 m grid was excavated to provide information on the extent of sheet refuse and the function of the remaining outbuildings around the main dwelling. Highway construction had removed the eastern complex. All six of the 1979 - 1980 units were relocated and mapped along with the mitigation units (Figure 15-2).

In 1985 mitigation, 58 units were excavated in the actual core of the western complex (Figure 15-2). These were primarily distributed in the rear yard and outbuilding areas. A total of 2,363 artifacts were recovered: primarily nails, bottle glass, thin metal, and architectural debris. This assemblage mainly reflects the results of twentieth century occupation of the western portion of the site. Work was halted when very few pre-1910 remains were recovered.

ARTIFACT ASSEMBLAGE

CERAMICS

A total of 84 ceramics (Table 15-1) were recovered from the house and rear yard areas. The majority (63%) were refined earthenwares followed by coarse earthenwares (25%). Only a few stonewares, semicoarse earthenwares, and porcelain fragments were recovered. A total of 54 diagnostic ceramics provided a mean beginning date of 1905. Thus, the ceramic assemblage clearly reflects the dominance of twentieth century material culture. The lack of stonewares indicates that the Reitz household did not practice traditional food storage. The lack of any ceramics dating to the 1870 - 1880 period also indicates that although the property was purchased in 1876, this particular site was not occupied until much later.

Table 15-1
ARTIFACT ASSEMBLAGE FROM THE REITZ FARMSTEAD, SITE 41TR45

	Sheet Refuse N	Sheet Refuse %
Coarse Earthenware	21	<1
SemiCoarse Earthenware	3	<1
Refined Earthenware	53	2.2
Stoneware	5	<1
Porcelain	2	<1
Bottle Glass	397	16.8
Table Glass	10	<1
Lamp Glass	19	<1
Unknown Glass	2	<1
Nails	461	19.5
Brick	32	1.3
Window Glass	47	2.0
Other Architecture	269	11.4
Clothing Items	47	2.0
Other Personal	18	<1
Floral and Faunal Remains	100	4.2
Thin Metal	292	12.4
Heavy Metal	222	9.4
Fuel Remains	3	<1
Hand Tools	16	<1
Firearms	91	3.9
Electrical Parts	13	<1
Miscellaneous Other	240	10.2
Total	2363	

Sterile units: S100 E84, S116 E76, S124 E 76, S132 E108, S140 E100

Table 15-2 presents a breakdown of the ceramic assemblage. Vessel morphology could be determined for only 10 of the 84 sherds, which indicates a high degree of breakage in the sheet refuse. Flatwares were more common. Among the refined earthenware (n=53), ivory tinted whitewares far outnumbered all other types (56.6%), followed by blue tinted (17%) and pure whitewares (13%). Relief molding was the most common decorative technique, with a little transfer printing, decalcomania, and gilding present. Nearly all of the wares represented were twentieth century in manufacture.

In all, the ceramic assemblage is typical of a moderate sized agricultural household in the early twentieth century of Texas. Decoration is rare and broken ceramics are scattered in those areas of the site which received heaviest traffic. This pattern tends to reflect the maintenance of the traditional yardscape even though the material culture is fully twentieth century.

VESSEL GLASS

Bottle glass fragments comprised the second most frequent category (16.8%) in the artifact assemblage at

Table 15-2
REFINED EARTHENWARE ASSEMBLAGE FROM THE REITZ FARMSTEAD, SITE 41TR39

Ceramic Type/ Decoration/Shape	Sheet Refuse N	%
Ceramic Type		
Blue Tint NonVitrified WW	9	17.0
Pure White WW	7	13.2
Ivory Tinted WW	12	22.6
Dark Ivory Tinted WW	18	34.0
Fiesta	3	5.7
Other	4	7.5
Total	53	
Decoration		
None	24	43.4
Transfer Printed	3	5.7
Floral Decalcomania	3	5.7
Relief Molded	21	38.6
Other	2	3.8
Total	53	
Vessel Shape		
Flatware	6	7.1
Hollowware	4	4.8
Not Diagnostic	74	88.1

(Shape includes counts of stoneware and porcelain rim sherds)

Table 15-3
BOTTLE GLASS ASSEMBLAGE FROM THE REITZ FARMSTEAD, SITE 41TR45

Bottle Glass	Sheet Refuse N	%
Color		
Clear	215	54.3
Manganese	8	2.0
Emerald Green	13	3.3
Light Green	8	2.0
Aqua	10	2.0
Brown, Honey	126	14.1
Other	10	2.6
Total	392	
Decoration		
Plain	352	89.8
Relief	14	3.6
Corrugated	6	1.5
Enamel Label	9	2.3
Maker's Mark	11	2.8
Total	392	
Diagnostic Attributes		
None	367	93.6
Snap Case	1	<1
Owens Ring	2	<1
Corrugated Base	6	1.5
Machined Lip/Base	6	1.5
Machine Made Cork Lip	1	<1
Fruit Jar Inset	6	1.6
Other	2	<1
Total	392	

the Reitz site. These were primarily distributed under the dwelling and in the rear yard. A total of 392 fragments provided technological attributes including color and decoration. Based on temporal diagnostics (n=56) a mean beginning date of 1909 was obtained. As with the ceramic date, this reflects the dominance of twentieth century mass produced goods and consumerism.

Glass colors also reflect the twentieth century dominance with 54% clear and 14% brown and honey colored (Table 15-3). Late nineteenth and early twentieth century glass types, such as manganese and olive greens, were relatively rare.

Decoration was limited to relief molding, corrugations, enamel labels, and makers' marks, all totalling only sightly more than 10% of all glass. Plain glass, mostly from fruit jars, reflects the trend toward home canning and commercial purchase of beverages.

Chronologically diagnostic attributes were rare, with 367 fragments exhibiting none. Fruit jar inset caps, machine made lip/base, and corrugated bases were most common, all indicating post World War I manufacture dates.

The bottle glass assemblage, like the ceramics, indicates a heavy dominance of twentieth century goods and purchases. The Reitz family, although landowning farmers, depended most heavily on commercial goods.

ARCHITECTURAL REMAINS

The largest single artifact category in the Reitz assemblage was nails (19.5%), with other architectural related items comprising nearly 35% of the entire assemblage. This is due to the large number of buildings on the site and the dismantling of the dwelling. Of the identifiable nails (n=400) 66% were wire indicating a cut to wire ratio date of 1893 - 1894 based on the total nail rain (see Chapter 24). From all other information, the nail date best approximates the actual initial occupation of the site.

In terms of wire nail sizes (n=196), structural nail sizes of 5.1 cm (20.4%) and 6.3 cm (17.3%) are most common, followed by wooden shake roofing nails 3.2 cm (15.8%) and light framing nails 4.4 cm (10.7%; see Table 15-4). This pattern is due to the box and strip technology used on the outbuildings and apparently the dwelling itself. In cut nail (n=34) sizes, a quite different picture emerges. Roofing nails 3.2 cm (29.4%) are most common followed by heavy framing 6.3 cm (23.5%) and 7.6 cm (11.8%). Obviously cut nails were used for specific purposes and were not used to construct all of a structure due to the skewed distribution of nail sizes. Although one barn (structure 2) was primarily built of cut nails, wire nails were extensively used in remodeling. The ruins of this building are still standing and have not contributed significantly to the nail rain.

Table 15-4
MACHINE CUT AND WIRE NAILS ASSEMBLAGES FROM SHEET REFUSE AT THE REITZ FARMSTEAD, SITE 41TR45

Size (cm)	Wire N	Wire %	Cut N	Cut %
Whole Nails				
1.0	2	1.0	1	2.9
1.9	1	<1		
2.5	11	5.6		
3.2	31	15.8	10	29.4
3.8	14	7.1	3	8.8
4.4	21	10.7	2	5.9
5.1	40	20.4	1	2.9
5.7	6	3.1	1	2.9
6.3	34	17.3	8	23.5
7.0	4	2.0	3	8.8
7.6	9	4.6	4	11.8
8.3	4	2.0		
8.9	8	4.1		
9.5	1	<1		
10.2	6	3.1	1	2.9
10.8	3	1.5		
13.3	1	<1		
Total	196		34	
Total Nail Assemblage				
Cut	97	24.2		
Wire	244	61.0		
Unidentified	59	14.8		

The occurrence of some cut nails can be explained by a selection of cut over wire nails for roofing due to greater holding power. This was a popular practice in North Central Texas during the early twentieth century and is present in Joe Pool Lake structures dating to the early 1900s (i.e., 41DL182, 41DL183).

Brick and window glass fragments were surprisingly low at the site. These items clustered near the dwelling. Other numerous architectural remains (11.4%) were comprised primarily of hardware, shingle fragments, and burned lumber from the house.

OTHER REMAINS

A total of 100 floral and faunal items were recovered. Floral remains were primarily uncarbonized plant remains. Faunal remains included both natural site faunal (rodents, raccoon, wood rat) and food remains (catfish, chicken, cottontail, cattle, swine). Domestic animals composed the largest portion of the Reitz diet. According to the archaeological investigations, these remains were equally divided between beef and pork.

Ubiquitous fragments of metal (thin, i.e., possible can fragments, and heavy, i.e., cast iron) comprised 20% of the entire assemblage. Heavy metal (9.4%) was well represented in the sheet refuse and suggests that the blacksmith interpretation of the eastern complex may be in question. During testing, all heavy metal was termed "stock", and may in fact simply be products of ongoing farm activities and deposition. Certainly the high incidence of heavy metal in general sheet refuse at the site (western complex) suggests that metal is common to the farm as a whole, even when not related to blacksmith operations *per se*.

Fire arms (3.9%) and clothing items (2.0%) comprise the remaining artifact categories of any consequence. Other remains include unidentifiable items and horse and stable gear.

SUMMARY

The overall distribution of outbuildings, sheet refuse, roads, and ornamental plants at the Reitz site indicates a traditional farmstead layout for this area. Row crop agriculture, grain storage, and animal stabling were the primary pursuits. Based on the material culture, however, the Reitz family operated on a cash basis. Most of their goods were mass produced, and the large volume of remains indicates consumerism rather than self subsistence.

This site reveals the problems inherent in using archival sources alone to judge site significance. Although the tract was purchased by J. Reitz in 1876, evidence of a dwelling and permanent occupation of the site does not show up in the western section until the early 1890s. If the eastern section was contemporaneous, then the archaeological and architectural evidence clearly clash with archival and informant sources of information. Since the eastern section was destroyed, we will not know the answer to this question.

Despite the lack of older components, the Reitz site reveals ongoing growth of an early twentieth century farmstead. The old barn (structure 4) revealed a transitional architecture as does the remaining barn (structure 2). Tree-ring dates indicate that remodelling was necessary 30 - 40 years after initial construction (see Chapter 28). After the 1930s, the technology of the entire farm shifted to modern construction materials and methods (i.e., concrete, box and strip). The Reitz Farm encapsulates this transition in rural American lifeways.

SITE 41TR48: MARRS TENANT FARMSTEAD

16

by

Susan A. Lebo
with contributions by David H. Jurney

Site 41TR48 is part of the former farm of the A. K. and Sam T. Marrs families and is located in the floodplain on the south side of Walnut Creek, near the west end of the Joe Pool Lake (Figure 16-1). It was occupied from the late 1880s until 1946. No structures were standing when mitigation began in 1985. Two dwellings and a collapsed root cellar were documented at 41TR48 in 1980. Previous work at 41TR48 focused on deed title research and initial architectural documentation of both dwellings (Ferring and Reese 1982:153,155). No excavations or surface collections were conducted during the 1980 season. This site was selected for intensive investigation because of the unique architectural floorplan and style of the south house, and the potential for this site to yield important sheet refuse remains that could be correlated with a house site occupied for almost 60 years.

ORAL AND DOCUMENTARY INFORMATION

Site 41TR48 is located on the Ralph Graves survey, situated in the southeastern corner of Tarrant County (Figure 16-2). The Ralph Graves (640 acres) land tract was surveyed by W. Lively on April 21, 1859. It was subsequently transferred to J. B. Tyrus. The 160 acre tract which contains 41TR48 was purchased by A. K. Marrs from J. B. Tyrus in 1871 (Tarrant County Deed Book O:146). A. K. Marrs was listed in a land transaction on the adjoining G. Greer Survey (155 acres) in 1888 (Tarrant County Deed Book 83:476). His son, Sam T. Marrs inherited the property and filed a will naming his wife administrator in 1905. Sam died in 1917 at his residence in Mansfield, Texas, leaving an estate (land, land notes, and other articles) valued at $100,000. His heirs were all daughters, three of which were minors living at home (Eulalia 20 years old, Maggie 17 years old, and Ruth 14 years old), and three that were married and living elsewhere (Gordie M. Fitts (W. A.) in Britton, Ellis County, Nona L. Pipes (Pettis) in Sherman, Grayson County, and Autie M. Bradley (H. S.) in Maypearle, Ellis County). Thus none of the Marrs family have been documented at 41TR48. Therefore, an unknown tenant or farm manager most likely occupied the site.

The 1895 Sam Street's Map of Tarrant County (Tarrant County Historical Commission 1985) indicates that S. T. Marrs lived along the edge of the prairie uplands nearly 1 mile south of 41TR48 (Figure 16-2). A symbol which indicates a tenant was placed at the 41TR48 location. Interestingly, a gin was indicated on the land tract adjoining 41TR48 on Walnut Creek. This indicates that this was a thriving agricultural community with landowners living on their property. By 1917, however, the Marrs family had moved to Mansfield suggesting a shift in the social and economic fabric of the area.

Site 41TR48 was previously identified as the Marrs homestead (Ferring and Reese 1982:153). However, the chain of title for the entire 640 acres indicates that site 41TR48 was built but not occupied by the A. K. and

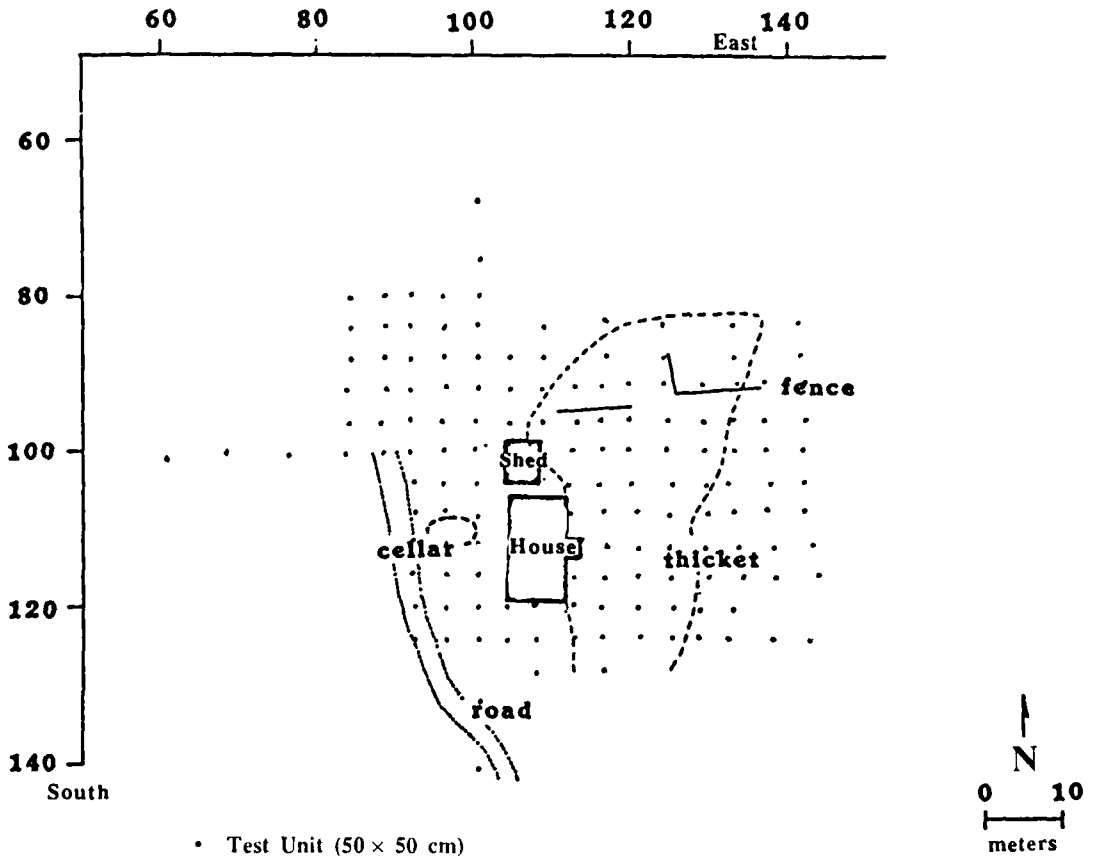


Figure 16-1. Map showing 1985 excavations, major structures, and features at 41TR48, the Marrs Tenant site.

Sam T. Marrs families. Similar types of structures were recorded for a number of farms in this vicinity in the late 1930s and included a single dwelling and several sheds, barns, and shacks on each tract. Two of these types of structures were identified in the archaeological record at 41TR48, and included the north and south dwellings.

ARCHITECTURAL OVERVIEW

Documentation of the standing architecture at 41TR48 was conducted during the 1980 season. The south house was located south of a secondary dwelling and east of a root cellar (see Figure 16-1). A well head was also identified off the northeast corner of the south house, which may have been connected to this structure by a brick walkway. Several units containing post 1940s trash were also recorded in the northeastern area of the site, within a dense gum bumelia thicket.

Information was recorded on construction techniques and material, the basic floor plan and room dimensions, and the placement of doors, windows, stairs, and fireplaces. According to Ferring and Reese (1982:153,155) the floor plan of the south dwelling was unique for the Project area (Figure 16-3). It was a one-and-a-half story, braced frame house with two rooms on the first floor, and a single large room on the second (Figure 16-4). A front porch was located along the entire length of the house on the south side. The dwelling was set on limestone and sandstone piers, and measured 7.4 × 5.6 m, with the roof ridge transverse to the long axis of the house. Mortise and tenon joints were used for the major structural elements and machine cut nails predominate throughout the structure. Overall, the upper floor was constructed primarily with cut nails, while the first floor showed evidence of modification or renovation with wire nails being used. The original wooden shake roof had been replaced with asphalt shingles sometime before it was abandoned.

The first floor of the south house contained a large front room with a fireplace on the east wall. A second fireplace was located above the first on the second floor. Transitional brick was used for both fireplaces, and the chimney was capped with concrete on the exterior. Windows occurred on all four sides of the house, with the front door facing south. A small back room was located on the north end of the dwelling and included a turned stairway to the single large second story room. Evidence of modification was recorded for the north wall

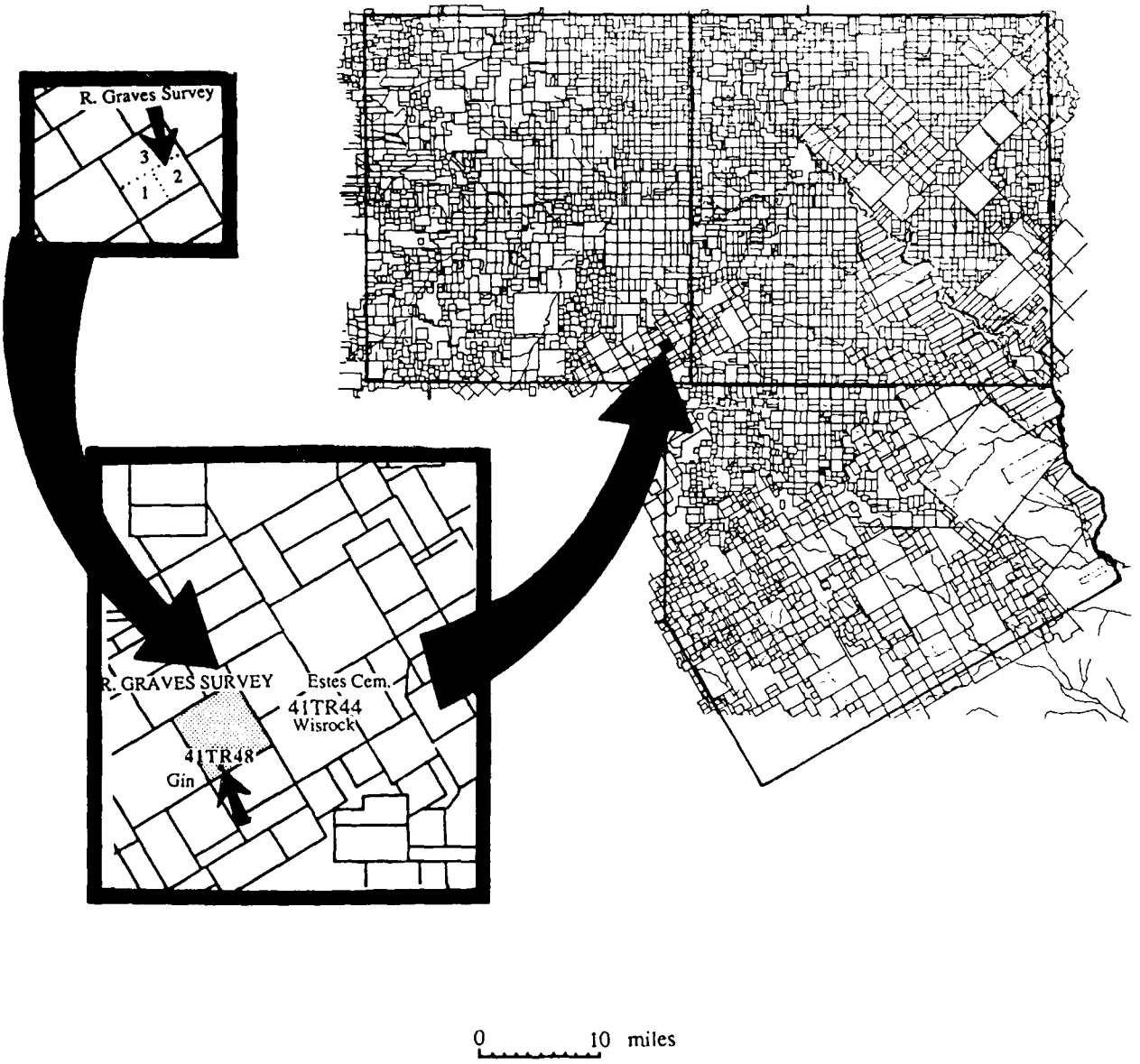


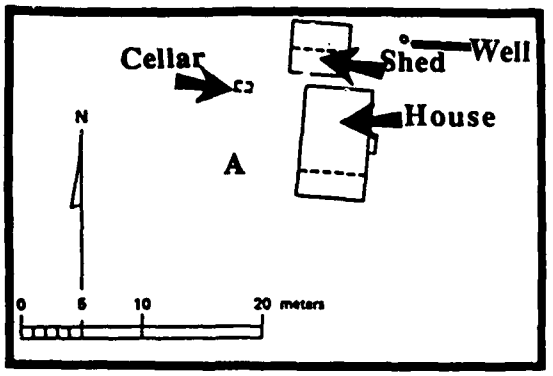
Figure 16-2. Map showing the location of site 41TR48 on the George Greer survey and property subdivisions (the property subdivisions are from the Fort Worth and Tarrant County Abstract March 29, 1876).

of the house. The exact nature of the modification could not be determined without removing interior planks.

The floors of the south house were tongue and groove with 2 × 6 in (5.08 × 15.24 cm) floor joists, and were slightly raised. The overhang of the front porch was decorated with a curvilinear skirt suggestive of a late nineteenth century style. The dwelling was originally painted white with green trim.

A smaller dwelling was located to the rear of the south house. Its proximity suggested that it may have served as a kitchen. It was set on wood piers, with milled lumber sills and floor joists. The longitudinal axis was oriented east-west, perpendicular to the long axis of the south dwelling. The structure measured 4.37 × 5.60 m. It had two windows on the north wall, one on the south, and a single door, located on the south, that provided direct access to the south house. This smaller structure was plank construction with shiplap siding and a hanging chimney. The construction technique and the use of wire nails throughout indicated that it was built more recently than the south dwelling.

In addition, Ferring and Reese (1982:155) identified a root cellar west of the south dwelling. Its log roof and supports had collapsed, and a post-abandonment trash



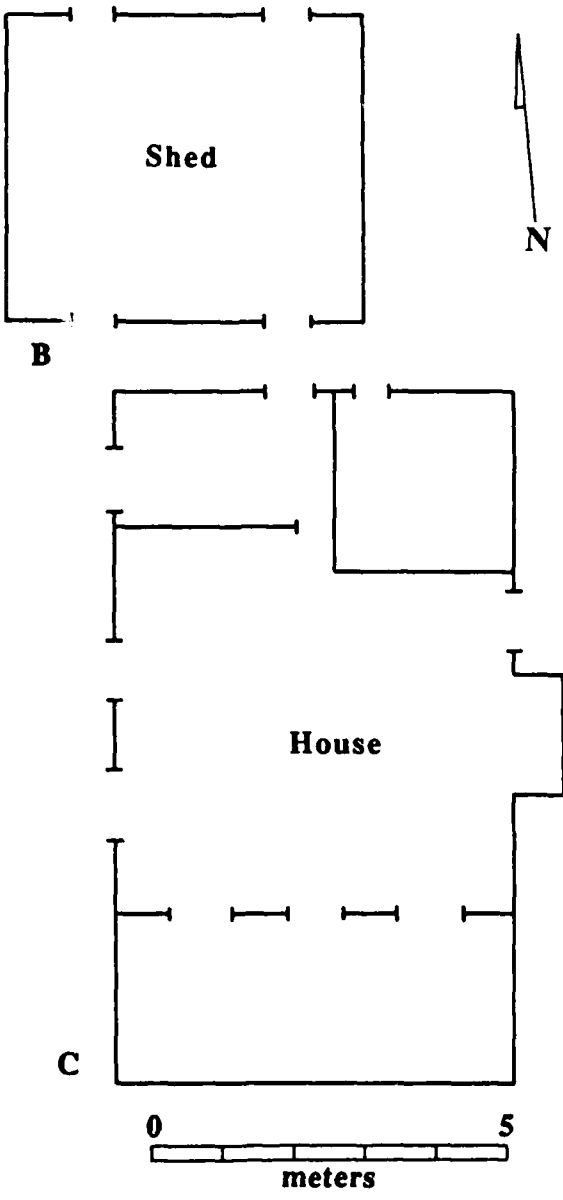


Figure 16-3. The arrangement (a) and floor plan of the adjacent structure (b) and main dwelling (c) recorded by North Texas State University in 1980.



Figure 16-4. Photograph of the dwelling at the Marrs Tenant site. Note the adjacent structure to the left rear of the dwelling.

deposit had formed. A well located northeast of the south house was capped with a hand pump and ringed with stone slabs.

The south house and smaller north structure burned to the ground before mitigation work began in 1985. Twelve units were excavated under the south dwelling, and four under the north (Figure 16-5). Several patterns were apparent when the assemblages from these units were compared. A total of 2,880 architectural items were recovered under the south dwelling, and 267 items under the north. The variability in the types of architectural items recovered provided substantial information that correlated directly with the architectural data recorded in 1980.

The architectural remains recovered from excavation units under these two structures provided important information about construction techniques and age, building material, and the spatial distribution of major elements including doors, windows, and the fireplace. This information strongly correlated with the architectural documentation. The more northern dwelling was built in the twentieth century, well after the south house was completed. The ratio of cut to wire nails, and nail size data indicated that the southern dwelling was constructed in the 1880s or 1890s, while the smaller structure was built after 1900. The mean window pane thicknesses for both structures were nearly identical, with major peaks at 2.0 mm, 2.2 mm, and 2.4 mm at the south dwelling, and 1.8 mm, 2.3 mm, 2.4 mm, and 3.0 mm for the north. The other architectural items indicated that the south house had been modified and renovated during the twentieth century, and included linoleum flooring which covered the original tongue and groove wood floors, and asphalt shingles that replaced the former shake roof.

SOUTH DWELLING AREA

While brick fragments accounted for the highest percentage of architectural remains recovered under this dwelling, they were uncommon in most of the units (Table 16-1). High frequencies were recorded for S110 E106, S112 E108, S112 E112, and S112 E116 which were located within the chimney fall. Fewer bricks were found in units located further away. Of the 904 brick fragments recovered under this dwelling, only 44 were

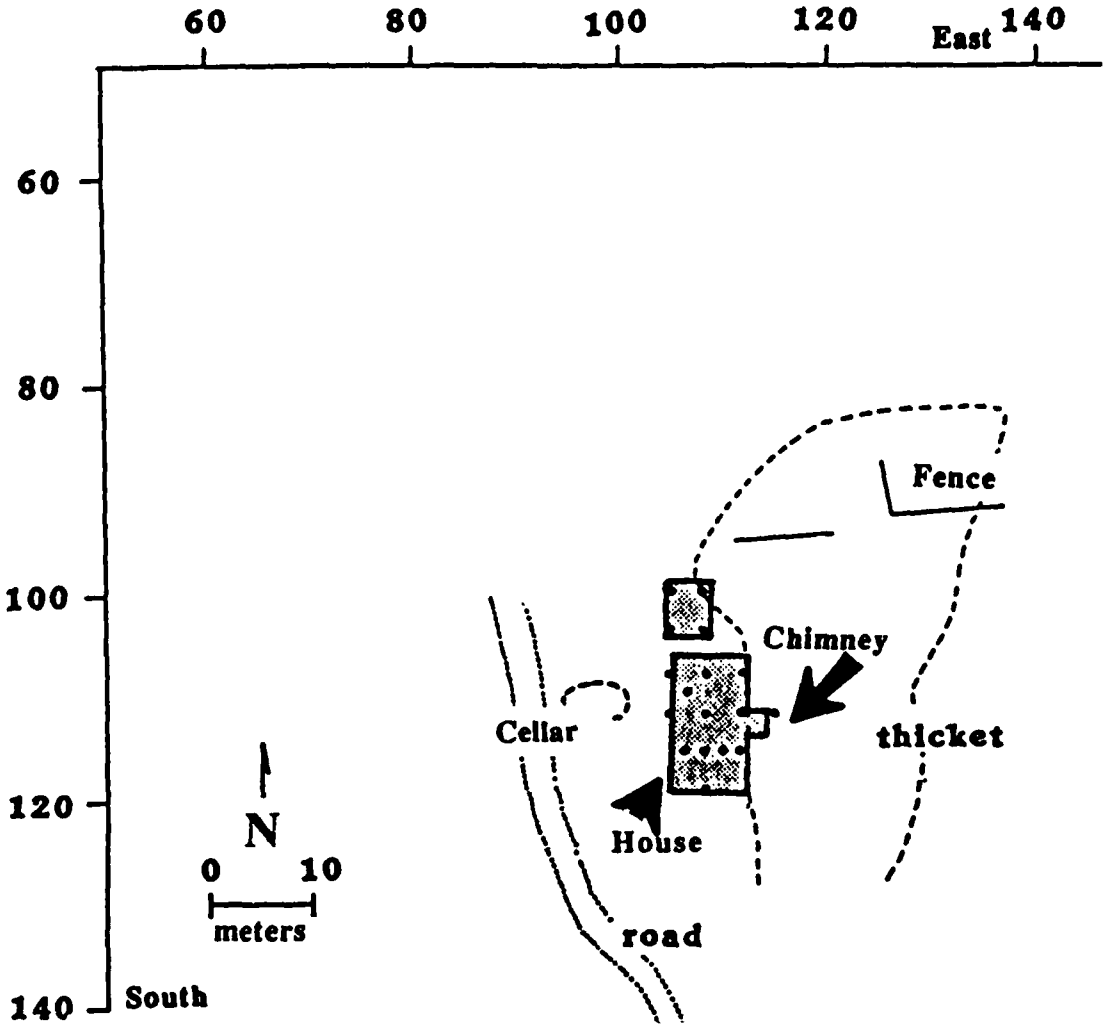


Figure 16-5. Location of 50 x 50 cm units excavated under the two structures and the chimney fall from the south dwelling.

machine made bricks, with 40 occurring in S112 E 108 and four in S112 E116. The remaining 94% were from transitional bricks which were probably produced between 1880 and 1900 and contained a number of iron inclusions. The machine made brick fragments were from replacement bricks added to the chimney during the early twentieth century where older bricks had crumbled or fallen out. A total of 772 nails were recovered under this structure, and included 305 machine cut, 461 wire, and 6 unidentifiable. The most frequent cut nail sizes were 3.8 cm wood shake roofing nails, 5.1 cm and 6.3 cm framing nails (wallboards, rafters, ceilings, wainscot, and flooring), 7.0 cm nails used for joists and sills, and 8.3 cm, sheathing, subflooring and framing nails (Table 16-2). Major wire nail sizes included 3.2 cm, 4.4 cm, 7.0 cm, and 8.3 cm. These nails correlated with the cut nail types recovered, but indicated a reduction in nail size from cut to wire nails. A small number of wire nails for light sheathing and wall papering, and tacks (1.0 cm, 1.9 cm, and 2.5 cm) were recovered. A higher percentage of machine cut than wire nails for heavy framing were found (Table 16-2). Window glass fragments accounted for the smallest percentage of the architectural assemblage. High density units were located directly under broken windows and included S112 E104. Window glass thickness ranged from 1.5 mm to 3.2 mm with three major peaks at 2.0 mm, 2.2 mm, and 2.4 mm. The mean thickness for these fragments was 2.314 mm. A total of 28 fragments were too badly burned to determine thickness (see Table 16-3). Other architectural remains recovered included 483 asphalt shingle fragments, 180 pieces of plain wire, 87 pieces of concrete or mortar, 19 pieces of tarpaper, ten tarpaper staples, three linoleum fragments, one wood screw, and one door hinge.

NORTH DWELLING AREA

Brick fragments were poorly represented in the assemblage under this building, and were most probably associated with the hanging chimney. These were primarily machine made, and may have included a small number associated with the south house chimney fall. On the other hand, nails predominated, and were more than twice as frequent as brick and window glass fragments. In addition, nails comprised the largest

Table 16-1
ARCHITECTURAL ASSEMBLAGE RECOVERED FROM UNITS LOCATED UNDER THE NORTH AND SOUTH DWELLINGS

	Nails	Brick	W. Glass	Other
South Dwelling				
S108 E108	145	5	15	3
S108 E112	2	5	36	35
S110 E106	100	84	29	14
S112 E104	49	14	133	1
S112 E108	99	65	10	18
S112 E112	7	483	34	80
S112 E116	0	183	1	21
S116 E106	128	58	52	134
S116 E108	77	0	58	341
S116 E110	122	5	39	7
S116 E112	36	2	0	74
S120 E108	7	0	13	56
Total	772	904	420	784
North Dwelling				
S100 E104	23	0	11	20
S100 E108	9	0	29	3
S104 E104	65	15	1	37
S104 E108	24	2	11	17
Total	121	17	52	77

Table 16-2
FREQUENCY OF WHOLE MACHINE CUT AND WIRE NAILS FROM UNITS UNDER THE NORTH AND SOUTH DWELLINGS[1]

	South Dwelling				North Dwelling			
Size	Cut		Wire		Cut		Wire	
(*cm*)	N	%	N	%	N	%	N	%
1.0			4	1.3			1	1.2
1.9			2	.7				
2.5	1	.5	9	2.9				
3.2	1	.6	135	44.0			24	29.6
3.8	33	20.4	6	2.0				
4.4	10	6.2	79	25.7	1	100.0	4	4.9
5.1	31	19.1	5	1.6			25	30.9
5.7	1	.6	2	.7				
6.3	20	12.3	24	7.8			21	25.9
7.0	20	12.3	34	11.1			2	2.5
7.6	17	10.5	3	1.0			2	2.5
8.3	23	14.2	1	.3			2	2.5
8.9	2	1.2						
9.5	2	1.2						
10.2	1	.6	2	.7				
10.8			1	.3				
Total	162		307		1		81	

[1] Frequencies are based on laboratory data and may vary from counts presented in other chapters based on more detailed analyses (see Chapter 18)

percentage of architectural items in three of the units. A total of three machine cut nails, 81 wire nails, and nine unidentifiable nails were processed in the lab. A breakdown of whole nails by size (Table 16-2) indicated that 3.2 cm wood shake roofing and roof batten nails, and 5.1 cm and 6.3 cm major construction nails for wallboards, rafters, ceiling, and flooring were the most common. The distribution of window glass fragments also appeared to correlate with the location of documented windows. The lowest frequency occurred in S104 E104 which was probably associated with the door located on the south face. Among the other architectural category were 13 pieces of tarpaper, six staples, one siding board fragment, 38 pieces of plain wire, seven asphalt shingle fragments, and four pieces of cement, mortar or concrete.

DATA RECOVERY INVESTIGATIONS

Archaeological mitigation work at site 41TR48 focused on retrieving a systematic sample of the sheet refuse, isolating features, and examining the architectural items from the north and south dwellings. In addition, several specialized features associated with the tenant occupation were intensively investigated, including a root cellar situated west of the south dwelling, and a well located off the southwest corner of the north structure. A post 1940 trash deposit located in the dense gum bumelia thicket was also sampled.

The sheet refuse investigations were accomplished in two phases, with the first directed towards excavating a series of 50 × 50 cm units on an 8 m grid across the site. These units indicated (1) that the site had been occupied from the late 1870s up to the late 1940s, (2) a higher percentage of older material existed in the northwest portion of the site, and (3) post-occupation trash deposits were along the eastern periphery. In addition, the unit at S104 E 100 revealed a dry laid stone well, buried 20 to 30 cm below the surface. The second phase was directed towards recovering a larger sample of the sheet refuse using a 4 m grid; examining the architectural rain deposited when the south dwelling burned, shortly before the 1985 field season; and investigating the root cellar and buried well.

Mitigation field work consumed 62 person days, and involved hand excavation of 155 50 × 50 cm^2 units covering about 3000 m^2, and yielding 14,221 artifacts. Ten person days were spent excavating the collapsed well (Feature 1), root cellar (Feature 2), and four 50 × 50 × 2 cm units under the south dwelling. A total of 670 artifacts were recovered from Feature 1. None were collected within the fill of Feature 2. Post 1940s trash fill above the collapsed root cellar was recorded in the field, and the material was reburied when Feature 2 was backfilled. A total of 3,762 artifacts was recovered from units under the south house, and 459 from under the north structure. In addition, high density deposits containing over 200 artifacts were identified at S92 E120, S96 E92, S96 E124, S96 E128, S100 E124, S100 E128, S100 E132, S104 E128, and S96 E124, with

Table 16-3
FREQUENCY OF WINDOW GLASS BY THICKNESS FOR UNITS UNDER THE NORTH AND SOUTH DWELLINGS[1]

Thickness (*mm*)	South Dwelling N	South Dwelling %	North Dwelling N	North Dwelling %
1.5	1	.3		
1.6	2	.5	1	1.9
1.7	1	.3	1	1.9
1.8	15	3.8	12	23.1
1.9	14	3.6		
2.0	51	13.0	4	7.7
2.1	3	.8		
2.2	104	26.5	5	9.6
2.3	22	5.6	8	15.4
2.4	112	28.6	6	11.5
2.5	7	1.8	1	1.9
2.6	10	2.6	3	5.8
2.7	1	.3		
2.8	8	2.0	3	5.8
2.9	17	4.3		
3.0	20	5.1	6	11.5
3.2	4	1.0	2	3.8
Unknown[2]	28			
Total	420		52	

1 No flat glass over 3.2 mm thick was recovered under either dwelling

2 This category included burned flat glass fragments for which thickness measurements were not recorded

more than twice as many artifacts (1633) as any other unit.

SOIL AND CULTURAL DEPOSITION

The soil at site 41TR48 is sandy loam and clay in the floodplain south of the site. The soils are located on a stable terrace which has undergone very little aggregation or erosion. Few to no calcium carbonate gravels were evident, and the transition from the A horizon to the B horizon is very gradual, occurring at 65 - 70 cms. The cultural deposits at 41TR48 generally did not extend into the B horizon except where intrusive features (i.e., the stone lined well, and root cellar) had penetrated deeply. In addition, no rodent disturbance was evident at the site, except within the fill of Feature 1 and near S96 E112 where several trees had been uprooted. Artifacts were found to a depth of 20 to 30 cm in the major sheet refuse midden, less than 20 cm in the southeastern and eastern periphery of the site, and over 30 cm in dense trash deposits dating to the 1940s (Figure 16-6a). A comparison of the depth of the cultural material and artifact density (Figure 16-6a) did not indicate a direct correlation between the two. A greater correlation appeared to exist between the location of features, including the two burned structures, and the fence line, and artifact density. Architectural remains accounted for the high density of material in units under the structures, while trash deposits were identified in high density units along the fence line and in several units in the eastern portion of the site.

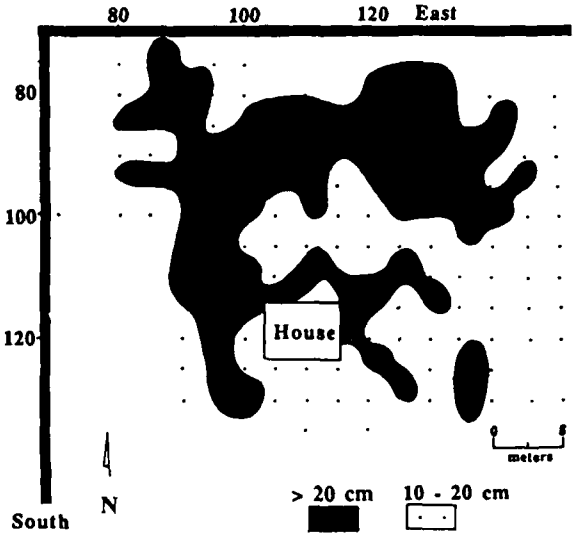


Figure 16-6a. Depth (a) of cultural deposits.

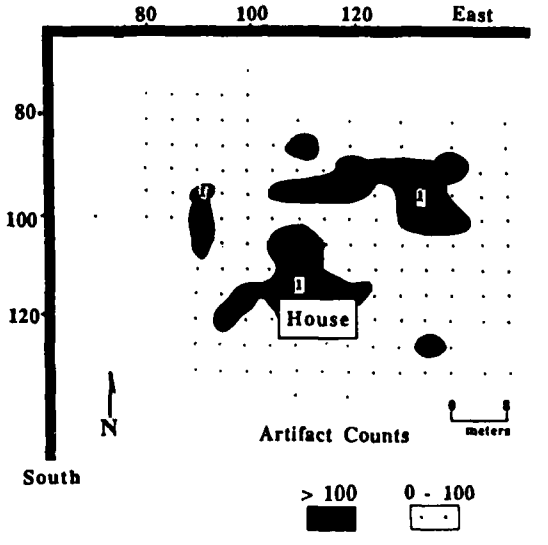


Figure 16-6b. Map showing total artifact densities across site 41TR48, with over 200 items per unit in major concentrations.

ARTIFACT ASSEMBLAGE

Considerable variability was evident in the frequency and distribution of major artifact categories between the assemblages recovered from the sheet refuse midden, units located under or directly associated with the burned dwellings, as well as specialized features, and dense trash deposits (Table 16-4, see Figure 16-6b). Bottle glass was more common in the high density (>200 artifacts) units along the fence line in the northeastern area of the site, than in the general sheet refuse midden, or specialized features. The lowest frequency of bottle glass occurred under the south dwelling which was built shortly after the site was initially occupied, and remained standing until the early

Table 16-4
ARTIFACT ASSEMBLAGE FROM SHEET REFUSE, UNDER THE NORTH AND SOUTH DWELLINGS, FEATURE 1, AND NON-SHEET REFUSE UNITS CONTAINING OVER 200 ARTIFACTS[1]

	Sheet Refuse[2]		N House		S House		Feature 1		Units Containing ≥ 200 Artifacts		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%
Earthenware												
Coarse	6	.1							8	.2	14	.1
SemiCoarse	1	<.1	3	.6	1	<.1			2	<.1	7	<.1
Refined	189	3.0	3	.6	8	.2	28	4.2	83	2.1	315	2.0
Stoneware	58	.9			1	<.1	1	.1	16	.4	76	.5
Porcelain	19	.3					2	.3	4	.1	25	.2
Bottle Glass	2036	31.5	118	25.2	510	13.6	107	16.0	1880	47.1	4651	30.3
Table Glass	46	.7	5	1.1	4	.1	18	2.7	75	1.9	148	1.0
Unknown Glass	1	<.1									1	<.1
Nails	884	13.7	121	25.8	772	20.5	93	13.9	411	10.3	2281	14.9
Brick	343	5.3	17	3.6	904	24.0	27	4.0	72	1.8	1363	8.9
Window Glass	446	6.9	52	11.1	420	11.2	45	6.7	137	3.4	1100	7.2
Other Architecture	632	9.8	77	16.4	784	20.8	41	6.1	307	7.7	1841	12.0
Clothing Items	54	.8			7	.2	4	.6	50	1.3	115	.7
Toys	3	<.1							4	.1	7	<.1
Other Personal	23	.4	1	.2	10	.1	5	.7	17	.4	49	.3
Faunal/Floral Remains	169	2.6	14	3.0	25	.7	182	27.2	44	1.1	434	2.8
Thin Metal	1186	18.4	37	7.9	277	7.4	100	14.9	626	15.7	2226	14.5
Heavy Iron	92	1.4	6	1.3	5	.1	11	1.6	72	1.8	186	1.2
Fuel Remains	3	<.1									3	<.1
Hand Tools	11	.2							7	.2	18	.1
Firearms	49	.8			6	.2	1	.1	5	.1	61	.4
Stable Gear	7	.1					1	.1			8	.1
Electrical Parts	12	.2			2	.1	1	.1	2	<.1	17	.1
Miscellaneous Other	150	2.3	1	.2	30	.8	2	.3	60	1.5	243	1.6
Total	6420		455		3766		669		3882		15,189	

[1] Frequencies for personal remains, faunal and floral remains, as well as thin and heavy metal, fuel, handtools, firearms, stable gear, electrical parts, and miscellaneous other are based on laboratory data and may vary from counts presented in other chapters based on additional analyses

[2] Cultural material from Features 1 and 2, units containing over 200 artifacts, and units excavated under the structures and the chimney fall were not included in these counts

1980s. Architectural items predominated under the south house where they accounted for 76.5% of the assemblage, and decreased in frequency respectively from the north house (56.9%), sheet refuse midden (35.7%), and Feature 1 (30.7%), to a low of only 24.5% in the trash deposits. Ceramic sherds were the most frequent in the well fill (Feature 1), sheet refuse midden, and trash deposits, and they were extremely uncommon under the dwellings. Floral and faunal remains also exhibited considerable variability between assemblages, with the highest percentage of these items occurring in Feature 1, and under the north house. The distribution of low frequency items (see Chapter 23) including both personal and farm remains also exhibited strong patterning. These items occurred primarily in the sheet refuse midden and dense trash areas, and were less frequent under the dwellings. In addition, no apparent separation was evident in the frequency and distribution of personal items and farm remains. Both occurred in the yard near the dwellings, as well as further away from the structures, along the periphery of the site yard.

Cultural remains dating to the Marrs tenant occupation between the late 1870s and 1940s were recovered from units across the site, while items deposited when the site was abandoned, or later, occurred primarily in the eastern portion of the site. In addition, post 1950 trash dumping was evident west of the main site area, above the collapsed root cellar, and in the creek bank, about 20 m east of the site (see Figure 16-1). These deposits included an abundance of tin cans, bottles, and large furniture such as box springs, and appliances.

CERAMICS

A total of 315 refined earthenware sherds were recovered in the assemblages at 41TR48, with 188 occurring in the sheet refuse midden. These sherds primarily included pure white whitewares, light blue tinted whitewares, and Fiesta sherds (Table 16-5). Ivory tinted whitewares, along with blue tinted high fired (vitrified) ironstones, were less common. The refined earthenwares ranged in age from the 1850s up to the 1940s, with most of the vessels dating after 1870. Early vessels included several special fluted vessels which were probably curated, and were recovered from the

Table 16-5
CERAMIC ASSEMBLAGE FROM SHEET REFUSE, UNDER THE NORTH AND SOUTH DWELLINGS, FEATURE 1, AND NON-SHEET REFUSE UNITS CONTAINING OVER 200 ARTIFACTS

	Sheet Refuse[1]		N House		S House		Feature 1		Units Containing ≥ 200 Artifacts		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%
Ceramic Type:												
Ironstone WW	17	9.0			2	25.0	5	17.9	16	19.0	40	12.7
Blue Tint Virtrified WW	1	.5					1	3.6	1	1.2	3	1.0
Blue Tint NonVitrified WW	9	4.8					1	3.6	3	3.6	13	4.1
Light Blue Tint WW	31	16.5			1	12.5	3	1.6	7	8.3	42	13.3
Pure White WW[2]	74	39.4	1	14.3	2	25.0	13	46.4	19	22.6	109	34.6
Light Ivory Tinted WW	15	8.0	2	28.6			2	7.1	11	13.1	30	9.5
Dark Ivory Tinted WW	4	2.1							1	1.2	5	1.6
Fiesta (Colored Glaze) WW	28	14.9	3	42.9	2	25.0	3	1.6	11	13.1	47	14.9
Unknown (burned)	9	4.8	1	14.3	1	12.5			15	17.9	26	8.3
Total	188		7		8		28		84		315	
Decoration:												
None	114	60.6	3	42.9	5	62.5	20	71.4	49	58.3	191	60.6
Thin Band	5	2.7									5	1.6
Hand Painted									1	1.2	1	.3
Stenciled	1	.5									1	.3
Transfer Printed	10	5.3			1	12.5	2	7.1			13	4.1
Floral Decalcomania	10	5.3					1	3.6	4	4.8	15	4.8
Relief Molded	12	6.4	1	14.3			1	3.6	9	10.7	23	7.3
Gilded	2	1.1					1	3.6	6	7.1	9	2.9
Hand Painted Rim	2	1.1							3	3.6	5	1.6
Fiesta (Colored Glaze)	28	14.9	3	42.9	2	25.0	3	10.7	11	13.1	47	14.9
Maker's Mark	4	2.1							1	1.2	5	1.6
Total	188		7		8		28		84		315	

1 Cultural material from Features 1 and 2, units containing over 200 artifacts, and units excavated under the structures and the chimney fall were not included in these counts

2 This category includes a sherd from surface collection

northwestern portion of the yard. More recent styles including ivory tinted whitewares and Fiesta sherds, but appeared most concentrated in the northeast yard area, particularly in the gum bumelia thicket and dense trash deposits.

An examination of the refined earthenware assemblage from units that contained over 200 artifacts (Table 16-5) indicated a dominance of twentieth century styles, including ivory tinted whitewares, Fiesta, and a variety of pure white whiteware vessels. Earlier styles occurred which were similar to vessels recovered in the sheet refuse midden.

Nineteenth century refined earthenware sherds predominated in the well, (Feature 1), and indicated that it probably no longer served as a water source for the south dwelling after the turn of the century. No exact terminal date could be determined for this feature because the collapsed walls of the fill allowed us to excavate only the very top portion of the well. Twentieth century refined earthenwares occurred in the A horizon, or sheet refuse midden above the top of the well.

Few refined earthenwares were recovered under the dwellings. Both nineteenth and twentieth century styles occurred under the south dwelling, while only twentieth century styles occurred under the north dwelling. These sherds were probably deposited by children playing under or near the dwelling, or by being swept under the dwelling during yard cleaning, or were deposited after these structures were abandoned.

Undecorated refined earthenwares predominated at the site (see Table 16-5), with decorated sherds including mid- to late nineteenth century relief molding, and twentieth century floral decalcomania and Fiesta glazes. The most common decorated sherds from each assemblage were red, blue, and yellow Fiesta wares. Relief molding was the second most frequent decoration type in the sheet refuse midden, under the north dwelling, and in the dense trash deposits, while transfer printed sherds were most common in the well and under the south house. Several sets were identified among the decorated sherds, including a brown decalcomania pattern with a flower motif that includes a small cat and hand painted detail. Among the Fiesta ware sherds was a set of yellow tableware vessels, including plates, cups, saucers, and bowl fragments.

Twenty-two porcelain sherds were recovered, which included 17 plain, and five decorated sherds, each with a different type of decoration. No porcelain sherds were

Table 16-6
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE, UNDER THE NORTH AND SOUTH DWELLINGS, FEATURE 1, AND NON-SHEET REFUSE UNITS CONTAINING OVER 200 ARTIFACTS[1]

	Sheet Refuse[1]		N House		S House		Feature 1		Units Containing > 200 Artifacts		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%
Glass Color:												
Clear	1247	59.4	105	87.3	467	91.6	77	72.0	1575	83.8	3470	74.6
Manganese	217	10.7	3	2.5	1	.2	10	9.3	44	2.3	275	5.9
Olive Green	14	.7			2	.4			18	1.0	34	.7
Emerald Green	15	.7							12	.6	27	.6
Light Green	44	2.2	2	1.7	10	2.0	1	.9	26	1.4	83	1.8
Aqua	158	7.8	2	1.7	12	2.4	10	9.3	56	3.0	238	5.1
Dark Blue	12	.6							4	.2	16	.3
Crystal Blue	5	.2							1	<.1	6	.1
Brown, Honey	265	13.0	4	3.4	18	3.5			118	6.3	405	8.7
Yellow	4	.2	1	.8					4	.2	9	.2
Pink	4	.2							5	.3	9	.2
Red	1	<.1									1	<.1
Purple	1	<.1									1	<.1
Translucent Milk	22	1.1	1	.8			3	2.8	7	.4	33	.7
Opague Colored Milk	23	1.1					5	4.8	4	.2	32	.7
Vaseline Colored Milk	1	<.1							1	<.1	1	<.1
Clear Gray Ash Tint	3	.1					1	.9	5	.3	9	.2
Total	2036		118		510		107		1880		4650	
Burned:												
Unburned	1766	86.7	115	97.5	421	82.5	106	99.1	1817	96.6	4225	90.8
Burned, Melted	270	14.3	3	2.5	89	17.5	1	.9	63	3.4	426	9.2
Total	2036		118		510		107		1880		4651	
Decoration:												
Plain	1757	86.3	96	81.4	491	96.3	82	76.6	1586	84.4	4012	86.3
Relief	128	6.3	9	7.6	12	2.4	4	3.7	179	9.5	332	7.1
Corrugated	60	2.9	3	2.5	1	.2	3	2.8	22	1.2	89	1.9
Milled	7	.3					5	4.7	1	.1	13	.3
Enamel Label, painted	7	.3			1	.2	7	6.5	12	.6	27	.6
Maker's Mark	77	3.8	10	8.5	5	1.0	6	5.6	80	4.3	178	3.8
Total	2036		118		510		107		1880		4651	
Diagnostic Attributes:												
None	1950	95.8	109	92.4	500	98.0	94	87.9	1765	93.9	4418	95.0
Bodies:												
Embossed Panel Bottle	1	<.1					3	2.8			4	.1
NonEmbossed Panel Bottle					1	.2					1	<.1
Bases and Rims:												
Pontil (neg. scar)	2	.1									2	<.1
Pontil (graphite tip)	1	<.1									1	<.1
Snap Case	1	<.1									1	<.1
Post Bottom Plate			1	.8							1	<.1
Owens Ring	11	.5	1	.8			1	.9	16	.9	29	.6
Valve Mark	1	<.1							2	.1	3	.1
Corrugated Pattern on Base	9	.4	1	.8	3	.6			25	1.3	38	.8
Machine Made Base or Lip	42	2.1	6	5.1	5	1.0	2	1.9	36	1.9	91	2.0

Table 16-6 — (*continued*)
VESSEL GLASS ASSEMBLAGE FROM SHEET REFUSE, UNDER THE NORTH AND SOUTH DWELLINGS, FEATURE 1, AND NON-SHEET REFUSE UNITS CONTAINING OVER 200 ARTIFACTS[1]

	Sheet Refuse[1]		N House		S House		Feature 1		Units Containing ≥ 200 Artifacts		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%
Machine Made Cork	1	<.1							1	.1	2	<.1
Twisted Applied Lip									1	.1	1	<.1
Continous Thread Fruit Jar	4	.2			1	.2			14	.7	19	.4
Milled Rim	1	<.1							1	.1	2	<.1
Snuff Rim (brown)	4	.2							6	.3	10	.2
Snuff Rim (clear)	1	<.1									1	<.1
Fruit Jar Inset Cap	7	.3					7		13	.7	27	.6
Total	2036		118		510		107		1880		4651	

[1] Cultural material from Features 1 and 2, units containing over 200 artifacts, and units excavated under the structures and the chimney fall were not included in these counts

found under the two structures, or in specialized features (well and root cellar). A total of 14 coarse earthenwares and seven semicoarse earthenware sherds, which included primarily unglazed, plain flowerpot fragments were recovered. Three semicoarse earthenware sherds were found under the north dwelling, and one under the south. Both late nineteenth century and twentieth century flowerpot varieties were represented.

Seventy-six stoneware fragments were collected and included natural clay slip, salt glaze, and bristol varieties (see Chapter 22). The stoneware assemblage included several early vessels with a dry interior and salt glazed exterior or natural clay slip interior and salt vapor exterior. In addition, several vessels contained large iron inclusions that indicated they may have been produced at the Wilson-Donaldson Pottery in Denton (Georgeanna Greer, personal communication 1984). Stoneware sherds were recovered primarily in the general sheet refuse (76.3%), where they were three times more frequent than in the dense trash deposit. Only one sherd was found under the south dwelling. The stoneware assemblage dated primarily from the 1870s up to the early 1900s.

VESSEL GLASS

The vessel glass assemblage from 41TR48 included 4,651 bottle glass sherds, 148 table glass sherds, 161 lamp glass fragments, and one unidentifiable sherd (see Table 16-4). The highest percentage of bottle glass was recovered in the dense trash deposits, along the fenceline that bisects the northeastern area of the site, and in the sheet refuse midden. Low bottle glass frequencies were recorded for the south dwelling and the stone well (Feature 1).

A breakdown of the bottle glass assemblage by sherd color (Table 16-6) indicated several patterns across major yard areas. Clear sherds predominated in each yard area, and ranged from 60% in the sheet refuse midden to 92% under the south house, while brown bottle glass (including primarily beer bottles) was the second most frequent glass color in the sheet refuse midden and dense trash deposits. Manganese decolorized glass occurred primarily in the sheet refuse midden, Feature 1, and under the north house, and was less frequent in the northeastern yard. Olive green champagne and wine bottles occurred primarily in the northwest yard, with one bottle represented by 17 fragments occurring in a trash deposit in the northeast yard. Several bottles were also represented in the assemblage under the south house. Snuff bottle sherds were recovered in several units west of the two dwellings, and in the northeast yard trash deposits. Fruit jar inset cap fragments were found in units near the root cellar, as well as the northeast yard, and two units in the southeast yard, while fruit jar sherds occurred in one unit along the east wall of the south dwelling, and in the northeast yard.

The bottle glass assemblage in each yard area contained primarily undecorated, plain glass sherds. Major temporal attributes identified primarily on the bases or rims indicated strong spatial patterning. The bottle glass assemblage at 41TR48 dated from the 1870s to the present, with the oldest bottle glass occurring in the general sheet refuse midden, within the northwest area of the site. These early bottles (see Table 16-6) included one snap case, and one post-bottom plate mold base fragments, and a single embossed panel bottle body sherd. The dense trash deposits contained only twentieth century bottle glass, with the majority postdating 1940.

Table and lamp glass accounted for a very small percentage of the vessel glass recovered at 41TR48 (see Table 16-4). These items were clustered in the two yard areas, with the highest density located directly west of both dwellings in Feature 1. A second cluster occurred in the highest density trash deposits located along the barb wire fence in the northeast yard. Plain, clear tableware sherds and lamp globe fragments predominated in both areas. Manganese and pink sherds, as well as pressed tableware sherds were less common. A small number of lamp globe fragments were also recovered.

Table 16-7
ARCHITECTURE ASSEMBLAGE FROM SHEET REFUSE, UNDER THE NORTH AND SOUTH DWELLINGS, FEATURE 1, AND NON-SHEET REFUSE UNITS CONTAINING OVER 200 ARTIFACTS[1]

	Sheet Refuse[1]		N House		S House		Feature 1		Units Containing > 200 Artifacts		All Units	
	N	%	N	%	N	%	N	%	N	%	N	%
Nails:												
Machine Cut	430	48.6	3	2.5	305	39.5	31	33.3	52	12.7	819	35.9
Wire	379	42.9	109	90.1	461	59.7	61	65.6	341	83.0	1375	60.3
Unidentifiable	75	8.5	9	7.5	16	.8	1	1.1	18	4.3	87	3.8
Brick:												
Handmade (Transitional)	308	89.8	3	17.6	849	93.9	27	100.0	63	87.5	1250	91.7
Machine Made	35	10.2	14	82.4	55	6.1			9	12.5	113	8.3
Window Glass:												
<3.3 mm	488		52		397		45		135		1107	
mean thickness		2.28		2.30		2.28		2.19		2.31		
Special Flat Glass:												
> 3.3 mm & unmeasured	14				23				2		39	
Other Architecture:	632		77		784		41		307		1841	

[1] Cultural material from Features 1 and 2, units containing over 200 artifacts, and units excavated under the structures and the chimney fall were not included in these counts

[2] Flat glass fragments which were burned and could not be measured were included in this category

ARCHITECTURAL REMAINS

The architecture assemblage at 41TR48 included 2,281 nails, 1,363 brick, 1,107 window glass, and 1,841 other architectural items. The frequency and distribution of these remains have indicated several important temporal and spatial patterns (see Intrasite Patterning section).

Nails

The nail assemblage for site 41TR48 included 819 machine cut, 1,375 wire, and 87 unidentifiable nail fragments (Table 16-7). A breakdown of nail type by yard areas revealed that wire nails predominated in units under both dwellings, in Feature 1, and in units that contained over 200 artifacts. A predominance of cut nails under the south dwelling indicated that the original structure had been built during the late nineteenth century, quite possibly the 1880s, and was remodeled during the twentieth. A similar predominance occurred in Feature 1 (Table 16-7), and probably included many nails from the original building episode, as well as, others from later remodeling of both dwellings. The highest percentage of wire nails were recorded in the dense trash units (>200 artifacts) in the northeast yard and especially under the north dwelling (1 to 36.33). Both of these areas primarily contained twentieth century material remains, although a smaller percentage of pre-1900 material was also recovered. The nail assemblage recovered from general sheet refuse yielded the lowest percentage of wire nails, with the ratio of cut to wire being 1.34 to 1. When only the units located in the northwest yard were examined (S60 to S104 and E60 to E112), excluding the structures, this same pattern was evident.

Brick

The two major types of bricks recovered at 41TR48 were transitional handmade brick and machine made. The transitional brick was generally a dark reddish color and contained dense iron inclusions. This brick appeared to be common in the Joe Pool Lake area in the 1890s. The chimney of the south dwelling was constructed using this type of brick. A small number of machine made bricks at 41TR48 were used as replacement brick in the chimney of the south house, and as the main brick type for the north structure. A breakdown of brick types by yard areas indicated that transitional handmade brick predominated in all yard areas, including the sheet refuse midden. Under the north house (Table 16-7) machine made brick dominated. The chimney fall associated with the south dwelling at (S112 E116) included 179 transitional brick and 4 machine made brick fragments. Over 50% of the brick recovered from the northwest yard was also transitional handmade brick fragments.

Window Glass

The flat glass assemblage included primarily window pane fragments which measured less than 3.3 mm in thickness. However, a small number of specialty flat glass fragments (>3.3 mm), and 28 burned sherds which could not be measured were also recovered. The distribution of window pane sherds (see Table 16-7)

indicated that 397 were recovered in units under the south dwelling, and 52 under the north dwelling. A large number of sherds were also found in units 4-8 m from both dwellings. The mean thickness was calculated for window pane sherds for each yard area, and supported the general architectural pattern identified for the site.

The construction dates that were calculated based on oral and documentary information were not confirmed. Instead, these dates were approximately 10 years earlier than the dates derived based on window pane thickness (see Chapter 21 for a detailed discussion of this dating technique). The lowest mean value was recorded for Feature 1, followed by the south dwelling, north dwelling, and finally the northeast yard area. The well (Feature 1) was most probably constructed just prior or at the same time as the south dwelling, and contained window pane sherds associated with the original windows of the south house, as well as replacement windows from both structures that broke while the site was occupied. The mean window pane thickness values yielded a formula date of 1905 for the south dwelling, 1910 for the north house and the northeast yard. The early date for the northeast yard reflects the high percentage of window pane fragments deposited in the sheet refuse in this area prior to the 1940s when this area was used for localized trash disposal.

Other Architecture

Other architectural remains found at 41TR48 included building hardware, interior furnishings, and fence wire. Fence wire was most common in the sheet refuse midden, Feature 1, and in the dense trash deposits in the northeast yard. Building hardware was less common in these areas and included one ceramic tile sherd, 19 asphalt shingle fragments, 28 pieces of linoleum, and 19 tarpaper fragments in 9 units containing over 200 artifacts, and 98 asphalt shingles, 51 linoleum, 8 tarpaper, 3 boards, 2 hinges, and one ceramic tile in the sheet refuse midden. Feature 1, a collapsed stone lined well, contained pieces of fence wire, large stones associated with its walls, and possibly some discarded stone piers from the south dwelling. Wire fragments were less common under the dwellings. Among the building hardware recovered under both structures were asphalt shingles, linoleum, tarpaper and tarpaper staples, concrete and mortar fragments, boards, hinges, and wood screws.

OTHER REMAINS

Other remains found included personal items, faunal and floral remains, thin metal, heavy iron parts, fuel remains, hand tools, firearms, stable gear, electrical parts, and unidentifiable plastic, glass, and organic items.

Personal remains were most common in the dense trash deposits located in the northeast yard, where they accounted for 1.8% of the assemblage (see Table 16-4). They accounted for 12% of the material from the sheet refuse midden, 13% in Feature 1, and less than 5% under the dwellings. Clothing items accounted for the bulk of the personal items and included primarily shoe or boot parts, jean rivets, and buttons. Other personal remains included smoking paraphernalia, jewelry, toys, makeup items, coins, and writing implements.

Fauna and flora remains varied greatly across major yard areas, with the highest frequency recovered in Feature 1, where a number of rodent bones occurred, and evidence of rodent runs were visible in the soil. The loose fill matrix inside of collapsed well was an ideal soil for rodent activity. Similar activity was evident near S96 E112, and in areas where trees had fallen or been uprooted. Major fauna and flora remains are identified and examined in Chapter 25.

Thin metal fragments, primarily from corroded tin cans, were recovered in all major yard areas, with the highest frequencies occurring in the general sheet refuse, the well, and the northeast yard trash deposits in the northeast yard. Dense tin can heaps were evident in a trash dump located northwest of the main sheet refuse (see Figure 16-1), and the creek bank east of the site. In the south house area, tin cans occurred in the trash deposited above the collapsed root cellar, west of the south dwelling.

The extremely low occurrence of coal, lignite, or cinders, indicated that wood was probably the major material used for heating and cooking. During the twentieth century wood was replaced by gas or electricity. Electrical remains also accounted for only a very small percentage of the site assemblage, indicating that electricity had been utilized at 41TR48 for a very short period before the site was abandoned.

A small number of farm related items including heavy iron remains, hand tools, firearms, and stable gear were found. Among the heavy iron remains were parts from machinery and vehicles, as well as a variety of unidentifiable items, including bar stocks, rods, and braces. Hand tool remains included both household and farm tools and gadgets, furniture, and equipment. Ammunition recovered at 41TR48 included rimfire and centerfire cartridges and shotgun shells, and the horse and stable equipment found included a variety of harness items and wagon parts.

FEATURES

Two cultural features associated with the Marrs tenant occupation at 41TR48 were intensively investigated, and included Feature 1 (stone well), and Feature 2 (root cellar). Feature 1 was similar in size, construction, and age with several other wells identified in the Project area, (e.g., 41TR39, 41TR40, 41TR42, 41DL181, and 41DL267). These wells were all built during the late 1800s, and were constructed without the aid of a builder's trench. In addition, they were located within 10 m of the dwelling, and in several cases were less than 5 m away (41TR40, 41TR42, 41TR48). Feature 2 was similar to the root cellar at 41TR42, which was also constructed using log poles and a log and board roof structure.

FEATURE 1

Feature 1, a collapsed stone lined well, was encountered in a 50 x 50 cm unit at S104 E100. It was associated with the main dwelling. The top of this feature, encountered in Level 3, was evident by an increase in the amount of faunal material present and the occurrence of several large stones which measured over 20 cm in diameter. Similar stones were not encountered

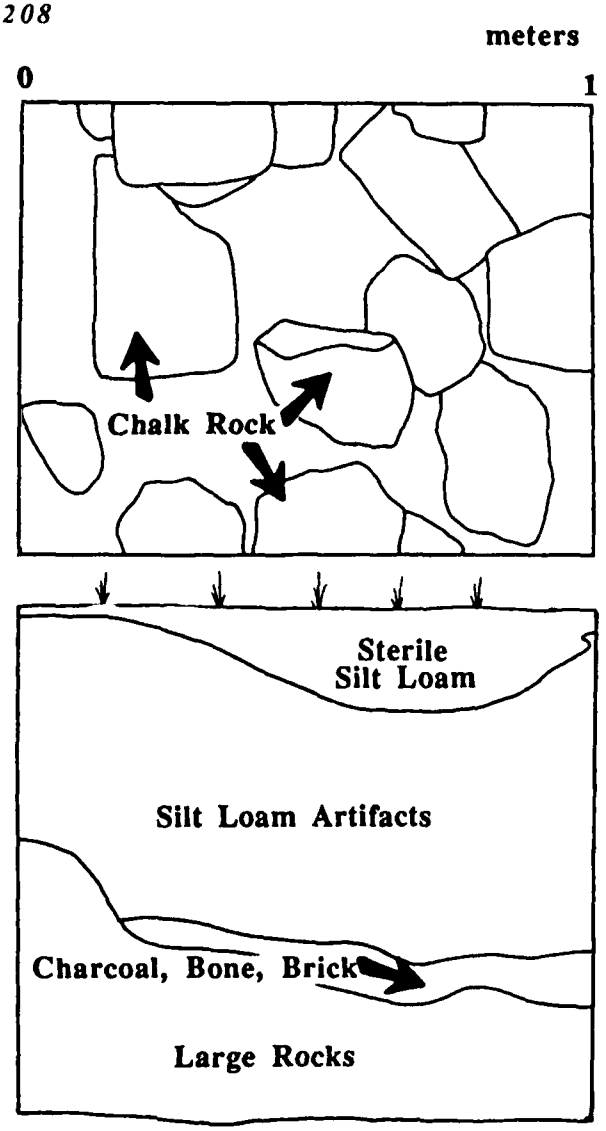


Figure 16-7. Plan view (top) and south wall profile (bottom) of Feature 1, a buried well, in unit S104 E100 at site 41TR48. The rocks were added when the well was abandonded.

in any other units at the site. The high frequency of faunal material probably reflects rodent activity within the well. In addition, the depth of the sheet refuse in this unit was greater than surrounding units as a result of both the looser soil matrix and rodent activity. Levels 1-6 were hand excavated using arbitrary 10 cm levels, and planviews of Levels 3-6 which contained Feature 1 were drawn.

A backhoe was then used to enlarge the 50 x 50 cm unit, making it possible to further expose Feature 1. In addition, the north wall was hand excavated back 30 cm making the unit 100 cm east - west by 80 cm north - south (Figure 16-7). The material that was removed when the north wall was cut back was screened and bagged as a single unit measuring 30 x 100 cm x 60 cm deep.

The remaining deposit was excavated using trowels to a depth of 90 cm below surface until the stones from the well walls filled the entire unit, restricting further excavation. There was no evidence of a dense trash fill in the well. The cultural material in Feature 1 corresponded in size, age, and type to the sheet refuse material recovered from the midden surrounding the two dwellings which suggests that this well was filled at the turn of the century. Twentieth century sheet refuse was recovered in the A horizon above this feature (see Table 16-4, 16-5, 16-6, and 16-7). Major differences were evident in the high frequency of refined earthenwares and table glass, as well as the faunal assemblage with its higher percentage of rodent remains. Architectural remains recovered in Feature 1 were primarily associated with the original building episode of the south house, with relatively few dating to the north dwelling.

FEATURE 2

Feature 2 was a collapsed root cellar identified in the 1980 testing phase (Ferring and Reese 1982:155). It was visible as a large elliptical depression about 6 m west of the south dwelling. A backhoe was used to excavate a north-south trench through the cellar and perpendicular to the stairway or entry. A west profile of the shorter wall of the cellar was exposed. This profile indicated that most of the A horizon had been removed when the cellar was excavated, that the roof had collapsed, leaving a depression up to 50 cm deep in the center of the cellar, and that the cellar had not been lined. No evidence of concrete, brick, or local building stone was in the cellar. Consequently, the interior walls and floor were not lined, and the high organic content of the soil indicated that the support structure was probably wood, comprised of log poles and beams, and boards. Packed soil would have formed a dome over the roof, similar to the root cellar roof at site 41TR45 (see Chapter 15).

Few cultural remains were found in the cellar fill, and included primarily bottle glass, ceramic sherds and architectural remains for the cellar superstructure. This pattern was observed at other root cellars in the Reservoir, and suggested that when these structures were no longer used for food storage, they were abandoned, and later collapsed. At a number of sites, the depression that formed after the roof had collapsed was used for trash dumping during the 1940s and 1950s. At 41TR48, this material included heavy metal items such as machine parts, baling wire, broken metal equipment, tin cans, and food and beverage bottles which were recorded in the field, and then reburied in the backfill.

INTRASITE PATTERNING

SYMAP distributions of specific artifact categories indicated a level of spatial patterning not evident in Tables 16-4 through 16-7, where emphasis on the frequency of these categories masked the spatial variability which occurred within major yard areas. For example, while nails were most frequent under the south dwelling, considerable variability occurred in the frequency of nails between units under the structure. Some units contained many nails, while others contained few. This spatial variability will be examined using the same six yard areas: (1) sheet refuse midden, (2) north house, (3) south house, (4) Feature 1, (5) units containing over 200 artifacts (primarily in the northeastern yard, along the fence), and (6) for the entire site.

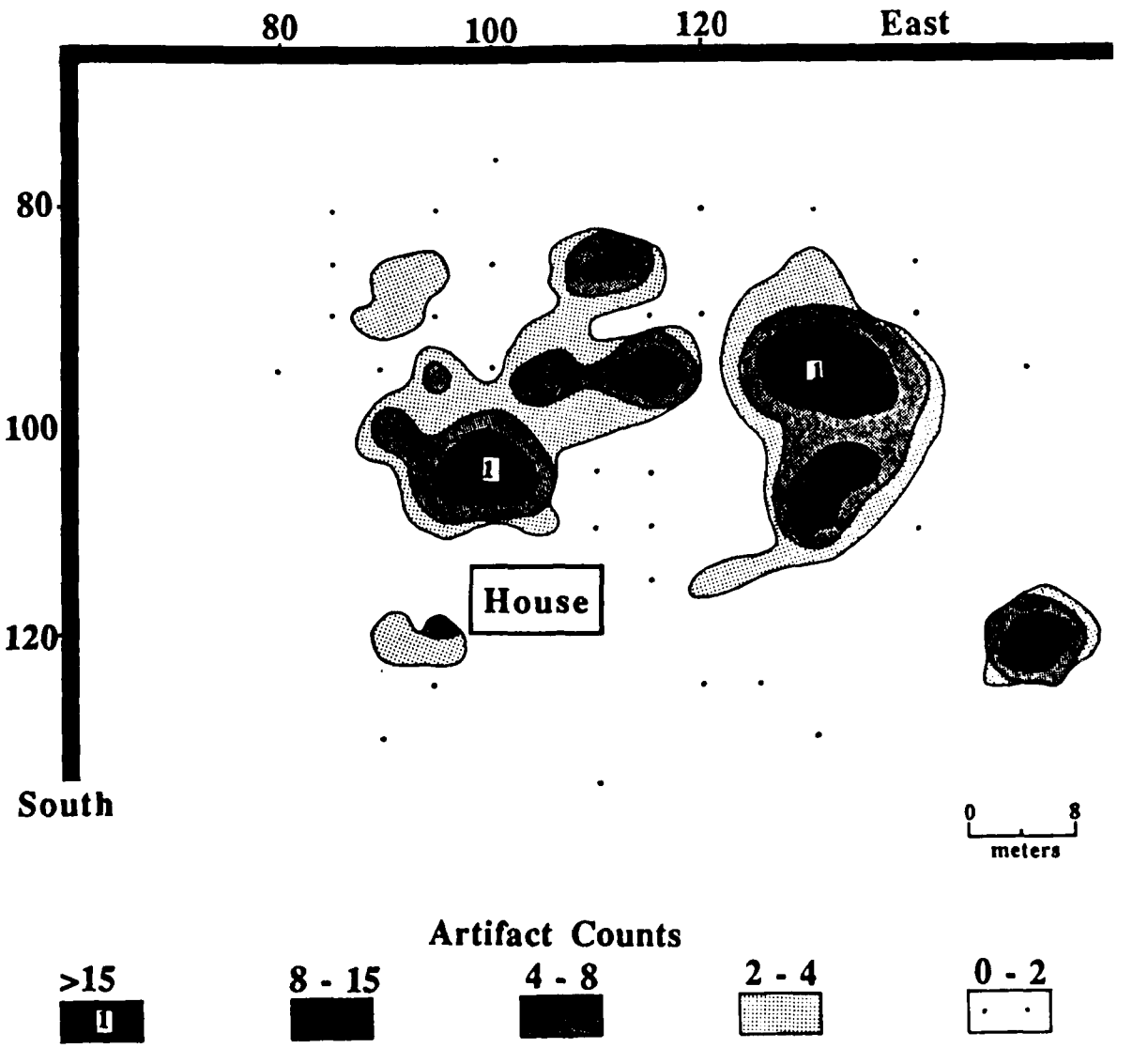


Figure 16-8. Rendition of the SYMAP distributions of refined earthenwares from 50 × 50 cm units on a 4 m grid at 41TR48.

REFINED EARTHENWARES

As shown in Table 16-7, refined earthenware sherds make up the largest percentage of artifacts in Feature 1, followed by the general sheet refuse midden, and the dense trash units in the northeast yard. The SYMAP distribution of these sherds (Figure 16-8) indicated that refined earthenwares exhibited a linear band across the northwest, north, and northeast yard areas. This band was located 4 to 12 m from the north dwelling, with the highest frequencies occurring 4 m from this structure, and in the northeast trash deposits. This pattern was documented for many late nineteenth century farmsteads in the Richland Creek area (Moir 1982a; Jurney 1983; Jurney and Moir 1987; Moir and Jurney 1987a) In addition, the SYMAP distribution indicated that refined earthenwares were almost entirely absent in the southwest, south, and southeast yard, as well as under the south house. Sherds were totally absent under the main room of the house, and none were found within 6-8 m of the west or south side of the dwelling. All of the sherds recovered under the house were found associated with the north room, and the adjacent north dwelling. Few pieces of refined earthenware were found near the more recent well or water pump which served both structures during the twentieth century.

STONEWARES

Stonewares were most frequent in the sheet refuse midden, accounting for 76.3% of the stoneware sherds recovered at 41TR48, and second most frequent in the northeast yard (see Table 16-4). However, within the sheet refuse, stonewares occurred in the north half of the site, with only two sherds being found in the south half (Figure 16-9). A single sherd was recovered under the south dwelling, as well as one in Feature 1. No sherds were found around the more recent well or water pump, or under the north house. Stonewares formed a linear band similar to that seen for refined earthenwares, which

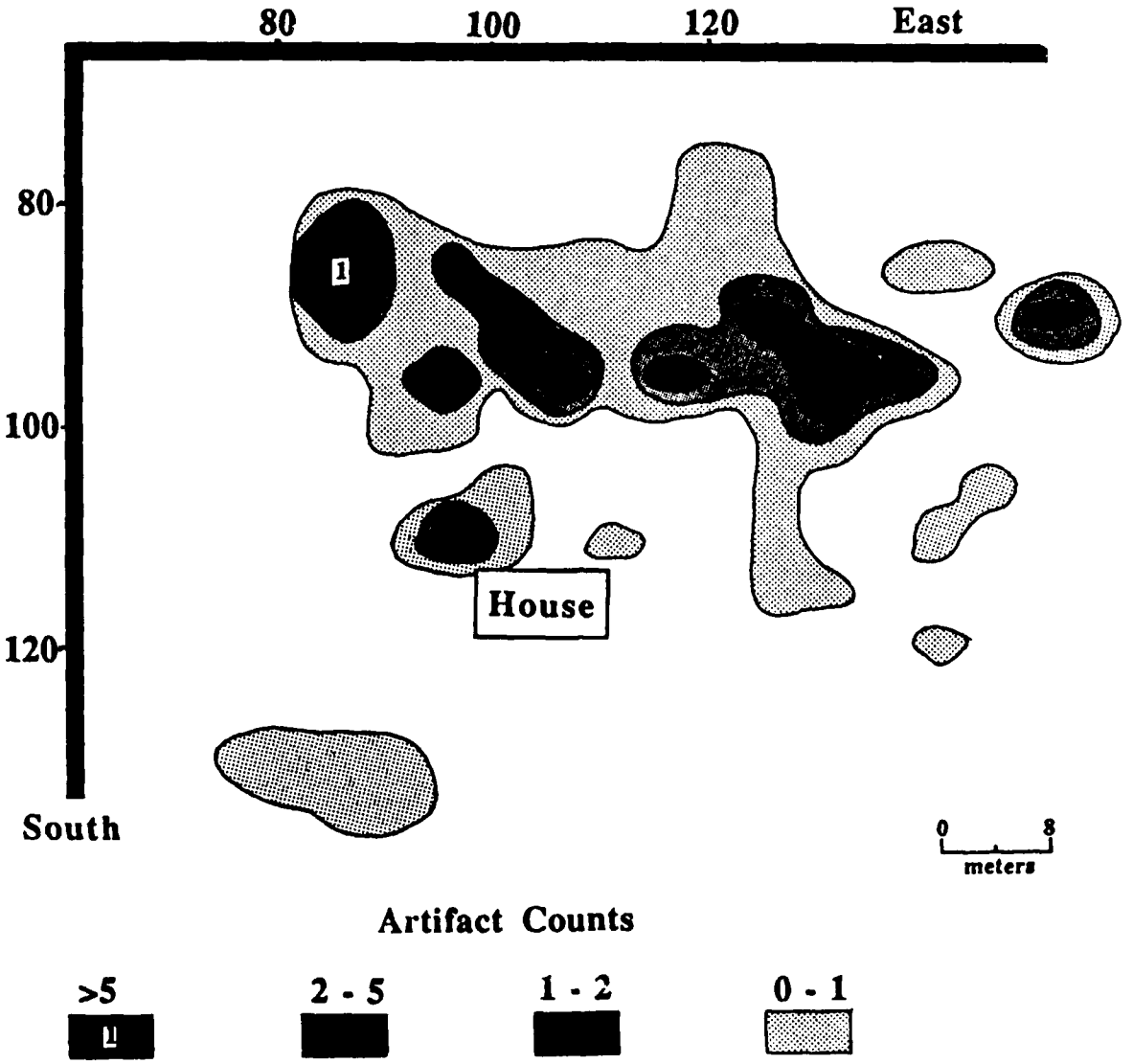


Figure 16-9. Rendition of the SYMAP distributions of stoneware from 50 × 50 cm units on a 4 m grid at 41TR48.

formed an arc around the west, north, and east yards of the north dwelling. The highest frequencies of stoneware sherds were located in the far northwestern area of the northwest yard, and in dense trash deposits in the east yard. Scattered sherds were also evident outside the fenceline in the northeast yard. This spatial distribution indicated that stonewares were generally located farther away from the dwellings than refined earthenwares, and were not associated with the south dwelling and front yard. This pattern was documented for many late nineteenth century farmsteads in the Richland Creek area (Lebo 1987a; Moir 1982a; Jurney and Moir 1987; Moir and Jurney 1987a).

BOTTLE GLASS

The highest percentage of bottle glass was recovered in the trash dense area of the northeast yard, followed by the sheet refuse midden and north dwelling. Bottle glass was less common in Feature 1 and under the south dwelling. However, when the spatial distribution of bottle glass sherds was examined, several different, interesting patterns were evident. Major high density clusters occurred in five yard areas: (1) northeast yard, (2) in the north house area, (3) west of the north house, (4) in Feature 1, and (5) under the south dwelling (Figure 16-10). Units in the northeast yard contained primarily post 1940s bottle glass, along with a small amount of sheet refuse bottle glass that had been deposited in this area between the 1870s and 1940. Total bottle glass sherds in this area ranged from a low of 56 to a high of 826 per 50 × 50 cm unit containing post 1940s trash (i.e., units with more than 200 artifacts). In the north house area, bottle glass clustered in units under the house and up to 4 m away on the west, north, and east sides, including Feature 1. While bottle glass sherds were recovered from all units excavated in the sheet refuse midden, peak frequencies appeared spotty, and were concentrated in the west, north and east yards where units yielded over 28 sherds. None of the units in the south or southeast yard contained more than 28 sherds, and with the exception of 4 units, all contained

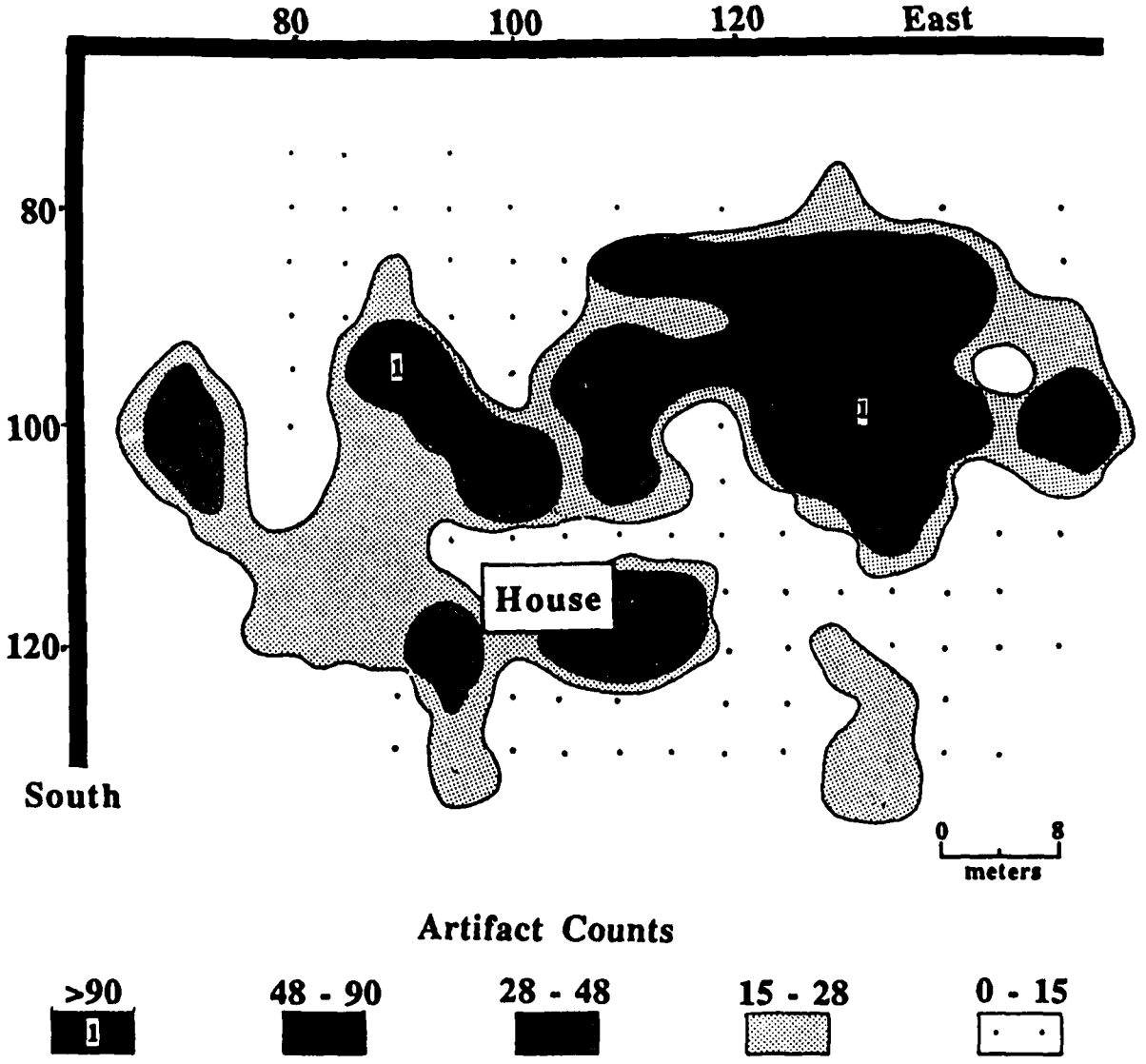


Figure 16-10. Rendition of the SYMAP distributions of bottle glass recovered from 50 x 50 cm units on a 4 m grid at 41TR48.

less than 15. This pattern also occurred in the far northwest corner of the site, with high density units occurring near major features (i.e., road, Feature 1, or the north dwelling). Bottle glass recovered under the house ranged from a low of less than 15 sherds near the front door to a high of over 90 under the center of the house and the north room. Units directly around the house contained less than 15 sherds, indicating that bottle glass sherds were generally located further away from the south house. In addition, due to this structure burning, a higher percentage of burned bottle glass was recovered under the south house than elsewhere on the site. High density outliers represented recent bottles that had been broken into numerous pieces (e.g., S100 E76).

TABLE GLASS

The SYMAP distribution of table glass sherds exhibited high density clusters tightly associated with the north and south dwellings, and trash deposits in the northeast yard (Figure 16-11). Only two units in the northwest, two in the southeast, and one in the southwest contained table glass sherds. This distribution indicated that table glass sherds were generally absent in the sheet refuse midden. Table glass was most frequent in Feature 1 and units located under the north dwelling, and along the west walls of both houses, up to 8 m away. No table glass sherds were found on the east side of either structure, or south of the south house. In addition, units around the water pump also did not contain any table glass. Sherds recovered in the northeast yard and the trash deposit at S116 E96 exhibited a greater variety of tableware styles, including a number of Depression Era vessels.

ARCHITECTURE

SYMAP distribution of major architectural remains indicated considerable spatial variability. The highest frequency of architectural items was under the south

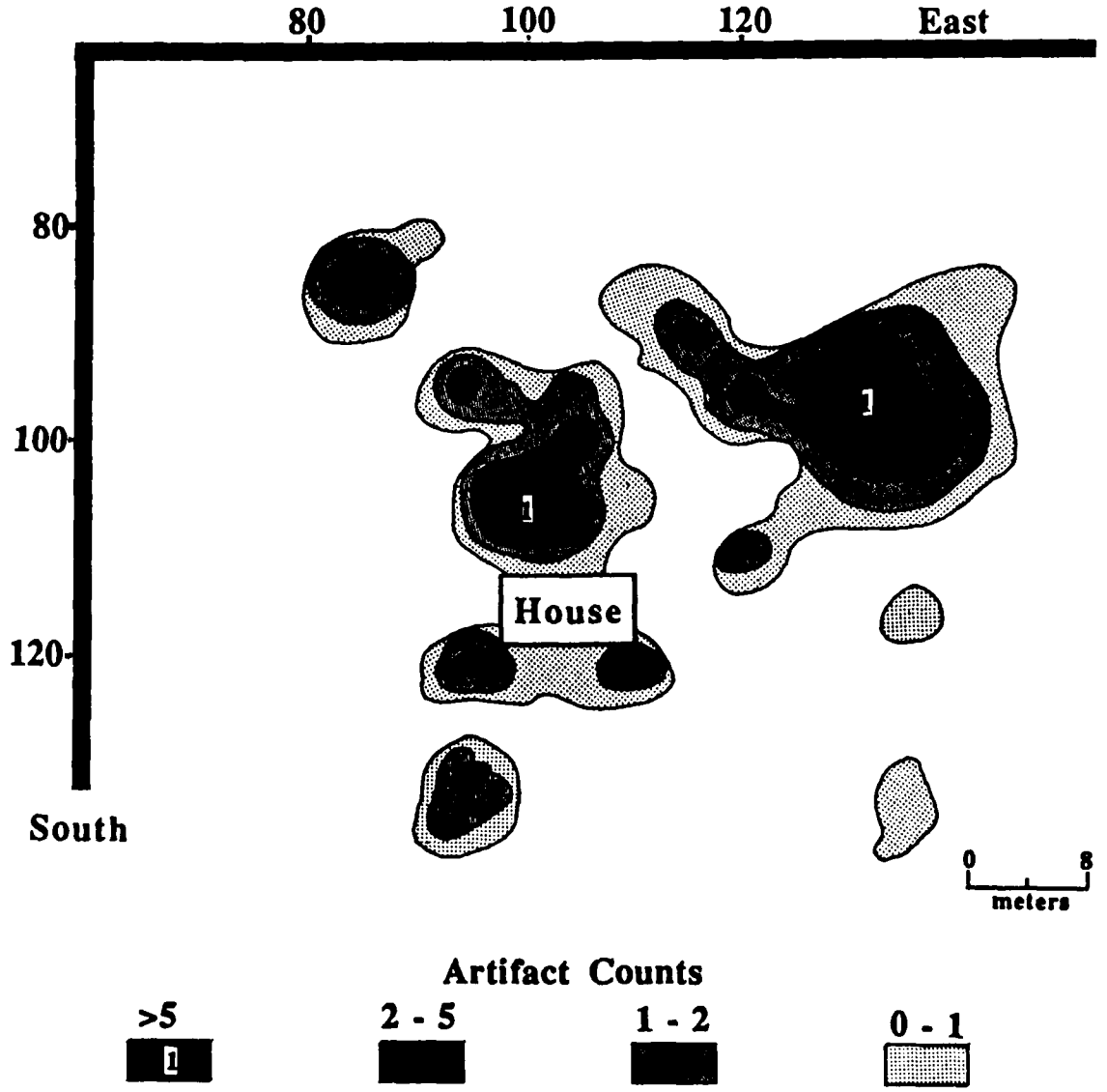


Figure 16-11. Rendition of the SYMAP distributions of table glass recovered from 50 × 50 cm units on a 4 m grid at 41TR48.

dwelling, followed by the north dwelling, and the sheet refuse midden. These remains were less common in Feature 1 and trash units in the northeast yard. However, when the distribution of each architectural category (i.e., nails, brick, window glass, and other architecture) was examined, these remains exhibited different spatial patterns across the site.

NAILS

Nails were scattered across the site, with the highest densities occurring under the structures, west of the north house, and in the northeast yard. Machine cut nails occurred primarily in these yard areas, with units containing greater than 5 cut nails forming a band across the north half of the site and directly under the south dwelling. Only two units in the south and southeast yard areas contained more than 2 cut nails. Units in the southwest yard contained between 1 and 5 cut nails, and Feature 1 contained 31. The highest frequency of cut nails in the sheet refuse midden was tightly clustered in the northwest yard.

Wire nails were also found scattered across the entire site, with the highest frequencies occurring in the northwest, northeast and southeast yards, Feature 1, and under the dwellings. In the northwest yard, wire nails exhibited a more limited distribution than cut nails. Units containing between 5 and 36 wire nails clustered in a band that arc around the north dwelling, through the northeast and southeast yards. In the trash dense units in the northeast and at S116 E96 in the southwest yard, wire nails ranged in density between 13 and 78 per 50 × 50 cm unit. Feature 1 contained 61 wire nails.

BRICK

SYMAP distribution of brick fragments indicated several major areas of the site where bricks were not found (Figure 16-12). These areas included the whole south house area and as much as 16 m east of this

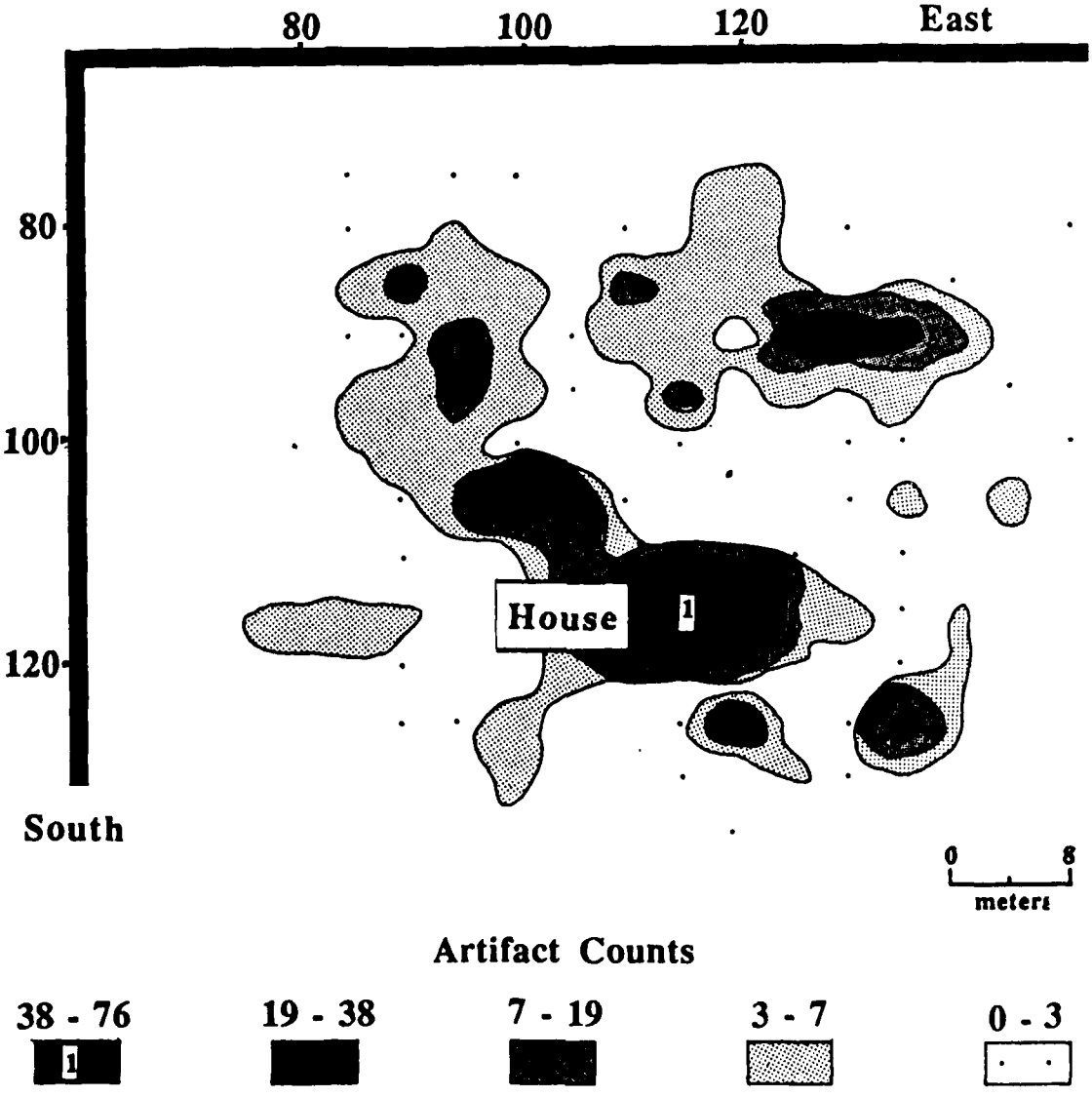


Figure 16-12. Rendition of the SYMAP distribution of brick recovered from 50 x 50 cm units on a 4 m grid at 41TR48.

structure. The more recent well or water pump was located in this area. In addition, bricks were absent west of the south dwelling, except in the roadbed that bisected the site in that area. The highest percentage of bricks was located under the north room of the south house, Feature 1, and in two units along the barbed wire fence. When the spatial distribution of transitional handmade brick and machine brick were examined, transitional bricks were recovered in all major yard areas, except those noted above. In addition, they were most concentrated in the northwest yard, under the south dwelling, and along the barbed wire fence. A single unit in the southeast yard also contained a large cluster of transitional brick (n=22). Machine made brick exhibited a limited distribution, and fragments were recovered in only 22 units, including four in the northwest yard, ten in the northeast, three in the southeast, and one in the southwest, as well as under the two structures. Only one unit outside the two structures yielded more than 4 machine made brick fragments.

WINDOW GLASS

Window glass fragments (flat glass <3.3 mm) were recovered from units across the site, with major clusters associated with both structures, and in the northeast yard. The remaining yard areas contained less than 4 sherds.

OTHER ARCHITECTURE

Other architectural remains were recovered from almost all units across the site. This included an assortment of building hardware and interior furnishings (e.g., wall paper). Three major clusters occurred which included units under the south house, and off the northeast corner of the structure, the west side of the north house, and units along the barbed wire fence. All other units contained less than eight other architectural remains, comprised primarily of wire, including plain and barbed wire varieties.

SUMMARY

Site 41TR48 proved significant in providing information on a tenant farmstead that was occupied from the late 1870s or early 1880s until the 1940s. Excellent comparisons were possible between the Anderson (41DL190) farmstead (see Chapter 6) which was owned and occupied by a large landholding family and 41TR48. Both farmsteads were occupied at the same time and were abandoned during the 1940s. Major differences were evident in site size and the placement of support structures. For example, root cellars occurred at both sites, but differed considerably in size and construction. The root cellar at 41TR48 was built with logs, railroad ties, and frame lumber while transitional handmade brick (ca. 1890) and Portland cement were used at 41DL190. No standing outbuildings were identified at 41TR48, although early tax records indicated that several support structures occurred. These structures were still evident at 41DL190 and included a large concrete dairy barn.

In addition, similar comparisons to other farmsteads in the Project area yielded important data. Site 41TR48 is located in the floodplain, while most landowner sites are located on bluffs. This pattern also occurred at 41DL196 which was occupied by a tenant family between ca. 1900 and 1950.

Site 41TR48 was occupied by a single family for only about 60 years and no evidence was found of post-occupation disturbance. The oldest structure documented on the site was a large one-and-a-half story dwelling which was most similar to the dwelling at 41TR40. It was a braced frame house with mortise and tenon joinery with two rooms on the first floor, and a single large room on the second. A fireplace was located along the east wall and serviced both the main downstairs room and the upstairs. A more recent single pen structure was built north of the south house during the early 1900s. The size and location of this structure suggested that this building probably served as a detached kitchen. The cultural material recovered under and directly associated with this structure included primarily architectural remains deposited when this structure burned to the ground in the early 1980s, and ceramic tablewares and storage vessels, bottle glass, and table glass.

A stone lined well (Feature 1) was identified at S104 E100, just off the northwest corner of the main or south dwelling. This well as probably constructed around the same time as the south house, which it serviced until the early twentieth century. A more recent well was located at S102 E112, east of the north house. It was capped with a hand pump and may have been connected to the two structures by a brick or stone walkway (Ferring and Reese 1982:155). A root cellar was located west of the south dwelling and was constructed with earthen walls and floor, and a log roof. Similar cellars occurred at other sites initially occupied in the late nineteenth century, suggesting that this structure may have been constructed prior to 1900 or around the turn of the century.

Considerable variability in the frequency and distribution of major artifact categories was evident across the site, and between different yard areas. This variability reflected the use of these different yard areas for specific activities or tasks, with many household chores being conducted in the northwest yard. Fewer activities were evident in the southwest, south or southeast yard areas. Dense trash deposits postdating 1940 occurred along the barbed wire fence in the northeast yard. According to the archaeological evidence, an outbuilding was probably located in this area during the early end of occupation, and evidence of a gate still remains along the eastern extent of the barbed wire fence.

The most significant information contained at 41TR48 is the material culture record of a tenant occupation. The original structure was a large, well-crafted home and indicates that A. K. and Sam T. Marrs ran a large, well funded agricultural enterprise. A unique aspect of this site is its location in the floodplain. Sam Marrs lived in the uplands, after having moved from Mansfield, while his tenant occupied the floodplain. The material culture at this site documents the shift in lifestyles from the late nineteenth to the early twentieth centuries. The site was essentially abandoned in the 1930s or 1940s, used only for cattle stabling. Therefore, the archaeological deposits contain an essentially pure record of the occupation for both material possessions and the architectural rain from the burned buildings.

FARMSTEAD PROXEMICS AND INTRASITE USE OF SPACE

17

by

Randall W. Moir

The layout of the yard, location of outbuildings, and divisioning of space around farmhouses provide additional insights into the cultural composition of a household and its community or rural population. An ethnographer may study these same elements in living populations today, but to truly understand them in the past requires the application of ethnoarchaeology (Adams 1983:293-305) to supplement oral history and further illuminate poorly documented aspects of former times. The excavation of yard areas for thirteen farmsteads in the Joe Pool Lake area provided an opportunity to investigate the use of space around rural dwellings. The previous site descriptions covered many specific aspects about artifact distributions and support structures or outbuildings, but they did not attempt to draw these results toward a higher level of synthesis. In this chapter, the Joe Pool Lake results are integrated in order to advance our understanding of the families that made up a portion of the rural population in the Mountain Creek area.

The archaeological study of activity areas and the partitioning of space is not new, although many historical archaeologists have been slow to shift their focus from foundations and distinct features to the broader scatter of artifacts found in the areas in between. In this chapter, the structure of space and features around a typical North Central Texas farmhouse is reviewed. Furthermore, important changes that occurred in the layout of yards over time are also reviewed and interpreted based on data from the Joe Pool Lake Project.

YARD PROXEMICS AND ARCHAEOLOGY

The excavation of small 50 × 50 cm units in the yard areas immediately surrounding a farmhouse in North Central Texas generally yields sheet refuse remains that number in direct relationship to length of occupation and vary according to socioeconomic status and time period. This fact is true for Joe Pool Lake sites despite some suggestions to the contrary (e.g., Ferring and Reese 1982:227). Every dwelling was surrounded by light to moderate sheet refuse deposits that in some areas formed recognizable middens containing from 100 to 400 items per m^2. Yet, no Joe Pool Lake informant was able to recall the behavior behind the formation of these sheet refuse deposits. This same situation was encountered on the Richland Creek project and has now become less than an important issue. Sheet refuse deposits and farmstead middens were physical features that grew slowly over the life of a dwelling and were altered and modified by occupants with little personal knowledge that these macrofeatures even existed. Consequently, the study of these middens is an archaeological problem with only minor support from the oral and/or written record.

The study value of these middens has been demonstrated in many places in this report and does not need to be repeated here. Instead, this chapter will be focused on the structure and morphology or general layout of the yard. The partitioning of space and the

placement of domestic support structures, such as sheds, smokehouses, privies, wells, cisterns, etc., around a dwelling are not haphazard on farmsteads in North Central Texas. The yard, like architecture, foodways, clothing, or art was regulated within reasonable limits by a household's cultural affiliations and ethnic roots. In a broad sense, we could speak about a North Central Texas cotton farmstead just as easily as we could define a Maine farm, Pennsylvania farm, Virginia farm, Iowa farm, or Texas ranch. Each has its own architectural heritage, layout, and regional adaptations.

The study of use of space around a farmhouse over an extended period in the past will be referred to as *yard proxemics* (Moir 1984a). The term calls attention to the nature, degree, and effect of spatial separation between support structures, features, gardens, flower beds, fences, paths, and activity areas around a primary structure. The arrangement of all of these yard features will contain both real and imagined boundaries, and on some occasions may be affected greatly by available space and topography. We will draw upon the term yardscape as defined by H. Miller (1983) to define all of the features that form the landscape around a structure at a particular point in time. Thus, in terms of North Texas farmsteads, yard proxemics refers to the interpretation of the patterning of the yardscape around typical dwellings over time. Yard proxemics and the study of yardscapes go hand in hand, and together provide a greater understanding and context for interpreting a domestic residence.

THE TRADITIONAL YARD

The study of the yardscape around a farmhouse becomes much easier if one recognizes a simple difference between the older traditional yard and the modern yard of the last 50 years. Before the advent of rural electricity, indoor plumbing, lighting, and other modern conveniences, the yard was the center of much daily activity. Most major "conveniences" were located in the yard rather than in the house. The well or cistern was placed in the yard, the privy located further away, but still within the yard itself, and special activity areas were set aside for washing, soap making, butchering, scalding pigs, or making hogswill. Wood piles, animal pens, a chicken house, smokehouse, storage shed and other support facilities were also placed about the yard to serve a household's needs.

With the advent of electricity, plumbing, refrigeration, heating, and air conditioning, the rural farmstead was revolutionized by the 1950s, and the traditional yard was replaced with an ornamental and recreational yard that was usually properly groomed and well manicured. The bathroom moved indoors, the kitchen had plumbing and refrigeration, and heating and cooling effectively controlled the climate inside making it unnecessary to go outdoors to perform some seasonal tasks as previously required.

The traditional yard, therefore, represented a natural extension of primary living space for nineteenth and early twentieth century households in North Central Texas. Floor space in a typical dwelling for a tenant farmer or small landowner was very limited by today's standards. Hallways, living rooms, parlors, dining rooms, bathrooms, and even kitchens were absent in many residences. Open porches, however, were very common, as indicated in photographs and on the floor plans for Joe Pool Lake dwellings. The 1876 house at Penn (41DL192 new) or the Bowman/Sprinkle dwellings are excellent examples of houses surrounded by large and numerous porches. The yard and porch were used for conducting many tasks because of poor interior lighting, ventilation and limited space. Some tasks and activities were also conducted outdoors and well away from the house because of convenience and space.

The traditional yard and the organization of space around farmhouses has been the subject of research for over two decades. Glassie (1968, 1975), for example, noted the layout of farmsteads in the north and mid-Atlantic regions. He observed that the earliest farms exhibited extensively flung or broadly separated open layouts. These farms had two centers, the house and its support structures; and the barn and its dependencies (Glassie 1975:143-144). These two centers served different needs:

> Beside the house are the outbuildings needed by the woman in order to get food on the table; beside the barn are the outbuildings needed by the man to keep the cattle fat (Glassie 1975:144).

This traditional lay out was modified in subsequent centuries so that:

> The nineteenth century plan still shows this duality, but the farm would be best described as consisting of a house with a straggling row of outbuildings behind it. This now is arranged parallel to the house...or perpendicular to it (Glassie 1975:144).

Finally, Glassie ends the sequence with the note that on the Middle Virginia farms of the late nineteenth century:

> ...the outbuildings were moved closer to each other and many were attached in strings..., but the plan never became geometrically integrated; it remained topologically organized along male and female paths of labor (Glassie 1975:144).

Glassie's earliest pattern, consisting of the farm partitioned into two centers with different functions and activities, applies well to many North Texas farmsteads. Furthermore, interviews conducted with local residents have also revealed the duality of these two components (see Chapter 27). The house, its yards, and immediate outbuildings served the primary needs of the woman of the house whereas the more removed barns, corrals, and other agricultural facilities were maintained by men. This same adult male-female relationships for activity areas is recognizable for most rural North Central Texas farmsteads as espoused by Glassie for much older Middle Virginia farmsteads. The Penn farmstead is an excellent example and both barns served as major activity areas located well away from the two residences (see Chapter 8).

Other researchers also have recognized these important components of the traditional farmstead (e.g., Newton 1974; Smith et al. 1982:9-12; Weaver and Doster 1982). One of the more rigorous applications of these concepts in an archaeological study can be found in Smith et al. (1982:9-12). These authors drew upon the work of Weaver and Doster (1982) to consolidate a

large proportion of their research design around farmstead layouts and other rural traits associated with the "Upland South" concept espoused by Kniffen (1965), Kniffen and Glassie (1966), and Glassie (1968). Specific intrasite traits or patterns that constituted the "Upland South" rural agricultural tradition paraphrased from Smith et al. (1982:10-11) are listed below:

1. Outbuildings and barns are arranged around a dwelling on a hilltop in a seemingly disordered cluster determined by occupant's changing conceptions of convenience (Newton 1974:151).

2. Major buildings are the dwelling, barn, storehouse, food storage shed or smokehouse, and animal pens. Sometimes a structure served multiple functions.

3. The location of the well, privy, storage shed, and chicken house are tied closely to the dwelling and formed areas that were usually associated with female activities and were periodically swept.

4. Barns and larger animal and equipment shelters associated with male activity areas are located further away from the dwelling and its closely tied support structures (mentioned in 3 above). Access to these structures is around the dwelling and its yards rather than through the immediate yard.

5. Dwelling faces the probable path of human approach.

6. Dwelling is shaded by trees.

7. Fields and pastures are irregularly arranged, often dictated by topographical features (Hart 1977:148-166).

8. Wide use of horizontal log construction is noted.

9. Universal concepts of modular construction are based on the pen or crib.

These particular traits and others not directly related to the study of yard proxemics made up the "Upland South" concept applied by Smith et al. (1982). The traits characterized a form of rural agricultural lifeways practiced across a large portion of the South and dating back to initial origins in seventeenth and eighteenth century Chesapeake Bay, southern Pennsylvania, and western Virginia (Kniffen 1965; Glassie 1968; Jordan 1967). These kinds of constructs are very informative in the study of yardscapes, especially since most families designed their new farmsteads after their older ones, within acceptable community standards based on ethnicity and class.

These are just a few examples of the more useful constructs available for modeling farmstead layouts. None are very detailed and most are hard to correlate directly back to the archaeological record. Yet, all of these constructs draw upon the importance of the cultural roots of the farmer and his family.

MODELING NORTH TEXAS FARMSTEADS

The archaeological correlates of the traditional yard are not as easy to recognize as their ethnographic counterparts. This applies to the "Upland South" farmstead just as it does to the North Texas farmstead. In either case, the archaeological features are not simply mirror images of the important traits described above. In the Mountain Creek area, like much of the South, houses were constructed on piers. After abandonment, many houses were torn down piece by piece and the wood was used to construct or rebuild other structures. Some houses were removed in complete sections and relocated for continued use elsewhere (e.g., 41DL191; 41TR45). Fieldstone was locally available, and consequently, some foundations for structures consisted of this material. But the most permanent features encountered on Mountain Creek farmstead sites were stonelined or bricklined wells or cisterns, root/storm cellars, and chimney bases. If these were the only features present, we would be hard pressed to interpret the site.

Fortunately, the broadcast scatter of sheet refuse surrounding each dwelling also offered information on the layout and design of the yards of each site. From all of our excavations of farmsteads in North Texas, it is evident that certain spatial trends reoccurred often enough to indicate robust patterns. At the same time, it is also very evident that most of the Joe Pool sites represent the upper end of the socioeconomic ladder and were much more dispersed and more complex than the typical farmstead studied in the Richland Creek project area (see Jurney and Moir 1987; Moir and Jurney 1987a). Although one can model a typical farmstead in Texas, it is also obvious that few sites will ever contain all of the important spatial patterns related to site layout and yard proxemics. Consequently, it is necessary to think of each particular spatial trait as highly independent. On any one particular site, usually less than one-half of all the traits may be present leading one to the recognize that any predictable modeling is not very accurate. The challenge is to identify precisely which traits are most predictable and why.

PARTITIONING OF SPACE

The basic duality of activity areas mentioned earlier was a major component of most, but not all, Mountain Creek farmsteads. For most farmsteads, however, the one-half to two acres surrounding the dwelling was the center of much domestic activity. In comparison to Richland Creek farmsteads, most of the Joe Pool Lake farmsteads had much larger yards around their dwellings as was evident in the distribution of sheet refuse and outbuildings. These areas formed the place where many daily chores were carried out under the supervision of the woman of the household.

The yard contained most of the necessities needed to run a household. Figure 17-1 illustrates an idealized

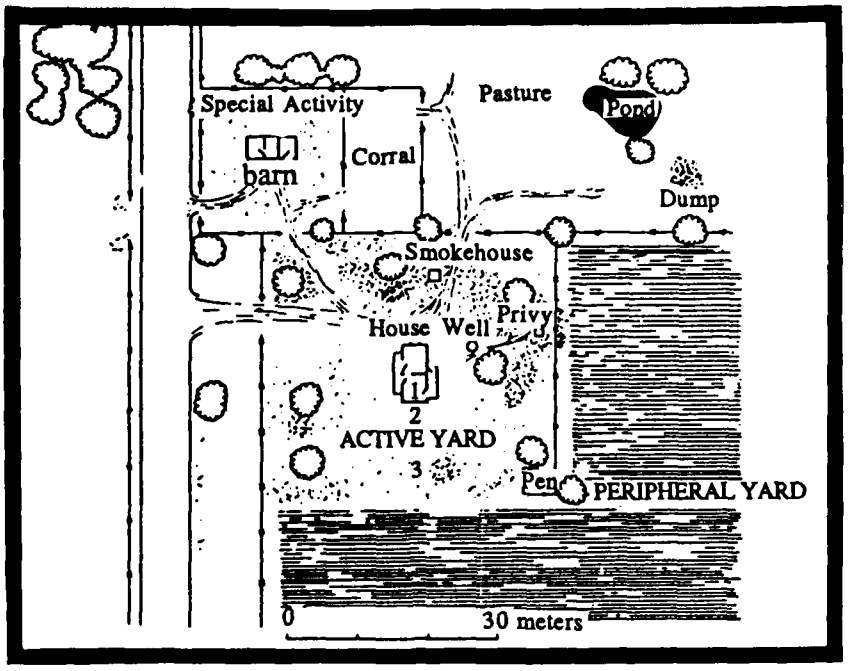


Figure 17-1. An idealized small farmstead (ca. 1890 - 1910) for North Central Texas. The house, a two room Cumberland with rear addition, is surrounded by an Immediate Active Yard (2) and an Outer Active Yard (3). The Subactive Yard (1) is covered by the house. All three zones (i.e., Subactive, Immediate, and Outer) form the Active Yard, the area where most household activities occur. Major farm outbuildings (e.g., barns, sheds, pens, etc.) are located in the Peripheral Yard (after Moir 1987b:232).

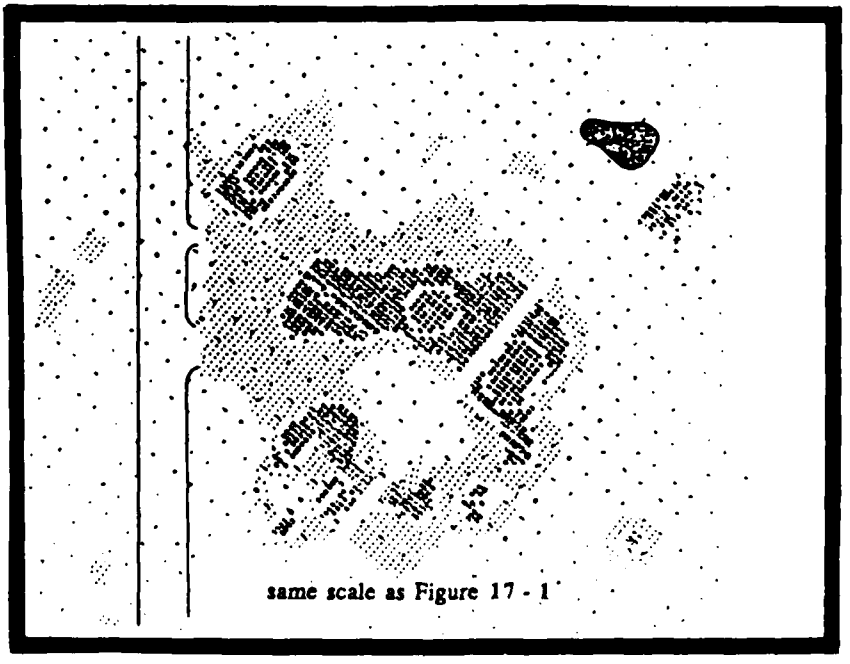


Figure 17-2. Hypothetical SYMAP of sheet refuse for the model farmstead illustrated in Figure 17-1. Artifact frequencies clearly show the Outer Active Yard and Immediate Active Yard. Artifact alignments are also clearly evident and relate to major fence lines (after Moir 1987b:232).

layout of a small landowner in North Texas at the end of the nineteenth century. It will be used to establish some definitions for yard space and to begin to make correlations between archaeological data, oral history, and yard proxemics.

Figure 17-2 illustrates the hypothetical distribution of sheet refuse retrieved in a 4 m grid. The SYMAP pattern itself is not hypothetical but is based on the work conducted at 41FT228, an early twentieth century tenant farm in the Richland Creek Project area (Moir and Jurney 1987a:99). Figures 17-1 and 17-2 viewed together produce a 3-dimensional picture of a farmstead where extant buildings correlate with archaeological deposits and sheet refuse patterning. Since most all of the Richland Creek farmsteads were abandoned by 1950 or earlier, privies, smokehouses, sheds, fences, and paths had long since disappeared. Many sites had been plowed or overgrazed removing most other types of evidence of the former yardscape and its vegetation. Consequently, the model presented in Figure 17-1 is a composite of the general characteristics displayed by many farmsteads in the Richland Creek area.

The dwelling, well, smokehouse or shed, and privy formed the nucleus of the farmstead proper. These four features were located in the *Active Yard*, the one-half to two acres of trampled soil surrounding the house. On some farms, the privy may be located well beyond the Active Yard. On several North Texas farmsteads where these features were observed, they generally marked the outer edge of the Active Yard, located far enough to be out of the way but close enough to be convenient when needed. Informants almost invariably estimated their distances to be much greater than they actually were found.

Swept yards were not evident at any Joe Pool Lake sites. Several excellent examples were revealed by sheet refuse patterns in the Richland Creek area (see 41NV267 and 41FT228 in Chapter 7 of Moir and Jurney 1986). When it was practiced, only the inner portion of the Active Yard was swept and not the entire premises. On many Richland Creek sites, the inner part of the Active Yard may have been swept and cleaned on occasion to remove refuse and reduce fire hazards, but it was not a daily or even a weekly task. Consequently, the distribution of sheet refuse across these areas revealed moderately dense middens depending on its relationship to nearby doorways and outbuildings. In the Mountain Creek area, yard sweeping was apparently an uncommon activity.

Located further out in the *Active Yard* were the important domestic support structures or outbuildings commonly encountered in the Project area. Although Figure 17-1 shows a well, cisterns were also common on farmsteads in the area. Some of these would undoubtedly have been constructed of wood and placed in platforms above ground. About 38% of the farmsteads intensively studied (i.e., 41TR45, 41DL183, 41DL191, 41DL196, 41DL268) did not reveal any evidence of a well or cistern which lends additional support to the probability of above ground cisterns in some cases. This percentage is nearly the same as the percentage found in the Richland Creek area (40%).

Beyond the well, the Active Yard usually contained a shed, smokehouse or food storage shed, and a chicken coop. Smoking of meats was not always pursued, and so the smokehouse often served as a drying shed or general food storage facility. The location of this structure often corresponded with a portion of the backyard that received intensive use. On some Joe Pool Lake farmsteads (e.g., 41DL196, 41TR48), bands of sheet refuse were encountered 6 to 18 m away from the dwelling and contained higher artifact frequencies than associated with the inner yard. Apparently the division of space within the *Active Yard* itself consisted of a split between a lesser used and/or better maintained *Inner Yard* and the less well maintained or more greatly used *Outer Yard*. On many sites in the Richland Creek area, these bands were incomplete or formed a partial horseshoe ringing the dwelling, similar to the example shown in Figure 17-2. It is quite possible that the lack of this yard banding on Joe Pool Lake sites is due to their longer occupations (mean length of occupation being 70 or greater years) which may have blurred or erased these types of spatial signatures.

The outer edge of the Active Yard is a boundary that is hard to determine precisely unless there was a physical barrier, such as a fence, hedge, or road. In the very late nineteenth century, at a period when cotton farming was reaching its zenith in North Texas, many tenant farmers' yards were dictated by the amount of open space that they decided or were allowed not to plant. As competition increased by 1900 and mean farm size decreased to about one-half its 1880 level (Lee 1982:218), many tenant farmers and small landowners found themselves literally bounded by their fields. By this period, the edge of the Active Yard may have fluctuated yearly, or may have remained fixed, depending on land restrictions. In either case, it is not realistic to project a precise boundary or edge between the Active Yard and adjacent fields, barns, and peripheral activity areas. No such absolute boundaries were evident, at least, among the Mountain Creek yards.

The farmstead does not stop with the *Active Yard* but includes barns, corrals, stock tanks, pastures and other agriculturally oriented features located beyond the immediate yards surrounding the house (Figure 17-1). Unless some structural elements remain extant, the location of barns beyond the Active Yard were not highly visible in the archaeological record. On most of the farmsteads excavated, fieldwork generally stopped within a distance of 30 m of the dwelling. Major barns, based on the many examples still standing, were located up to 100 to 200 m away. Several barns located outside of Active Yard areas were test excavated (e.g., two granaries and the large 1918 barn at 41DL192; two barns at 41DL191; the old barn site at 41TR39; also the barns at 41DL181, 41DL183, 41DL190 etc.) but they seldom yielded very many archaeological items beyond architectural remains, a few pieces of hardware, and bottle glass.

PROXEMIC MODEL

The information presented in Figures 17-1 and 17-2 can also be organized using measured relationships. For example, knowing that Richland Creek and Joe Pool Lake farmsteads contained sheet refuse deposits covering anywhere from 2,000 to 3,500 m^2 in most cases, it is possible to establish the general layout of the Active Yard. Information was collected on the distances to

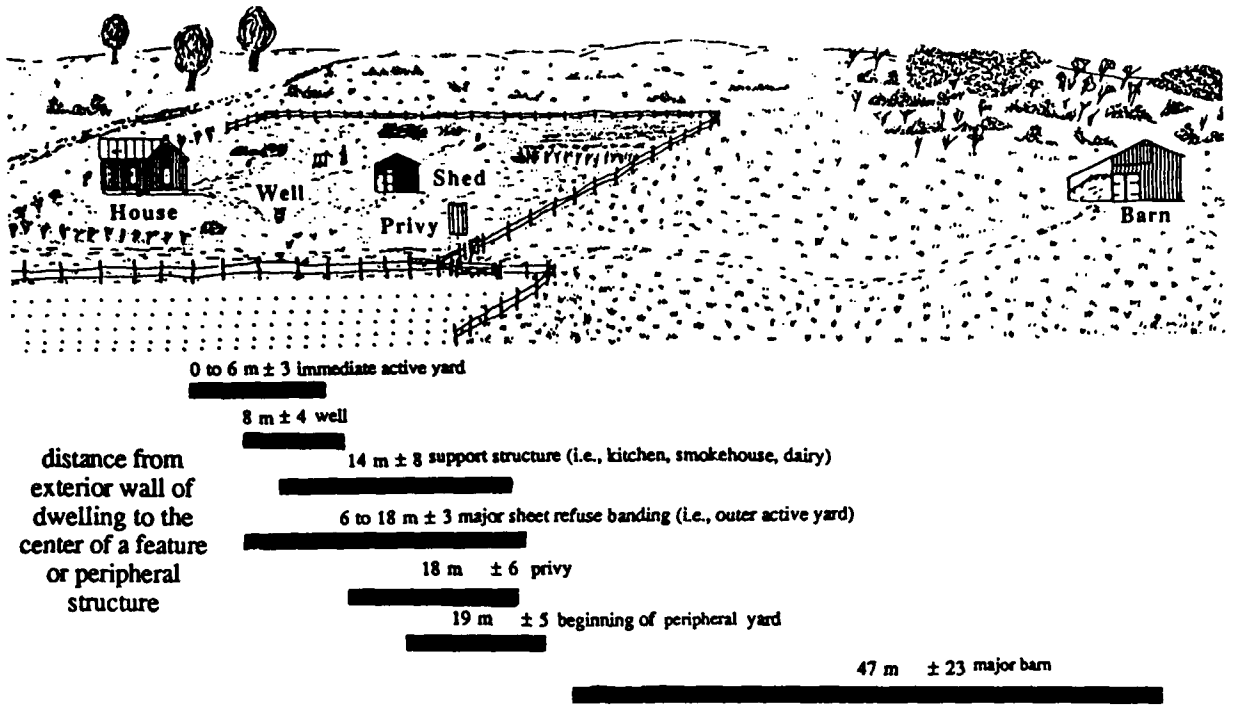


Figure 17-3. A model of yard proxemics for the traditional farmstead in North Texas. The yard around the farmhouse has several divisions based on activities and structures. The Inner Yard is the cleanest area, both from heavy foot traffic and from periodic maintenance. The distances listed below are based on data collected from over 50 farmsteads and represent modal values with rough variances noted.

various outbuildings and notable yard features. Figure 17-3 provides an empirical model for the layout of the Active Yard based on information collected from over 60 sites (Moir 1983e:48-51). Distances were measured from dwellings to 35 wells, 31 sheet refuse bands/trash accumulations, 12 smokehouses, and 20 privies (Table 17-1). Measurements were taken from the closest exterior wall of a dwelling to the center of the feature in question. Most of the sites used are from North Central Texas and include many others in addition to the farmsteads that received final mitigation. Sites were also drawn from projects in Mississippi (e.g., Adams 1980; Minnerly 1983; Skinner 1982; Smith et al. 1982).

The divisioning of the yard for North Texas farmsteads can be modeled in the following manner. From the dwelling outward for about 6 m is the *Immediate Active Yard*. On some sites, this space is limited to about 6 m while for others it may extended for up to 12 m. Overall, when the Immediate Active Yard is evident, it consists of moderate to low sheet refuse frequencies (i.e., from 40 to 160 items per 1 × 1 m^2). This area would be periodically maintained and swept on occasion to remove refuse and burnable materials.

Beyond the *Immediate Active Yard*, was the *Outer Active Yard* containing the higher artifact frequencies and major support structures (i.e., storage shed, smokehouse) in comparison to the immediate or inner yard. Although heavy use was often made of this area to carry out household tasks, the particular configuration left in the archaeological record was affected by the types of buildings used and the minor topography of the yard itself. For many lower class farmsteads in North Texas, domestic outbuildings or support structures were extremely limited in variety. Detached kitchens were not very common among these families. Smokehouses, as mentioned earlier, were more aptly labeled food storage and drying sheds rather than traditional in the classic sense. As illustrated in the Joe Pool area, these are most commonly associated with land owners rather than tenant households. Dairies, which are generally rare in the cotton farming areas, are more common in the Mountain Creek area although not frequent in the sample of sites mitigated. Informants that mentioned keeping milk in root cellars or even storm cellars were also very prevalent in the Project area. Most Joe Pool yards contained a smokehouse or food storage shed, a granary, a root cellar, well, in addition to a privy.

The general distance to most support structures (i.e., smokehouse, shed, food storage shed, etc.) was most often around 8 to 20 m from the house. The data presented here suggest that light sheet refuse enveloped these structures and then extended well beyond them.

Wells and privies sometimes served as important intrayard boundary markers. Hand dug wells (i.e., not bell-shaped cisterns) were located close to the dwelling and often seemed to divide the *Immediate Active Yard* from the more intensively used *Outer Active Yard*. They were commonly located from 4 to 12 m away from the house. Dug cisterns obviously cannot be similarly considered. These features are closely tied to the structures from which they derived their water. At the other end of the *Active Yard*, one generally finds the privy. Nine examples from rural farms in North Central Texas yielded an average distance of 17.6 m from their

Table 17-1
DISTANCES IN METERS FROM DWELLING TO SPECIFIC YARD FEATURES

Site	Reference	Well	Smokehouse/ Dairy	Trash Features SR Band	Privies	Major Barns
41DN77	Skinner 1983	7				
41DN91	Skinner 1983	9				
41DN194	Skinner 1983					26(?)
41DN202	Skinner 1983					20(?)
41NV144	Archaeology Research Program 1981, 1982; Moir 1983b			17		24
41TR35	Ferring and Reese 1982	16.5				
41TR44	Ferring and Reese 1982	3 5.5				66
41TR43	Ferring and Reese 1982	8			29	22
41TR45	Ferring and Reese 1982	22	38			57
41TR47	Ferring and Reese 1982	7				
41TR48	Ferring and Reese 1982	5.5				
41DL181	Ferring and Reese 1982	7				50
41DL183	Ferring and Reese 1982				17	59
41DL183 (Old house)	Ferring and Reese 1982	8				
41DL188	Ferring and Reese 1982	17				67
41DL191	Ferring and Reese 1982	15				85
41DL192	Ferring and Reese 1982	36				(212)
B. F. Smith	Ferring and Reese 1982	27			26	
Ezra Searcy Farm	Smith, Barton, and Riordan 1982	8	6	15 15 34	22.5	47.5 54
James T. Butler	Smith, Barton, and Riordan 1982		7	3 13 18 20	19(?)	64.5 79
Nancy Belle Holley Farm	Smith, Barton, and Riordan 1982	7	16			16
Billie Eaton Farm	Smith, Barton, and Riordan 1982	6.5	16	15		33
Tobe Eaton Farm	Smith, Barton, and Riordan 1982	6		27	13	67
John Eaton Farm	Smith, Barton, and Riordan 1982	7.5	13			106
Tipton/O'Neal Farm	Smith, Barton, and Riordan 1982				20	
R. G. Adams Farm	Smith, Barton, and Riordan 1982	6	9.5	47 57	53	43
XED34 Structure 1	Gallagher and Bearden 1980			10		
XED34 Structure 2	Gallagher and Bearden 1980			9 10 11		
X29ED46	Gallagher and Bearden 1980			14 27		
Cedar Oaks (22CL809)	Minnerly 1983	16		13	27	
Aaron Matthews House	Adams 1980			11		
Hannah Gardiner Farm	Moir and Drinkwater 1981	3 6		12		
Mitchell House	Moir and Drinkwater 1981					48
Cutler's Tavern	Moir and Rosebrock 1979b	12				22
Mowry's Tavern	Moir and Rosebrock 1979b			13	18	
41NV267	Archaeology Research Program 1981, 1982; Moir 1983b			7 8 10 11		

Table 17-1—*(continued)*
DISTANCES IN METERS FROM DWELLING TO SPECIFIC YARD FEATURES

Site	Reference	Well	Smokehouse/ Dairy	Trash Features SR Band	Privies	Major Barns
41FT143	Archaeology Research Program 1981, 1982; Moir 1983b			18 11 15 10 30		
41FT156	Archaeology Research Program 1981, 1982; Moir 1983b			10 12 10 16		
41NV102	Archaeology Research Program 1981, 1982; Moir 1983b			14 17	17	
41NV120	Archaeology Research Program 1981, 1982; Moir 1983b	12		13 15		25
41NV266	Archaeology Research Program 1981, 1982; Moir 1983b	3(?)				43
41NV318	Archaeology Research Program 1981, 1982; Moir 1983b	7		9 10		65
41NV239	Archaeology Research Program 1981, 1982; Moir 1983b					24
41NV172	Archaeology Research Program 1981, 1982; Moir 1983b	18				
41NV258	Archaeology Research Program 1981, 1982; Moir 1983b	10			14	25
41FT163	Archaeology Research Program 1981, 1982; Moir 1983b	9		16		
41FT225	Archaeology Research Program 1981, 1982; Moir 1983b			13 24 36		
41FT228	Archaeology Research Program 1981, 1982; Moir 1983b			12 10 5		34
41FT231	Archaeology Research Program 1981, 1982; Moir 1983b			25		27
Olmstead-Goffe		7.5				
William Randall Farm	Moir and Rosebrock 1979a	4		9	12	30
William Randall Farm (outbuilding)	Moir and Rosebrock 1979a	4				
Job Lane	Moir 1976	10				
Narbonne House	Moran 1977	7	9	16 18 17		
Wetherburn's Tavern	Noël Hume 1969	6.5 10	13 14 15	21 22		
Phineas Weatherbee's Farm	Benes 1977	4.3	13			
Dr. Williams House	Benes 1977				11.5	

dwellings (s.d. ± 7.3 m). Another eleven privies from outside North Central Texas yielded a similar average excluding one outlier measured at 53 m (Moir 1983e:49-50). Thus, privies were generally placed about 10 to 24 m from a dwelling and their locations often corresponded to the outer edge of the *Active Yard*. They were not so much placed as far away as possible, but rather as out of the way as possible, and therefore provide a signpost for the outer limit of the yard in their direction.

The last important component of the farmstead, at least for many owners and even a few tenants, was the major barns and agricultural outbuildings. As mentioned earlier, these were documented to be set apart from most dwellings on pre-1920 farms. Distances ranged from as close as 20 m to as far as 212 m (Table 14-1). On the average, however, most barns were located about 50 m (± 30 m) from their dwellings. Topography, field divisions, access roads, drainage, and other variables probably influenced their final location as much as any other elements. The division between these agricultural outbuildings and their dwelling and associated support structures, however, remains the strongest boundary of all the spaces defined on the traditional farmstead.

SUMMARY

The layout of a farmstead in North Central Texas contains a general structure that has been part of the traditional farmstead for centuries. Glassie (1968) and Kniffen (1965) pointed out the basic duality of activity areas on the "Upland South" farmstead of the East: (1) female related activity areas and outbuildings around the house, and (2) major agricultural outbuildings maintained by men and located a greater distance from the dwelling. The Mountain Creek farmsteads reveal this same duality which was not only supported by oral history, but also by extant relict examples. Excavations around the farmhouses, however, provided further elaboration on the use and divisioning of space. Sheet refuse deposits correlated closely with the *Active Yard* of the traditional farmstead although in Joe Pool Lake they revealed larger, more dispersed yard areas than found to the south in Navarro and Freestone counties. Photographs of the Bowman/Sprinkle site, for example, indicated the general barren nature of the traditional yard for this area (see Chapter 14). Green lawns with highly manicured vegetation were not a viable option for a family that used the yard as an extended part of the house. Chopping wood, drawing water, feeding chickens, butchering and scalding pigs, washing clothes, making hogswill, and many other tasks were done outdoors and in the yard. Bare dirt was not only practical, but also prevented fires from spreading, and especially from reaching the house. Although not well demonstrated in the Mountain Creek area, some families actively swept their yards for general aesthetics, as well as for practical reasons.

The North Texas proxemic yard model offered here provides an empirical guide for the general organization of the traditional farmstead in Texas. The settlers of the Project area included a both Upper and Lower South families and thus formed a comparatively unique melting pot of traditions from these two major cultural regions (Jordan 1967, 1969, 1978). The layout of their farmsteads have both unique elements as well as older more traditional designs that diverge from rural populations further south in Texas. Until we can gain a greater understanding of the farms in adjacent regions and states, we will reserve our final judgement about the individuality of the traditional farmstead in the Mountain Creek area of North Texas.

ARCHITECTURAL TRENDS

18

by

David H. Jurney

Historic architecture provides an avenue to study synchronic and diachronic changes in the built environment. Dwellings, outbuildings, structures, and monuments represent a relict landscape of pioneer and agrarian society. Glassie (1982:404) argues that houses and the cultural use of space speak the common mind of communities and relate to human perceptions of their environment. House forms can reveal one aspect of mutually shared knowledge, or mental templates. Changes in housing types across former landscapes, or through time, reflect logical shifts in modes of organization of activity spheres related to status and socioeconomic variables.

The Joe Pool Lake architectural research design focused on an examination of the buildings as they manifest cultural change wrought at both the regional and local levels through increased participation in a cash economy and use of mass-produced goods. The typological and technological variables associated with each property were analyzed and related to behavioral attributes such as land ownership or ethnic source. Also, absolute dating techniques, including dendrochronology and archival studies, were employed to determine the chronological placement and significance of building forms and construction technologies.

Cultural geographers, anthropologists, and archaeologists concerned with architectural diversity across time and space have proposed cultural diffusion and ecozonal settlement models to explain the westward expansion of the frontier (Wilson 1969, 1982; Kniffen 1965; Newton 1974). Jordan (1978) and Fox (1983) propose that the westward expansion of the Texas frontier began in the East Texas forests because most of the settlers were from the Deep South, with cultural preadaptations to similar habitats. Newton (1974) stresses this model to explain the distribution of building types and technologies through Louisiana, and leading to the Texas frontier.

The direction of Texas settlement spread along the Blackland Prairie fringe which was interspersed with oak/hickory forests. The mosaic of forests and grassland environments in close proximity to each other provided ideal lumber resources. Stands of pine in East Texas and post oaks in Central Texas comprised the greatest asset to this horizontal log culture. After crossing the Blacklands, however, pines had vanished, and oaks were relatively rare. This situation was particularly pronounced in the Mountain Creek area. This area was settled by people from the Upper South and Midwest, because they had become adapted to the Missouri and Illinois prairies, following the ecozonal model. Buildings were frequently of frame construction, possibly because this technique was more conservative of the scarce lumber resources than horizontal log construction. The hewn, mortise and tenon, braced frame (also known as timber framing on the East Coast) building was an adaptation to this environmental stress. The lumbering industry began shipping, by wagon all types of East Texas trees, primarily pine siding, onto the Blacklands in the 1850s. By the 1870s and 1880s, lumbering of East Texas pine forests intensified, with railroad shipment onto the high prairies and plains.

Ferring and Reese (1982:230) presented an architectural research hypothesis for the Joe Pool Lake area designed to guide further investigations. This model stated "architectural manifestations reflect patterning determined by ethnic traditions of the original settlers". They concluded that this was, to a degree, falsifiable, interpreting the local architectural styles and technologies as "reflecting rapid acculturation and assimilation of each ethnic source". As noted above in the ecozonal settlement model, many Joe Pool Lake settlers were adapted to a prairie farming existence. This regionalism is exhibited in the architecture, and indicates that initial settlers of the Texas frontier drew on a broad and varied geographical and cultural background, incorporating several technologies and styles frequently attributed to ethnic sources alone.

Based on the architectural change model (linear evolution) proposed by some cultural geographers (e.g., Kniffen 1965), house forms used on the initial frontier and early rural agrarian contexts appear to change from simple, one to two room, open designs to more complex, modular arrangements, after the settling of the countryside. Other changes pertinent to North Central Texas may be interpreted by the supposed evolution of half dovetail to square notch corner timbering techniques. Finally, increased social complexity caused by participation in cash markets, brought about linear evolutionary changes in house styles (Glassie 1975, 1982; Kniffen 1965; Wilson 1969, 1982). Our research was designed to test the proposed ecozonal settlement model, as well as the diverse ethnic source model proposed by Ferring and Reese (1982:228-229). The dynamics of changes will be evaluated in light of linear and multiple evolutionary models.

The placement of architectural types across a landscape reveals community cohesion and components of their economic and social structure. Over time, local populations in rural Texas underwent several apparent demographic shifts. Few structures remain from the initial 1840 - 1880 wave of settlement. In the Joe Pool Lake area, the majority still standing are braced frame structures. Although horizontal log buildings were present, the emphasis was toward frame buildings, particularly high status dwellings and community buildings. Only one horizontal log dwelling, subsequently recycled as a granary, and two outbuildings were present in the Mountain Creek area. This may be due to the relative dominance of Midwestern settlers. Upper and Lower Southern lifeways mixed, and merged with the frame technologies and sawn pine lumber introduced by railroad expansion during the late nineteenth century. The braced frame and log buildings were replaced by box and strip double pen and Cumberland frame dwellings, reflecting a narrower source area, specifically Northern Alabama through the Cumberland Plateau.

This chapter summarizes the typological and technological trends observed in the Joe Pool Lake. Tree-ring dating allows us to place some properties into a temporal perspective. The farmstead architecture, spatial arrangement, and functional composition of the mitigation properties will be summarized. In addition, close examinations of two local cemeteries has helped to define some important cultural attributes of mortuary architecture, and relate these attributes to the overall landscape of the nineteenth and twentieth centuries.

ARCHITECTURAL CHRONOLOGY, TECHNOLOGY, AND TYPOLOGY

Table 18-1 lists all historic properties (n=35) recorded and described during all phases of previous investigations, including Skinner and Connors (1979) and Ferring and Reese (1982). These were structures with extensive description. In the *additions* column of the table, other reported support structures are described, but are not included in the following discussion due to lack of documentation and their recent associations. The mitigation properties received the most intensive investigations. Also, some of the buildings described by Ferring and Reese (1982:127-222) were re-examined, and in some cases re-evaluated. In addition, several unrecorded structures in the project area and in surrounding areas were examined outside of the mitigation work schedule, but which provide an added dimension to this sample of the region's historic architectural landscape.

Tree-ring dates provide the most accurate time placement for the architectural assemblage. Also, archival and informant data collected from 1976 to the present were incorporated, and provide relatively less secure dates in some instances. Those structures which were revisited/re-evaluated during mitigation were placed into general time brackets, based on architectural and technological attributes (Table 18-1), when tree-ring dates were not derived.

OUTBUILDINGS

Six structures (18%) were outbuildings, used for grain storage and animal stabling. Three had single crib floor plans, one a sawn oak mortise and tenon (41DL192-South Granary-1874), one a sawn pine braced frame (41TR45-1890s), and one a horizontal red cedar log building (41DL192-Small Barn-1890s). Early sawmills in the floodplains provided the local bur and post oak lumber which was used to build the tightly and well constructed Penn South Granary. The mortise and tenon joinery of the large sills and wall studs, and the substantial linear limestone foundation indicate that this was an outbuilding crucial to the functioning of the farm, and was meant to last for decades. The commercial pine braced frame at the Reitz site marks the transitional (ca. 1890 based on the 1930 Tax Survey; Tarrant County Tax Records, n.d.) interface between traditional and modern technologies. This relatively less substantial building required repair in 1934, indicated by a tree-ring dated replacement pier. The horizontal log, V notched Penn Small Barn was constructed ca. 1890 (cut nails in siding), revealing that Andy Penn was maintaining a traditional perspective about how farm buildings should look. Buildings built by him in the twentieth century were quite different. In 1918, he recycled two buildings (a log single pen dwelling and a box and strip school house) into a large, rambling frame, cross gable barn.

The remaining outbuildings were double crib structures, one a horizontal red cedar log (half dovetail) with central passage (ca. 1859), and two sawn mortise and tenon double cribs with central passage (Anderson ca. 1900 - 1910 and Holveck ca. 1882). A floating tree-

Table 18-1
FULL ARCHITECTURAL MATRIX FOR THE JOE POOL LAKE AREA LISTED BY GENERAL CHRONOLOGICAL ORDER

Site	Stories	Floor Plan	Technology	Date	Material Core	Siding	Additions
Dwellings							
Pleasant Taylor	1	CH	Hewn MT	1844[2]	po	pine	pole wings 20th
T. M. Ellis	1	CH	Hewn MT	1849[1]	po/rc	pine	porch rooms
Penn-old	1	SP•	Hewn MT	1859[2]	rc	pine	1911 CH, porch room
Rec. Penn	1	SP	Hewn SN	1850-70[2]	rc	NA	
Penn-new	1	CH	Sawn MT	1876[2]	pine	pine	wings, porches 20th
Loyd	1	DP	Sawn/Hewn MT	1880-90[3]	po	pecan	wings 20th
DL190	2	CH	Sawn? MT	1880[3]	pine	pine	
Pool	1	CH	Frame	1890[3]	pine	pine	1930s rear, 2 sheds, garage, tenant
TR48	1.5	CH	Sawn MT	1880[3]	pine	pine	
TR40	1.5	CH-T	Sawn MT	1880[3]	pine/rc	pine	room 20th
TR42	1	X-Gable	Frame Rec.MT	1907[2]	pine	pine	
TR35	1	SP	Frame	1925-30[2]	pine	pine	2 rooms 20th
TR43	1	DP	Box/Strip	1930s[2]	pine	pine	T-wing
TR44	1	SP	Box/Strip	1900-30[2]	pine?	pine?	sheds
TR45	1	Cumb.	Frame	1900-20[2]	pine?	pine?	Pole shed, garage, coop
TR47	1	Cumb. HB	Frame	1900-30[2]	pine	pine	Garage, pole, B & B
DL181	1	Cumb. T	Box/Strip	1898[2]	pine	pine	T-wing 1915
DL182	1	Cumb. T	Box/Strip	1910[3]	pine	pine	
DL183	1	SP	Box/Strip	1882[2]	pine?	pine?	room, porch, garage, sheds
DL185	1	DP	Box/Strip	1920[3]	pine	pine	
DL187	2	CH	MT?	1883[2]/1900[2]			Built by English carpenter; barn, 2 corn cribs, granary, 2 sheds
DL188	2	CH?	MT?	1900?			Garages, sheds
DL196	1	Cumb	Box/Strip	1900[2]			
B.F.Smith	1	Cumb	Frame	1900[2]			Garage, shed
(by Reitz)	1	Cumb. T	Box/Strip pegged sills	1910[3]	pine	pine	corral, shed
Anderson Tenant	1	DP	Box/Strip	1920[3]	pine	pine	
Outbuildings							
Penn:							
S Gran.	2	SC	Sawn MT	1874[1]	post oak	pine	
N Gran.	1.5	DC	Sawn/Hewn MT	1890s[3]	rc/po	pine	low wing
Barn	2	DC	Horiz.Log-HD	1850-1860[1,3]	rc	pine	wings, corral
Sm Barn	1	SC	Horiz.Log-V	1890s[3]	rc	pine	wings, room
Lg Barn	2	X-Gable	Frame	1918[2]	pine	pine	wings, corral
Reitz	1	SC	Sawn MT	1890s[3]	pine	pine	1934 remodeling
Anderson	2	DC	Sawn MT	1910[3]	pine	pine	Corral
Holveck	2	DC	MT	1882[2]	pine?	pine?	

Table 18-1 — (*continued*)
FULL ARCHITECTURAL MATRIX FOR THE JOE POOL LAKE AREA LISTED BY GENERAL CHRONOLOGICAL ORDER

Site	Stories	Floor Plan	Technology	Date	Material Core	Siding	Additions
Community Buildings							
Penn School	1	SC	Box/Strip Hewn Sills	1870-1874[2]	pine/RC/PO	pine	
Tellico Church	1	SC	Hewn/Sawn MT	1869[1]	pecan/PO	pine	

1 Tree-ring dated
2 Informant/archival dated
3 Architectural estimate
4 Abbreviations: SP = single pen, DP = double pen, CH = central hall, Cumb = Cumberland, T = T-floor plan, MT = mortise and tenon joinery, X-Gable = cross gable, SN = squar notch, V = V notch, HD = half dovetail, SC = single crib, DC = double crib, B & B = board and batten, HB = hip bungalow, PO = post oak,, RC = red cedar

ring chronology was derived from the Penn Double Crib, indicating a span of cutting dates over two years. Recycled mortise and tenon beams (possibly an original granary on the farm) were used in the 1920s additions to the double crib. These beams were cut during the same two year span as those in the double crib. The remaining two sawn double cribs were described as being similar in appearance (Ferring and Reese 1982:214). Only the ruined Anderson Barn remained in 1985. This was a totally sawn pine building with large sills joined with full dovetails and vertical studs mortised and attached with wire nails. Based on the description of the carpentry and archaeological investigations at the Holveck Barn, this was originally a double crib with cut nails (ca. 1882) which was added to with pole stabling wings in the twentieth century (Ferring and Reese 1982:177).

DWELLINGS

Five types of floor plans (Table 18-1) were represented among the dwellings; single pen (6), double pen (4), Cumberland (7), central hall (9), and cross gable (1). Among the single pen structures, one was a 1850 - 1870 recycled red cedar, horizontal log building with square corner notching. Among the remaining single pens, the Old Penn dwelling consisted of a single room with interior and exterior clapboard siding. Front and rear porches were present. Evidence for a framed doorway was noted on the front, and the same may have been true for the rear (north), making this a three compartment building. The remaining single pens consisted of the reported 1882 core at 41DL183, and three box and strip frame dwellings dating between 1900 - 1930.

The double pen is a basic floor plan for tenants or small landowners. It has a single front door, in contrast to the two door Cumberland. The latter often was occupied by individuals of slightly greater socioeconomic status. Two double pens, Loyd (ca. 1880) and the Anderson tenant (1920 - 1930) were investigated during mitigation and 41TR43 (1930s) and 41DL185 (1920), were described by Ferring and Reese (1982:145-146; 179-180). 41DL185 burned prior to our work, and received archaeological investigations alone. Loyd was the oldest double pen (1869) based on architecture, technology, and lumber. It was constructed of sawn post oak timber framing, with pecan board and batten, both of which were probably cut from local stands of trees. The remaining three double pens were typical early twentieth century, box and strip tenant houses. Although of flimsy construction, they are easily moved and recycled, a premium among a mobile tenant population.

The Cumberland (n=7) was the most common house type used by medium and small sized landowners and the more well-to-do tenants in the early twentieth century. This floor plan was frequently used as a core for rear T- or L-additions, used as kitchens and storage and bedrooms. All Cumberlands were termed double pens by Ferring and Reese (1982:156), but were described as two front doors, and could be separated from the double pen type. The oldest Cumberland was the reported 1898 Hintze (41DL181) dwelling, followed by Teodviski (1900 - 1910) which was reexamined in 1985. The remaining dwellings dated between 1900 - 1930. All Cumberlands were of flimsy box and strip construction, with original board and batten siding which had been replaced by novelty siding.

The central hall floor plan (n=9) was the most common floor plan in the area, and was associated with well-to-do landowners. This was also the oldest dated floor plan (1844 Pleasant Taylor, 1849 T. M. Ellis) and the only type associated with 1.5 or 2 story structures. Other central hall structures dated to 1876 (Penn New), 1880s (Anderson, 41TR40, 41TR48), 1883 (41DL187 Old), 1890s (Pool), and around 1900 (41DL187 New, 41DL188). The central hall resembles the traditional southern dogtrot, but is an example also of the Upper South and Midwest "I" house, particularly with two stories. Based on archaeological, architectural, and archiva' data, all these were elaborate dwellings and reflected the highest socioeconomic status.

Only a single cross gable (41TR42) was described. This was built of recycled mortise and tenon buildings, ca. 1907. The Victorian trim is identical to similar period (1900 - 1910) structures on Lower Swiss Avenue in Dallas (Gary Cox, personal communication 1985). The all wire nail construction appears to have been performed by commercial carpenters, simply reusing old buildings, at least one of which had been burned. In a

cotton producing area of tenants and landholders, this dwelling conveyed a high style image when first completed.

COMMUNITY BUILDINGS

Only two community buildings were investigated in the Joe Pool Lake matrix. The Penn School (1870 - 1874) was a box and strip single pen with cut nails. The board and batten walls were supported by hewn oak sills, thus representing a transitional technology. The Tellico Church (1869), in Ellis County, was a similar single pen, with a hewn pecan superstructure (timber frame) and sawn post oak studs and rafters with mortise and tenon joinery. Both buildings reveal how closely related timber framing is to frame construction. Although both were community buildings, they had a simple, spartan appearance, typical of the Calvinist attitudes of the period.

MORTUARY ARCHITECTURE

None of the cemeteries surrounding the Joe Pool Lake will be directly affected. The occupants of many of the farms described in previous reports, and included in the mitigation matrix, are buried in cemeteries adjacent to project areas. Two of these, Estes and Pleasant Valley, were examined. Information was recorded pertaining to technological variables, the local demography, and artistic symbology. Also, the Little Bethel Cemetery in Duncanville was also examined since members of the Penn family were buried there (Appendix C).

Figure 18-1 shows the 1895 Sam Street's Map of Tarrant County (Tarrant County Historical Commission and the 1900 Sam Street's Map of Dallas County (Highland Historical Press 1980). The bars indicate individuals in the cemeteries, and the distance to their homesteads. This shows that Pleasant Valley covered a broader area, which included Estes. The Penn Family's kinship and economic ties were in the Duncanville area.

The technological and chronological attributes that were recorded are shown in Tables 18-2 and 18-3. In most cases, the stones were erected soon after an individual, particularly a child, died. Often with a wedded couple, the stones were erected after the death of the second partner. Families, particularly the second or third generation, sometimes replaced earlier stones. In Texas, many families (estimated 20 - 30% in some cemeteries examined) did not mark or embellish graves with tombstones, or used perishable materials (wood) or objects such as brick or iron pipe (Jordan 1982). Years later, family members may place permanent stones, frequently without an accurate accounting of whom is actually receiving the stone. Generally, however, the dates in Tables 18-2 and 18-3 reflect the timing of use of stone shape and material, and certain motifs.

TOMBSTONE SHAPE

Four basic block shapes, with several variations were recorded in the Joe Pool Lake area: Tablet, Pulpit, Obelisk, and Block. The Tablet is the most common, with the Roman arch and Gable, Omega, and plain rectangular tops. The Pulpit is a rectangular block with a top shaped like a podium, frequently with open or closed bibles on top. The Obelisk is usually a massive composite stone with large base and towering columns. Shapes include the cross gable, orb, shroud draped, and square columnar. The most radical shift through time can be seen in the Block category, with large massive blocks and short lawn markers. These reflect the twentieth century shift to perpetual care cemetery landscaping and architecture.

The Tablet and Obelisk subcategories were used from the Civil War until the early twentieth century (1856 - 1910). A single pulpit (1943) was an outlier, with the remaining dating from 1870 - 1914. All these were marble stones, except for five Roman and four other Tablets which were concrete poured into standard molds. Also four ornate Obelisks (Pleasant Valley) and two Pulpits (Estes) were cast bronze and tightly dated in the 1860 - 1880 period. All Blocks were blue or pink granite, which dominate among today's markers.

TOMBSTONE MOTIFS

The artistic motifs are also related to the popular periods of use of the different stone shapes (Table 18-3). The dove, lamb, finger-to-heaven, and clasped hands all date between 1866 and 1918. Flowers date from 1854 - 1919, religious symbols from 1867 - 1908, and the Heaven's gate from 1893 - 1927. Fraternal symbols have the greatest time span, from 1887 to 1977.

The Anderson Family plot (Pleasant Valley) records a chronological history of the family, revealing the deaths of juveniles, young adults, the parents, and the second generation. The Penn Family plot reveals the death of young adults, untimely adult deaths, and the long life of survivors. In the Estes Cemetery, heads of households and juveniles were present, but were not followed by their other children, indicating a greater out-migration.

The birth - death graphic (Table 18-4) illustrates the age structure of the Joe Pool Lake frontier community and its subsequent population growth. With the early twentieth century, the birth - death graphic reveals a population shift in which fewer births are coeval with more deaths. Also, closer to today, more people are still living. This cycling of population reveals dynamic processes that operate in communities. In a general way, this models the agricultural settlement of the area over the last 120 years.

SUMMARY

The architectural patterns of the Mountain Creek area are due in part to environmental variables and the cultural knowledge of the initial and subsequent settlers. Based on our investigations, a combination of the environmental determinist (ecozonal model; Ferring and Reese 1982:228-229) and cultural determinist (diverse ethnic source model; Ferring and Reese 1982:228-229) explanatory hypotheses serve to best explain the observed architectural variability. First, the native stands of trees, distribution of prairies, and the proportion of lumber suitable for construction affected the location of farmsteads along the frontier. The earliest structures were located along the Trinity River valley and the gallery forests of its major tributaries. The eastern Crosstimbers may have provided lumber, but these areas were settled

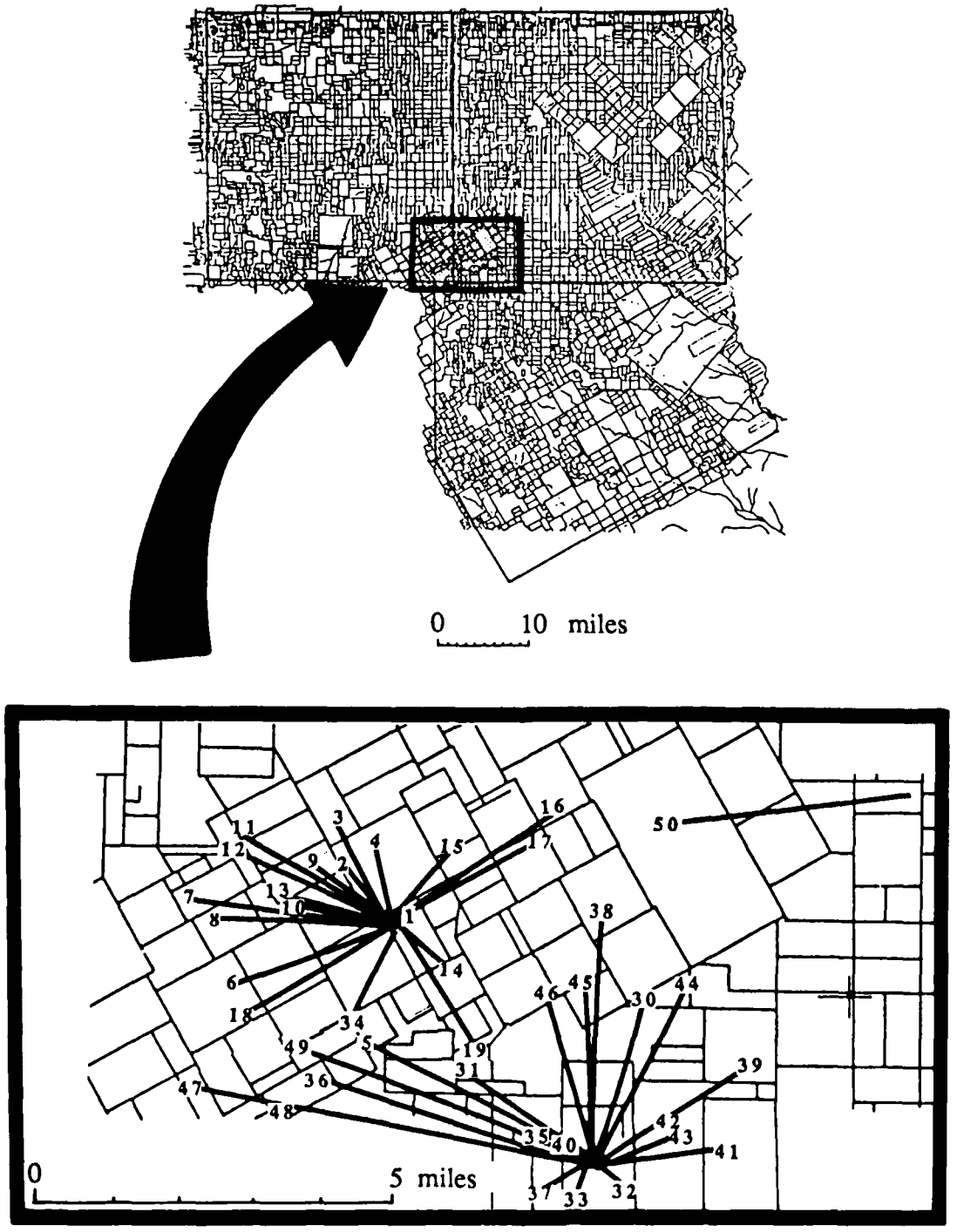


Figure 18-1. Locations of dwellings (ca. 1895 - 1900) where individuals once lived. Centers of clusters indicate the Estes (upper) and Pleasant Valley (lower) Cemeteries. Note that the Penn Family buried their dead in the Little Bethel Cemetery in Duncanville.

INDEX TO FIGURE 18-1

Estes Cemetery

1 Bowman
C. W.
Bertha J. 12-14-1889/5-11-1914
2 Loyd
Marion 1835/1928
Ann 2-21-1912/1-21-1921
3 Bowman
Issac G. 10-15-1820
Mary Catherine Armstrong 2-17-1822/5-3-1899
G. A.
4 Palmer
Francis Marion 12-18-1855/2-8-1939
Bellezora Virginia 11-6-1861/11-22-1941
6 Davlin
William P. 4-3-1828/12-13-1869
Harriet
7 Ragland
T. J. 4-5-1805/10-8-1897
Mary T. Reed 8-6-1847/7-1-1893
8 Ragland
Isabelle /6-21-1898
Joe H. 3-24-1852/6-4-1898
Mary Eliza Perry 8-10-1859/12-14-1945
9 Ferrel
Grandmother
S. L. 17-1837/1-30-1923
Mary E. 4-6-1843/5-24-1931
10 Perry
N. B. 7-24-1820/12-11-1903
11 Cornelius
Vivian V. 2-8-1875/5-7-1891
Ada E. 6-12-1868/7-14-1878
Charles W. /1-25-1878
Charles B. 10-1-1827/1-21-1878
12 Estes
Texana T. 12-701858/8-23-1861
Ben F. 1-22-1862/6-5-1868
Willis D. 3-12-1870/3-21-1903
J. H. 2-4-1866/8-2-1904
W. H. 1-18-1838/12-4-1901
V. D. 6-24-1847/1-23-1923
Mary A. 7-14-55/4-22-57
Silas 6-2-1826/7-28-86
Elizabeth M. 6-28-1835/1-31-1904
13 Loyd
Sina
Ann 1853/1912
John 1-21-1870/5-29-1934
14 Annen
Christine Wilhilmena Louise 3-8-1867/5-7-1910
Charlie Sares 7-21-1894/7-14-1903
J. & L.
Annie 4-4-1896/10-30-1914
Elisabeth 11-25-1890/2-6-1894
Wilhelm 1-5-1885/1-19-1919
Emma 9-7-1883/11-5-1934
Infant Son 10-5-1936
15 Reitz
M. M.
John 1842-1926
Julia A. 1843-1883
Mary M. 1864-1906
L. M. 11-7-1858/4-14-1891
Robert 1869/1872
Lila A. 5-11-1885/11-16-1885
40 Holland
Mary A. 11-7-1856/2-14-1885
41 Robinson
James 12-24-1831/9-21-1898
42 Carberry
Ed 9-14-1868/12-6-1928
Cathern
43 Robinson
Sarah C. 9-17-1838/10-9-1899
James Thomas 3-12-1870/1-3-1888
Rufus R. /11-30-1874
44 Tunnell
James Earl 9-19-1893/8-10-1892
Georgie E. 2-4-1887/3-10-1887
45 Anderson
N. B. 11-30-1826/1-28-1892
Mary J. Penn 3-9-1842/9-10-1911
46 Holveck
John Emil 6-11-1895/6-29-1972
16 Hintze
Anna Wanda 4-14-99/4-18-99
Otto J. 11-8-1885/9-17-1914
Ida May 3-17-1894/4-7-1894
Bertha L. 7-11-1851/9-2-1891
Henretta 8-1-1850/4-5-1894
Max M. 8-7-1891
17 Hintze
Hulda 2-11-1870/5-11-1901
18 Talley
Infant Daughter 12-15-1893/12-17-1893
19 Perry
Elizabeth 3-9-1854/3-11-1904

Pleasant Valley

5 Lowe
Emma Ragland 1-6-1861/7-2-1886
30 Holveck
J. J. 2-2-1858/9-4-1895
(Broken, illegible) /1-15-1881?
31 Cope
Alex 1842/1852
Louella
Hodges
Mary A. 2-8-1840/10-6-1913
John B. 9-28-1837/12-8-1878
32 Boydston
J. G. 1-24-1812/5-25-1899
Louisa 1824/1908
Henry 1836/1848
33 Holland
Adaline 9-1-1823/1-1-1901
Mordica 3-10-1810/3-16-1862
34 Lowe
Susan A. 1839/1821
Benjamin H. 1830/1879
Ezra Eddy 7-24-1866/7-13-1871
35 Holland
James 4-19-1805/7-2-1882
Malinda 2-15-1807/10-13-1874
Anna 12-28-1832/4-22-1915
Ralph L. 10-15-1882/11-14-1882
36 Lowe
William C. 3-28-1827/7-16-1885
Amada C. 4-20-1833/9-24-1895
37 Ricketts
Sarah A. 1-29-1833/4-20-1870
Mary A. 12-19-1841/3-30-1888
W. S. 11-19-1825/7-20-1910
Louella F. 9-19-1883/1-23-1907
38 Rape
P. E. 1848/1927
Sarah E. 1854/1921
Mary Isabella 1-23-1848/2-27-1874
Infant Son 2-26-1874
Samuel R. 8-5-1840/2-15-1902
39 Rape
Nannie V. 1892-1906
47 Bratton
Sarah F. 1-31-1856/10-10-1878
48 Lowe
J. W. 12-6-1850/1-14-1919
Ellen Ragland 8-26-1850/
Sarah T. 3-17-1844/9-26-1911
49 Marrs
Callie Ora 10-12-88/1-24-90
Nancy E. 3-2-1838/1-22-1893
Azariah K. 8-8-1833/

Little Bethel Cemetery

50 Penn
J. W. 6-19-1833/6-23-1888
Lucinda 8-23-1827/1-13-1928
Frances L. 12-21-1867/8-30-1872
Laura E. 11-1-1865/8-21-1867
Morrison M. 4-18-1874/9-3-1890
Ella Charlotte 5-20-1870/8-21-1892
Andrew Jackson 1-14-1876/8-21-1964
Dee Etta Hoffard 3-4-1905

Table 18-2
MORTUARY ARCHITECTURE: STONE SHAPES

	Tablet			*Pulpit*	*Obelisk*			*Block*	
	Roman	Gable	Other		X-Gable	Other	Orb	Large	Lawn
Estes Cemetery									
	1932		1922	1943	1914	1911		1968	1979
	1906		1921(2c)	1914	1897(2)	1905		1933	1977
	1899	1893	1920	1908	1886	1904(3(		1919(3)	1967
	1895(c)	1888	1912(2c)	1906(2)	1869	1898(2)		1915	1962
	1894(2)	1879	1906(c)	1901		1893		1908	1956
	1893(2)	1861	1901	1894		1886			1950
	1890		1893	1893		1881			1945
	1886		1891	1887(cast)		1868			1944
	1868		1890	1878					1941
				1870(cast)					1939
				1881(2)					1936
				1857					1935
									1934(2)
									1931(3)
									1926
									1923
									1918(2)
									1917
									1902
									1901
Pleasant Valley									
	1895	1904	1915	1927	1902	1898	1913	1964	1972
	1874	1891	1910	1910	1892	1895	1901	1959	1971
	1871		1909	1907	1889	1891(3)	1890	1936	1952
	1866		1892(2)	1903	1888(2)	1884(2)	1886	1928	1908
			1890(3)	1899	1886	1868		1926	1872*
			1888(3)	1898	1878			1921	1855*
			1887	1897	1876			1913	
			1883	1895	1856			1911	
			1882(2)	1893				1910	
			1880	1882				1907	
			1878	1880				1892*	
			1877					1882*	
			1872					1848*	
			1870						
			1867						

Key:
* Little Bethel Cemetery - Penn Family
c Molded concrete

after the passage of the initial frontiers. The Cedar Ridge Escarpment provided a limited stand of red cedar, which appears to have been intensively lumbered in the first years of settlement. This species was a rapid regenerator, and the forests were used throughout the last of the nineteenth century. The Trinity River forest provided the most abundant stands of post and bur oaks, which were lumbered at a small scale as early as the 1840s.

Second, the initial settlers arrived from a series of previous locations, several having been born in the South, moving to the Midwest, and subsequently immigrating to Texas. These settlers were skilled entrepreneurs, primarily prairie farmers raising grain and free-ranging cattle. The Mountain Creek area was near the northern terminus of cattle trails leading north from Waco and Corsicana. Despite the relatively scarce lumber resources in this area of Texas, these farmers wanted to exhibit their status. This was accomplished by constructing timber frame by hewing and sawing local red cedar, post oak, and bur oak trees to produce the

Table 18-3
MORTUARY ARCHITECTURE: MOTIFS

	Heaven's Gate	Dove	Lamb	Finger to Heaven	Clasped Hands	Flower/ Tree	Religious/ Fraternal
Estes Cemetery							
	1894	1908	1918	1884	1898	1919	1977
	1893	1901			1897	1914	1920(w)
		1888				1893	1914(w)
						1890(2)	1980(m)
						1888	1906
						1886	1904(m)
							1901
							1895
							1894
							1891
							1886(m)
							1878
							1870
							1867
Pleasant Valley							
	1927	1927	1882	1891	1901	1915	1977(m)
	1910	1874	1866	1888	1888	1892	1907
	1908			1867		1891(2)	1904
	1895					1884(2)	1898
	1893					1881(2)	1897
						1880	1895(3)
						1879	1893
						1878	1892
						1868	1891(2)
						1854	1886(2)
							1878

Key:
m Masonic
w Woodmen of the World

main elements (sills, studs, joists) for building superstructures. Also needed with this technology was siding. Even among the earliest 1840s buildings, this was pine siding from the East Texas forests, which had to be shipped by wagon. With the advent of the railroad and depletion of the prime forest reserves, the large beams needed to produce a status house or barn had to be shipped along with the siding. From the 1870s to the 1880s, the heavy timber framing underwent a transition to lighter braced framing. Large cut nails and spikes were used more frequently, rather than the former dependence on elaborate mortises and tenons.

Recycling of old buildings is a common feature of the rural Texas landscape, even today. Old handmade and transitional pressed brick frequently are torn from brick piers, chimneys, or cisterns and reused along with modern commercial bricks. The large timber frame sills and studs, and even horizontal log buildings were dismantled, moved, and reincorporated into newer buildings, both dwellings and outbuildings.

In the Mountain Creek area, the central hall buildings and mortise and tenon technology indicated that early builders responded to a common mind about how dwellings should be constructed to best serve families. The outbuildings, specifically granaries, were tightly constructed and meant to last for several decades. Even when commercial pine lumber became cheaper and easier to obtain via the railroads, the traditional central hall dwellings and tightly built granaries continued among some farmers. Others began to construct lighter braced and balloon frame buildings, which did not contain the earlier craftsmanship or the strength of the timber frame. In the twentieth century, the original settlers and many of the second generation had passed away. At this time a population shift occurred among the area's farmers with migration into central urban areas. Also, this marked the heyday of the cotton tenant farmer. Dwellings and outbuildings dating to this period were box and strip frame, with all wire nail construction. These followed the double pen and Cumberland floor plans, with enlargements added as family size increased. Subsequent architectural styles revealed an immersion into popular culture derived from the adjacent metropolitan areas. Also, many of the more

Table 18-4
DEMOGRAPHIC DATA RECORDED ON TOMBSTONES NOTING BIRTH AND DEATH IN RELATIVE NUMBERS

Birth		Death	
1798	1858 (3)	1848	1910 (4)
1799	1859 (2)	1852	1911
1801	1860	1855 (2)	1912 (3)
1803	1861 (4)	1856	1913 (2)
1805 (3)	1862 (3)	1857	1914 (3)
1806	1863 (2)	1861	1915 (3)
1807	1864	1862	1917
1809 (2)	1866 (5)	1863	1918 (2)
1810 (2)	1867 (3)	1866	1919 (4)
1812	1868 (3)	1867 (2)	1920
1813	1869 (2)	1868 (5)	1921 (6)
1817 (2)	1870 (5)	1869	1922 (2)
1818	1871 (3)	1870 (2)	1923 (2)
1819	1872	1871 (2)	1924
1820 (3)	1874 (5)	1872	1925
1821 (2)	1876 (2)	1873 (2)	1926 (4)
1822	1877 (3)	1874 (5)	1927
1823	1879 (4)	1876	1928 (3)
1824	1880 (2)	1877	1930
1826	1881 (2)	1878 (7)	1931 (3)
1827 (2)	1882 (4)	1879 (3)	1932
1828	1883 (2)	1880 (2)	1933 (5)
1830	1884 (3)	1881 (4)	1934 (4)
1831	1885 (5)	1882 (4)	1935 (3)
1832	1886 (2)	1883 (2)	1936 (5)
1833 (4)	1887 (2)	1884 (7)	1937 (3)
1835 (2)	1888 (3)	1885 (4)	1939 (2)
1836 (2)	1889 (4)	1886 (4)	1941 (3)
1837 (5)	1890 (2)	1887 (2)	1943
1838 (3)	1891 (2)	1888 (5)	1944
1839 (4)	1892 (2)	1889	1945 (2)
1840 (4)	1893 (2)	1890 (4)	1948
1841 (2)	1894 (4)	1891 (4)	1949
1842 (3)	1895 (3)	1892 (2)	1950
1843 (4)	1896 (2)	1893 (6)	1952 (2)
1844	1897	1894 (5)	1953
1845 (4)	1899 (2)	1895 (3)	1954
1846 (2)	1900 (2)	1896	1956
1847 (3)	1901	1897 (4)	1958
1848 (8)	1903	1898 (3)	1962
1850 (8)	1904	1899 (4)	1966
1851 (2)	1906 (4)	1901 (4)	1967
1852 (2)	1907	1902 (2)	1968
1853	1911	1903 (6)	1971 (2)
1854 (5)	1912 (2)	1904 (6)	1972
1855 (2)	1921	1905	1973
1856 (2	1924	1906 (6)	1974
1857 (2)		1907 (2)	1977 (2)
18		1908 (3)	1979
		1909	

well-to-do farmers moved into urban centers such as Mansfield, Cedar Hill, Grand Prairie, Dallas, or Fort Worth, thus marking the final passage of the agrarian population.

ANALYSES OF HISTORIC ARTIFACTS

19

by

Randall W. Moir and Melissa M. Green

Excavations of the 13 historic sites discussed in Part II yielded over 80,000 artifacts for analysis and review. So far, the assemblages have been presented on a site by site basis and their spatial components discussed in detail when appropriate. In this section of the report, we review in detail six important artifact categories: Fine Ceramic Tablewares (Chapter 20); Window Glass (Chapter 21); Stonewares (Chapter 22); Low Frequency (Chapter 23); Nails (Chapter 24); and Faunal Remains (Chapter 25). Each category is reviewed from a comparative perspective that cross cuts all the sites studied in the Project area. As a result, important temporal, socioeconomic, and ethnic variables are identified for some of the assemblages when certain other considerations are taken into account based on historical and documentary information. For some sites, more realistic approximations of periods of occupations were based on a review of assemblages from well dated contexts elsewhere.

Also in this chapter, we review the classification system used to process the assemblages recovered from Joe Pool Lake historic sites. The scheme is modeled after the one first applied to the Richland Creek Archaeological Project in 1980 (Raab et al. 1981:66, 68-78). It is heavily weighed towards nineteenth and early twentieth century material remains. It involves sorting artifacts first into 13 broad categories based on morphological and/or functional attributes. Once sorted into these classes, more detailed observations were conducted on particular attributes in order to obtain important temporal and cultural information.

The general sorting scheme used for processing artifacts consisting of separating items into twelve general groups based on specific physical attributes or morphological/functional associations. For particularly fragmentary, troublesome, or unimportant items, a thirteenth catchall category was used. Table 19-1 lists the thirteen major artifact groupings along with their important subclasses.

CLASSIFICATION SCHEME

Each of the 13 major artifact classes relied on a coded sheet for identifying and recording specific attributes. These sheets, often called *templates*, were used to standardize observations and select appropriate numerical codes for listing on computer sheets. The templates served as guides for each laboratory member and a type collection provided examples for comparison when questions arose over a particular artifact type or attribute variant. Physical measurements and contextual information were recorded for every artifact. Items from the same subprovenience (excavation unit and level) were lumped together when physical attributes were similar and separation offered no new information.

Attribute identifications for ceramic and glass vessels as well as many architectural items involved many fine subdivisions in comparison to some other items (e.g., iron machine parts, etc.). Consequently, templates for these artifact categories contain numerous

Table 19-1
MAJOR ARTIFACT GROUPINGS AND SUBGROUPINGS USED TO SORT AND CLASSIFY HISTORIC ARTIFACTS ON THE JOE POOL LAKE PROJECT

1. Ceramic Vessel Fragments
   1. Coarse earthenwares
   2. SemiCoarse earthenwares
   3. Refined earthenwares
   4. Stonewares
   5. Porcelains

2. Glass Vessel Fragments
   1. Bottle and fruit jars & caps
   2. Table glass
   3. Glass lamp and globe parts
   4. Unidentifiable glass

3. Architectural Remains
   1. Nails
   2. Staples and screws
   3. Brick
   4. Cement, mortar, concrete, cinder blocks
   5. Window and other flat glass
   6. Building materials and hardware
   7. Wire

4. Personal Items
   1. Buttons
   2. Hooks and fasteners
   3. Buckles and belts
   4. Shoe parts
   5. Smoking equipment
   6. Doll parts
   7. Toys (excluding dolls)
   8. Coins and tokens
   9. Sewing equipment
   10. Mirrors and makeup cases
   11. Combs, brushes, hair pins, curlers, hair clips
   12. Records
   13. Jews harp
   14. Jewelry
   15. Harmonica
   16. Eye glasses and parts
   17. Lock and lock plates
   18. Thermometer
   19. Key
   20. Bell
   21. Ruler
   22. Reed, wind and bellow instruments (excluding #13 and #15 above)
   23. Furniture and parts
   24. Caps
   25. Coat hanger
   26. Watches, clocks, and parts
   27. Clothing
   28. Writing implements
   29. Hygenic equipment
   30. Decorative metal seals
   31. Electrical cosmotology equipment
   32. Purses, coin purses, and parts
   33. Coasters

5. Faunal Remains
   1. Bone
   2. Teeth
   3. Shell
   4. Horn
   5. Egg shell
   6. Seeds, pits
   7. Gizzard stones (faunal only)
   8. Gastropod
   9. Scales
   10. Otoliths
   11. Corn cob

6. Tin Cans and Thin Metal
   0. Possible tin can part
   1. Tin can and tin can parts
   2. Thin unidentifiable metal
   3. Fruit jar caps
   4. Thin cast iron or solid metal
   5. Wire handles to buckets, paint cans, etc.
   6. Crown cap
   7. Unidentifiable thin metal rods
   8. Tin can keys and openers
   9. Was not used
   10. Hutchinson stopper
   11. Chain (other than personal, architectural, horse and stable or farming)
   12. Non fruit jar screw caps
   13. Thin unidentifiable tubing, hollow rods
   14. Metal snap-on cap
   15. Unidentifiable metal gadgets
   16. Pull tabs
   17. Thermos tops, stoppers, and parts

7. Heavy Iron Parts
   10. Misc. unidentifiable heavy iron parts
   11. Bucket
   12. License plate
   13. Eye bolt, hook screw
   14. Iron pipe cap/plug
   15. Tractor attachment parts
   16. Braces and brackets
   17. Wash tub handle
   18. Car trailer hitch
   19. Cast iron cooking vessels/accessories
   20. Misc. unidentifiable rods or straps
   21. Large pointed rod
   22. Spiral twisted rod
   23. Weights and scales
   24. Decorative metal plate
   30. Misc. unidentifiable heavy machine parts
   31. Iron toothed wheels or gears
   40. Cast iron stove parts
   50. Iron bolts
   51. Iron nuts
   52. Iron washers
   53. Wing nuts
   54. Heavy iron hooks
   55. Iron handle
   56. Heavy iron rivet
   57. Padlock
   60. Carriage wheel sleeves

Table 19-1 — (*continued*)
MAJOR ARTIFACT GROUPINGS AND SUBGROUPINGS USED TO SORT AND CLASSIFY HISTORIC ARTIFACTS ON THE JOE POOL LAKE PROJECT

61. Barrel hoops
69. Heavy iron rings
70. Iron chain links
80. Plow blade fragments
81. Iron sickle blade holder
90. U shaped iron bracket
91. Iron car parts
92. Screened filters
93. Ball bearings
94. Iron swivel
95. Iron cable
96. Faucet head
97. Fan blades and parts
98. S hooks

8. Fuel Remains
   1. Coal
   2. Lignite

9. Hand Tools and Implements
   A. Silverware
   B. Kitchen
   C. Other household items
   D. Other knives and accessories
   E. Fishing and hunting
   F. Gardening
   G. Tools

10. Fire Arms
   1. Rimfire cartridge
   2. Center fire cartridge
   3. Center fire shot gun shell
   4. Bevelled repeater type shell
   5. Plastic shot gun shell, center fire
   6. Bullet only
   7. Skeet
   8. Plastic wadding
   9. Grape shot
   10. Lead shot
   11. Percussion cap

11. Horse and Stable Gear
   1. Horse shoe
   2. Horse shoe nails
   3. Harness buckles
   4. Cooper alloy rivets
   5. Iron snap
   6. Snap, chain, buckle, ring
   7. Cow bell
   8. Bit
   9. Horse brush
   10. Livestock tie ring
   11. Livestock tie ring rivet
   12. Leather (bridles, saddle, etc.)
   13. Spur

12. Electrical Parts
   1. Large black battery core
   2. Battery casing
   3. Electrical wire
   4. Glass insulators
   5. Porcelain or stoneware insulators
   6. Electrical motor parts
   7. Wire insulation
   8. Small batteries and small battery cores
   9. Light bulb fragments
   10. Spark plug from an automobile
   11. Small penlight batteries
   12. Electrical terminal and parts
   13. Electrical switches
   14. Electrical tubes
   15. Battery graphite
   16. Ceramic light fixture
   17. Fuses
   18. Other electrical glass
   19. Large battery
   20. Electrical plug
   21. Metal base to light bulbs
   22. Wire nuts
   23. Flashlight
   24. Antenna
   25. Alligator clips

13. Other Miscellaneous Items
   1. Charcoal and/or burned wood
   2. Misc. modern plastic
   3. Lead
   4. Misc. plated copper alloy
   5. Unidentifiable brittle bakalite
   6. Rubber based composition
   7. Unidentifiable copper alloy cast part
   8. Cinder and/or slag
   9. Iron shaft with coiled copper wire
   10. Misc. sulphur
   11. Aluminum
   12. Tar
   13. Slate
   14. Aluminum refrigerator parts
   15. Envelope or paper
   16. Industrial waste
   17. Ivory
   18. Other misc. non-iron unidentifiable metal
   19. Unidentifiable leather items
   20. Was not used
   21. Glass refrigerator parts
   22. Burned earth or clay
   23. Glass rods
   24. Limestone
   25. Rope
   26. Unidentifiable ceramic pieces/hardware
   27. Magnet
   28. Cork
   29. Unidentifiable material (cloth)
   30. Unidentifiable object/material
   31. Styrofoam
   32. Non-iron pipe and attachments
   33. Non-iron washers
   34. Valve stem
   35. Polished stone vessel
   36. Bicycle chain parts
   37. Car belts, gaskets, and other non-iron car parts
   38. Non-iron machine parts
   39. Cotton balls
   40. Copper wire cable
   41. Ball chain and parts
   42. Carpet fiber
   43. Cocktail and swizzle sticks
   44. Graphite

Figure 19-1. Class 1 Ceramics Template.

UNIT____, LEVEL____, UNIQUE____, ENDING DEPTH____, ARTIFACT COUNTS____, NS GRID____, EW GRID____, ARTIFACT CLASS____, SUBCLASS____, TYPE____, MAJOR DECORATION____, MINOR DECORATION____, COLOR OF DECORATION____, CRAZING____, VESSEL MORPH.____, BEGIN DATE____, ENDING DATE____, ACCURACY____, BURNED____, SIZE COEF.____, ASSOC.____, RECORDER____

SUBCLASS

1. Coarse earthenwares
2. Semi-coarse earthenwares
3. Refined earthenwares
4. Stonewares
5. Porcelains

TYPE

coarse earthenwares:

1. Tin enameled, soft bodied
2. Redware, soft bodied and glazed
3. Buffware, soft bodied
4. Tin enameled, high fired
5. Redware, unglazed coarse
6. Buffware, unglazed coarse
7. Red/brown redware, clear glazed exterior with white slipped interior (1895-1930); (I)
8. Bennington Type Earthenwares; *(II)*

semi-coarse earthenwares:

1. Plain or clear glazed coarse yellowware, not molded
2. Mottled Bennington type brownish glazed yellowware
3. Mottled Rockingham type high fired vitrified yellowware
4. Plain or clear glazed coarse yellowware, molded
5. Imitation majolica

refined earthenwares:

1. Dark creamware
2. Creamware
3. Light creamware
4. Pearlware
5. Transitional pearlware, early whiteware (1820-1870)
6. Ironstone whiteware (1940-1910)
7. Bluish tint high fired Mason's type ironstone (1850-1910)
8. Bluish tint ironstone, not vitrified *(1850-1910)*
9. Pure white whiteware (1890-1985)
10. Dark tinted and colored glazed whiteware (Fiestawares, etc.; 1930-1960)
11. Unknown, often burned
12. Flow blue (1840-1870)
13. Ivory tinted whiteware (1920-1985); (I)
14. Very light blue tinted whiteware (*1880-1930*); (I)
15. Deep ivory tinted whiteware (1930-1985); (I)
16. Tinted whiteware (colored paste, clear glaze; foreign); (II)
17. Imitation Flow Blue (1890-1925); (II)

stonewares:

1. Salt glazed stoneware (glazed exterior; includes all salt glazed varieties *except number 14 below*)
2. Opaque "Bristol" slipped stoneware
3. Dark slipped stoneware (slipped exterior or exterior and interior)
4. Unglazed dry bodied stoneware
5. Britain type brown stoneware (1820-1920)
6. Clear glazed stoneware
7. Bright blue exterior stoneware with buff body
8. Brown slipped stoneware (slipped interior only)
9. Local light brown or beige stoneware (1890-1930); (I)
10. Greenish alkaline glazed stoneware (1840 -1890); (I)
11. Unknown; no exterior surface present; (I)
12. Two tone slipped exterior; (I)
14. Grey salt glazed stoneware with dark slipped interior (1840-1910; acc=2); (I)
15. "Bristol" stoneware with bluish tint (cobalt dec.); (II)
16. Bennington type; *(II)*

porcelains:

1. Bluish grey tinted porcelain
2. Off white or light tinted porcelain
3. Pure white tinted porcelain
4. Unknown; generally burned; (II)

MAJOR AND MINOR TYPES OF DECORATION

1. None
2. Slipped or glazed exterior
3. Slipped or glazed interior
4. Thick applied slip banding
5. Thin hand painted banding, not located on rim
6. Hand painted motif
7. Sponge or spatterware
8. Stenciled
9. *Transfer printed*
10. Floral decalcomania on whitewares or porcelains only (1895-1950)
11. Relief molded, body sherds and rims only
12. Shell rim variants, plain rim (1840-1880)
13. Luster
14. Gilded (1890-1985)
15. *Royal rim variant*
16. Shell rim variants, cockled rim (1780-1840)
17. Hand painted single rim band
18. Molded polygon
19. Colored exterior glaze or wash (Fiestawares)
20. Cobalt blue mocha type swirls on semi-coarse yellowwares only (1860-1900)
21. Maker's mark
22. Impressed
23. Finger pinched
24. Geometric decalcomania on whitewares or porcelains only (1940-1985); (I)
25. Tea leaf copper luster, under glaze (1880-1910); (I)
26. Two-tone slipped exterior; (I only)
27. Grey salt glazed stoneware/dark slipped interior (1840-1910), acc=2; (I only)
28. Tan/buff thin salt glaze; (I only)
29. *Mottled iron oxide exterior salt glaze; (I only)*
30. Banded ware; (II)
31. 78 rpm dec; (II)
32. 2 or more decorations; (JP)
33. Painting, overcoating (Folk Americana); (JP)
34. Very light glaze/wash on refined earthenwares or porcelains only; (JP)
35. Incised; *(JP)*

COLOR OF DECORATION

0. None; (II)
1. Polychrome
2. Light blue
3. Blue
4. Dark blue
5. Brown
6. Cranberry
7. Purple
8. Pink
9. Red
10. Light green
11. Green
12. Dark olive green
13. Black
14. Bluish green
15. Light yellow
16. *Bright yellow*
17. Tan/beige
18. Gold
19. Silver
20. Gray
21. White
22. Copper
23. *Off white (for tinted only; 1920-1985)*
24. Opaque; (I)
25. Mustard; (I)
26. Mottled yellowish green; (I)
27. Orange; (I)
28. Clear; (I)
29. Unknown; (I)
30. Mottled blue gray/beige; *(II)*
31. Rust; (II)
32. Mottled yellowish-brown; (II)

CRAZING

1. Not looked at (for stonewares only)
2. Crazed
3. Not crazed
4. Unidentifiable
5. N/A (no glaze present)

VESSEL MORPHOLOGY (rim sherds only)

0. Not diagnostic (not a rim sherd)
1. Flatware
2. Holloware

LEVEL OF ACCURACY

1. Excellent datable diagnostic
2. Possible or questionable date bracket
3. Not datable except in broad bracket
4. Date unknown
5. Discarded in field; (III)

BURNED

1. Not burned
2. Burned
3. Heat fractured; (I)
4. Melted; (I)
5. Digested (i.e., gizzard stones); (I)

SIZE COEFFICIENT FOR UNIT

2500 cm^2/LxW of Unit

ASSOCIATION

1. Sheet refuse
2. Feature
3. Unknown
4. Grab sample; (I)
5. Tiller test unit for breakage counts; (I)
6. Control unit for breakage counts; (I)
7. SMU or IMU under standing structure; (I)
8. Controlled surface collection; (I)
9. Architectural sample; (I)
10. Fine screen; (II)
11. Surface collection; (III)
12. 1 X 1 m over excavated SMU (area coef.=.33); (III)
13. 1 X 1 m in unexcavated trns (area coef.=.25); (III)
14. 100% sample collected feature (SS); (III)
15. Selective sample collected from feature (NS); (III)
16. 1 x 1 m artifact rain (coef.=.33); (JP)
17. 50 x 50 cm artifact rain; (JP)
18. Testing units NTSU 1979-1980
19. 1 x 1 m judgemental feature exploration unit *(100% sample; coef.=.33); (JP)*
20. 2 x 2 m judgemental feature exploration unit (100% sample; coef.=.06); *(JP)*
21. Backhoe trench judgemental feature exploration (100% sample); (JP)
22. Backhoe trench judgemental feature exploration (<100% sample); (JP)
23. 50 x 50 cm in a feature, systematically excavated with assigned strata 1; *(JP)*
24. 50 x 50 cm in a feature, systematically excavated with assigned strata 2; (JP)
25. 50 x 50 cm in a feature, systematically excavated with assigned strata 3; (JP)
26. 50 x 50 cm in a feature, systematically excavated with assigned strata 4; (JP)
27. 50 x 50 cm in a feature, systematically excavated with assigned strata 5; (JP)
28. *50 x 50 cm in a feature, systematically excavated with* assigned strata 6; (JP)
29. 50 x 50 cm in a feature, systematically excavated with assigned strata 7; (JP)
30. 50 x 50 cm in a feature, systematically excavated with assigned strata 8; (JP)
31. Slump in feature, strata 99; (JP)
32. 3 x 1 m hand trench (coef.=.08); *(JP)*
33. Shovel test; (JP)
34. 50 x 50 cm in a feature, systematically excavated with assigned strata 9; (JP)
35. 50 x 50 cm in a feature, systematically excavated with assigned strata 10; (JP)

RECORDER'S NAME

1. Randy M.
2. Bill W.
3. Marilee I.
4. Eric B.; (I)
5. John P.; (I)
6. Jim T.; (I)
7. Peggy M; (I)
8. Leslie O.; (I)
9. Janna W.; (I)
10. Dante C.; *(I)*
11. Sue G.; (I)
12. Nancy S.; (I)
13. Jeff B.; (I)
14. Susan L.; (I)
15. Dee Dee D.; (I)
16. David J.; (I)
17. Dana C.; (I)
18. Esther R.; (I)
19. Dan H.; (II)
20. Debbie C.; (I)
21. Deborah C.; (II)
22. Doug R.; (II)
23. Melissa G.; *(II)*
24. Arlan K; (II)
25. Sheila M.; (II)
26. Donna S.; (II)
27. Kim J.; (II)
28. Diana D.; (II)
29. Debbie M.; (III)
30. Keith L.; (III)
31. Gary M.; (III)
32. Harriet S.; (III)
33. Liz H.; (III)
34. Gemma M.; (JP)
35. Mark C.; (JP)
36. Richard S.; (IV)
37. Kay T.; (JP)
38. Sylvia K.; (IV)

UNIT, LEVEL, UNIQUE NUMBER, ENDING DEPTH, ARTIFACT COUNTS, NS GRID, EW GRID, ARTIFACT CLASS, SUBCLASS, COLOR, SHERD TYPE, DECORATION, TEMPORAL DIAG., LIP FINISH, SPECIAL V. TYPE, BEGIN DATE, ENDING DATE, ACCURACY, BURNED, SIZE COEF., ASSOC., RECORDER, VESSEL MORPH., ___, ___, ___

Figure 19-2. Class 2 Vessel Glass Template.

SUB CLASS
1. Bottle and fruit jar glass & caps
2. Table glass
3. Glass lamp and globe parts
4. Unidentifiable glass

GLASS COLOR
1. Clear
2. Manganese solarized (1880-1920)
3. Dark green to blackish olive green
4. Medium olive green
5. Light yellowish olive green
6. Emerald green, bright green (for bottles only; 1930-1985)
7. Light green
8. Aqua, light or dark
9. Dark blue or cobalt blue
10. Brown (snuff, beer, claret, etc.)
11. Light golden brown/amber/honey
12. Pink
13. Red
14. Purple
15. Translucent, opalescent milk glass
16. Pure white, milk glass
17. Foggy, vaseline colored glass
18. Very slight purple/pink tint (1880-1920; see=2)
19. Crystal blue
20. Opaque powder blue glass, blue tinted milk glass
21. Green colored milk glass
22. Clear glass with greyish ash tint (1915-1985; see=2); (I)
23. Ivory tinted milk glass; (I)
24. Yellow; (I)
25. Black; (II)
26. Forest Green; (II)
27. Lt. Green, aqua, blue; (III)
28. Brown, amber, honey; (III)
29. Orange; (JP)

SHERD TYPE
1. Lip/rim/neck
2. Body
3. Base
4. Handle
5. Fruit jar inset cap
6. Seal for wine bottle
7. Whole vessel
8. Glass stopper
9. Fruit jar cover
10. Lid/cover for table glass only; (I)
11. Lid/cover for bottle or jar; (I)
12. Pedestal for tableware vessel; (JP)
13. Finial for tableware vessel; (JP)

DECORATION
1. Plain, undecorated
2. Embossed maker's mark, brand name or lettering
3. Applied enamel mark or label (post 1930)
4. Wheel engraved
5. Pressed glass (Table glass)
6. Expanded mold glass (blown glass)
7. Rough acid etched pressed depression glass (1920-1950)
8. Mixed glass colors
9. Relief decorated (Bottle glass)
10. Flashed glass (clear glass dipped and coated with a different color)
11. "Iridescent" carnival type glass
12. Painted
13. Gilded
14. Corrugated Pattern or neck, shoulder,body; (II)
15. Milled, roulette; (JP)

TEMPORAL DIAGNOSTICS: (Numbers in brackets refer to codes used during survey/testing only; see ARP 1981a)
1. No temporal diagnostics present

pontils:
2. Negative scar (1600-1880) (2)
3. Solid glass rod or glass tip (1600-1880)(3)
4. Ring or hollow shaft (1820-1890)(4)
7. Fire polished (1840-1890)(8)
10. Graphite tipped pontil (1870-1885)(22)
11. Bare iron pontil nipple (1845-1875)(30)
88. Push up; (JP)

mold seams and bases:
5. Snap case (1850-1900) (6)
6. Post bottom plate mold (1820-1890)(7)
8. Large owens ring (1910-1985) (9)
9. Value mark (1930-1945)(10)
16. Corrugated pattern on or near the base only (1940-1985)(12)
17. Ground base (20)
18. Bottom hinged mold (1820-1880)(26)
19. Sunburst pattern on base of tumbler (33)
20. Flat base to pedestal type vessel; (I)
21. Cup bottom mold (1850-1900); (II)
25. Machine made bottle base (if large owens ring or valve mark is present, see #8 or #9 above; 1910-1985)(11)

necks/lips/finishes:
25. Machine made bottle neck or lip excluding those with cork closures (1910-1985)(11)
26. Machine made cork closure bottle neck or lip excluding wine or snuff bottles (1910-1985)(11)
27. Minimally or not tooled applied string rim (1600-1810)(17)
28. Finely tooled applied string rim (1790-1860)(18)
29. Applied string rim with folded lip(1800-1850)(19)
30. Ground lip (21)
31. Applied lip with twisted neck (1810-1880) (25)
32. Crudely tooled finish/lip, non string applied (1840-1860) (13)
33. Non applied turn molded lip/finish (1880-1910) (15)
34. Finely tooled lip finish turned in lip mold (applied lip 1850-1890) (14)

body sherds:
41. Turned in paste mold, neck or body (1880-1910 (16)
42. Embossed panel bottle (1860-1900) (31)
43. "Whittle marks" or cold mold marks (1840-1900), (I)
107. Non-embossed panel bottle (1860-1900); (JP)

fruit jar related:
45. "Genuine Boyd" fruit jar inset caps (1900-1950) (23)
46. Other types of fruit jar inset caps (1870-1930) (24)
47. Aqua, green, etc. continuous thread fruit jars excluding clear fragments and ground lips (1905-1935); (I)
48. Aqua, green, etc. continuous thread fruit jars with beaded seals (1915-1935); (I)
49. Aqua, green, and other colored fruit jar sherds including other lip/closure type pieces and plain and embossed body sherds; do not include continuous thread and lightning bail closures in this category (1890-1920); (I)
50. Lightning bail type lip/closure fruit jar sherds from clear, aqua, green, etc. jars (1882-1940); (I)
51. Clear fruit jar sherds including other lip/closure type pieces and plain and embossed body sherds; do not include continuous thread and lightning bail closures in this category; (1920-1985); (I)
52. Aqua, green, etc. round fruit jar base (1870-1925); (I)
53. Clear rounded square fruit jar base (1925-1985); (I)
54. Aqua, green, etc. other fruit jar bases; (II)
97. Clear round fruit jar bases; (II)
98. Clear continous thread fruit jars (1870-1985); (II)
106. Colored continuous thread fruit jars with ground lip; (II)

snuff related:
55. Well rounded snuff bottle bases and/or sides(1920-1965); (I)
56. Semi-rounded snuff bottle bases and/or sides(1890-1940); (I)
57. Sharp angular snuff bottle bases and/or sides(1860-1910); (I)
58. Chamfered cornered snuff bottle bases and/or sides with beaded lip(1870-1920); (I)
59. Hand finished snuff bottle bases and/or sides with beaded lip (1870-19200; (I)
60. Clear interior ribbed tableglass, snuff type tumblers (1900-1985); (I)
100. Machine made beaded snuff bottle lip, shape of bottle unidentifiable; (II)
101. Snuff bottle pieces (lip, body or base, type unknown); (II)

tableglass:
65. carnival glass (1910-1935) (28)
66. Depression type pressed glass (1920-1950)(29)
67. Hob nob glass; (I)

other:
70. milled body sherd for bottle/tumbler type vessel (1900-1930)(27)
71. Glass stopper (32)
104. Pedestal for tableware vessel; (JP)
105. Finial for tableware vessel; (JP)

maker's marks:
75. "Duraglass" in script (1940-1963); (I)
76. "Duraglass" printed (1964-1985); (I)
77. Hazel Atlas (1920-1964); (I)
78. Owens-Illinois (1929-1954); (I)
79. Anchor-Hocking Maker's Mark (1938-1985); (I)
80. Maker's mark (1954-1985); (I)
81. Owens (1911-1929); (I)
82. Knox Glass Bottle Company (1917-1956); (I)
83. Illinois (1916-1929); (I)
84. Obear-Nester Glass Company, (1915-1985); (I)
85. Knox Glass Bottling Company, Sheffield,Pa. (1932-1951); (I)
86. Pierce Glass Company (1905-1917); (I)
87. Knox Glass Bottle company, Jackson, Ms.(1932-1953); (I)

LIP FINISH TYPE
1. Unidentifiable lip or not applicable
2. Narrow blob top or handmade beer; early pre-crown type
3. Oil types; H. crown (handmade 1892-1920; machine made1905-1985)
4. Crown (handmade 1892-1920; machine made 1905-1985)
5. Rounded ring bead
6. Packer's squared ring
7. Brandy
8. Champagne/wine
9. Hutchinson stopper or Baltimore Loop (wide blob top; handmade 1880-1910)
10. Prescription type with flaired lip
11. Double ring (large over small; hand finished 1850-1920; machine 1910-1940)
12. Double ring (both rings are of equal size)
13. Widely separated double ring (pressure types)
14. Continuous thread
15. Lug type thread
16. Plain or sheared neck without lip
17. Very slight packer's lip
18. Inset cap for milk bottle
19. Snuff lip
20. Lamp globe bob nail rim
21. Lamp globe rim, fluted variant
22. Folded rim
23. Small bead rim
24. Triple ring (double ring over a single rim; machine made 1910-1940)
25. Slide cap rim
26. Packer's square ring over a single ring
27. Modern lug or continuous thread lip finish (ask before using this category; see # 14 and # 15); (II)
28. Double bead over collar; (II)
29. Lightning bail; (II)
30. Commercial Packers; (III) (Lip Fin=3,5,6,11,12,13,23,24,26)
31. Fruit jars (Temp Diag >44 & <55; > 98 & 106); (III)
32. Beverages (Lip Fin=2,4,9); (III)
33. Liquor (Lip Fin=7); (III)
34. Wine (Lip Fin=8); (III)
35. Milk jars (Lip Fin=18); (III)
36. Other Bottle (Lip Fin=10,16,19,25); (III)
37. Continuous (Lip Fin=14); (III)
38. Lug (Lip Fin=15); (III)
39. Continuous or Lug (Lip Fin=27); (III)
40. Brandy over two rings; (III)
41. Machine made special type; (JP)
42. Beer lug type, short neck, twist off (post 1965); (JP)
43. Machine made, flared lip over small ring; (JP)
44. Ring bead with flared base; (JP)

VESSEL MORPHOLOGY (For rim and/or neck sherds only); (II only)
0. Not applicable (i.e., not a rim and/or neck sherd) (lip finishes #20,21,22)
1. Wide mouth vessel (lip finishes #14-16,19,27,29)
2. Small mouth vessel (lip finishes #2-18,23-28,30, 40-44)
3. Indeterminate

SPECIAL VESSEL TYPE
1. Fruit jar, canning jars (includes all fruit/ canning jar sherds, lids and inset caps)
2. Snuff bottle sherds (include lips and bases only; do not include body sherds)
3. All other vessel glass (include bottle, table lamp, and unid. glass)
4. Possible brown snuff bottle sherds (include body sherds, do not include brown panel bottle sides); (II)
5. Possible clear snuff bottle sherds (include interior ribbed sherds); (II)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

Figure 19-3. Class 3 Architectural Remains Template.

SUB CLASS
1. Nails
2. Staples and screws
3. Brick (counted/weighed in the field; transfer information to laboratory data sheets)
4. Cement, mortar, concrete, cinder blocks (counted/weighed in the field; transfer information to laboratory data sheets)
5. Window and other flat glass
6. Building materials and hardware
7. Wire (all wire fragments during the 1983/84 field season were counted/recorded in the field; this information was transferred to the laboratory data sheets for each unit); (III)

NAILS

types
1. Wrought (these are rare)
2. Machine cut (1840-1900)
3. Wire (1880-1985)
4. Cast (these are rare)
5. Unidentifiable (i.e., it is not possible to determine type)

nail types:
1. Common
2. Finish
3. Roofing
4. T-headed
5. L-headed
6. Railroad spike
7. Unknown (not possible to identify)
8. Tack
9. Other types of spikes; (II)

size
Broken nails: record 0 (zero) then skip to size bracket category and record estimated size range

Whole nails: use nail box to determine length in mm; record length, and skip to size bracket category and record 0 for complete nails

Size bracket (BROKEN)
0. Whole
1. Unknown
2. Small (2-4cm)
3. Common (4-10cm)
4. Spike (greater than 10 cm)

special types:
0. Not applicable (i.e., does not fall in one of the following categories
1. Early machine cut tack
2. Early machine cut nail
3. Roofing nail with medium head and lead washer
4. Roofing nail with a large head
5. Roofing nail with a pressed head
6. Nail with large stamped lead head
7. Dry wall tack; (I)
8. Wall paper backing tack; (I)
9. Cardboard tack; (I)
10. Shank nail with applied head; (JP)
11. Two-headed nail; (JP)

STAPLES AND SCREWS
1. Large wire staple (e.g., fence staple)
2. Handmade wood screw (no point)
3. Machine made wood screw
4. Thin wire staple
5. Machine made screw (non-wood screw); (II)
6. Large Staple (not fence); (II)
7. Cotter Pin; (II)
8. Wood Staple; (II)

BRICK
All bricks and brick fragments recovered during the 1983/84 field season were counted, weighed, and recorded in the field; this information was then transferred to the laboratory data sheets for each unit.

types:
0. Type unknown, color not recorded in field; (III)
1. Red, reddish brown or pinkish in color
2. Orange, dark orange, or yellowish buff in color
3. Gray; (II)

major use:
1. Common brick (this will be by far the most frequent category)
2. Fire brick (brick designed for use in chimney flues, etc.; not to be confused with the common brick found used in walkways, outsides of buildings, etc.)
3. Wedge shaped well or cistern brick (not to be confused with common brick used in wells or cisterns)
4. Mold decorated brick
5. Kiln waste (clinkers, glazed clinkers, misc. brick pieces produced during the manufacturing process; wasters)

style of manufacture:
1. Handmake (1840-1900; appears as crudely made bricks; often with numerous inclusions and sides that do not form a 90° angle)
2. Molded machine pressed brick (most common type) 1890-1985 (date added; JP)
3. Ripple smeared cut machine made brick
4. Unknown (i.e., unidentifiable)
5. Red brown transitional (1890-1900); (JP)

additional comments:
1. Plain, unglazed, or unidentifiable (i.e., no decoration, glaze or maker's marks are present; clarified Season II)
2. Glazed
3. Burned, defective, warped, or over fired
4. Mortar attached to brick or brick fragment

maker's marks:
see brick typology list for maker's marks identified in the project area. Assign appropriate coding number.
99. No maker's mark is present
100. Maker's mark is present, but is unidentifiable; (II)

weight:
record weight in tenths of grams

CEMENT, MORTAR, CONCRETE, CINDER BLOCK
Artifacts in this category were counted, weighed, and recorded in the field during the 1983 season and this information transfered to the laboratory data sheets.
1. Cinder block, cinders, etc. inside mix
2. Regular cinder block
3. Cement, mortar, concrete
4. Sandstone (chimney base material); (II)
5. Siltstone, sandstone piers; (JP)

weight:
record weight in tenths of grams

WINDOW AND OTHER FLAT GLASS
1. Regular flat glass (i.e., thickness is less than 3.3mm)
2. Plate glass, not safety glass
3. Plate glass, safety glass
4. Plate glass, wire mesh reinforcement (I)
5. Complete window pane; (I)
6. Frosted or patterned window glass (e.g., bathroom window glass with raised decoration designed to be non-see-through)
7. Decorative window or door glass; (I)
8. Melted (unmeasureable); (JP)

thickness:
Record thickness in tenths of millimeters

color:
1. Clear, grayish clear
2. Aqua, light green, etc. (not to be confused with category 6 above)
3. Manganeze solarized (1880-1920); (I)
4. Yellowish tint (straw colored); (JP)

OTHER BUILDING MATERIALS AND HARDWARE
1. Asphalt shingles, crushed rock (1910-1985)
2. Wood shingles
3. Tar paper
4. Corrugated iron
5. Sheet iron
6. Sheet rock
7. Wood boards
8. Iron building hardware (i.e., building hardware that does not fit into one of the following categories)
9. Other metal (i.e., non-iron) building hardware (i.e., building hardware that does not fit into category 8 or one of the following categories)
10. Linoleum
11. Rubber based composition tiles
12. Slate for roofs or floors (distinguish between slate used for building and slate used for chalk or slate boards)
13. Door knobs, porcelain (white)
14. Door knobs, agate (mixed brown and red clay; 1860-1920)
15. Door hinges
16. Fine ceramic tile
17. Asbestos tile
18. Ceramic pipe (e.g., ceramic drainage pipe)
19. Porcelain bathroom furniture and fixtures (e.g., sink, toilet, bathtub, and parts)
20. Door parts, lock plate (exclude hinges; #15, door knobs; #13, 14, 29)
21. Coarse ceramic heating tile
22. Door or window screen; (I)
23. Particle boards; (I)
24. Marble cut stone; (I)
25. Wall paper; (I)
26. Window sash weight; (I)
27. Window glazing points; (I)
28. Ornamental ridge pieces; (I)
29. Iron door knob; (I)
30. Window frame peg, wooden; (I)
31. Window shade rod; (I)
32. Wooden posts; (I)
33. Metal bathroom/household fixture parts; (II)
34. Gate hinge; (II)
35. Plaster; (JP)
36. Corrugated nails; (JP)
37. Paint flecks; (JP)
38. Wooden piers; (JP)

WIRE
1. Barbed wire
2. Plain wire
3. Hog wire; (I)
4. Probable wire (including thin iron rods); (I)
5. Unknown (not recorded in field); (II)
6. Chicken wire; (JP)
7. Decorative fence wire; (JP)

barb type:
1. Not applicable (i.e., not barbed wire)
2. Baker's barb (single twist; front is double, back is single)
3. Barb wire (front is triple, back is double)
4. 4 points sheet metal plate
5. Unknown (not recorded in field); (II)
6. 4 front, 2 back; (II)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

CLASS 3 ARCHITECTURE

Figure 19-4. Class 4 Personal Items Template.

SUB CLASS
1. Buttons
2. Hooks and fasteners
3. Buckles and belts
4. Shoe parts
5. Smoking equipment
6. Doll parts
7. *Toys (excluding dolls)*
8. Coins and tokens
9. Sewing equipment
10. Mirrors and makeup cases
11. Combs, brushes, hair pins, curlers, hair clips, etc.
12. Records
13. Jews harp
14. Jewelry
15. Harmonica plates
16. Eye glasses and parts
17. Lock and lock plates
18. Thermometer
19. Key
20. Bell
21. Ruler
22. Reed, wind and bellow instruments (excluding #13 and #15 above); (I)
23. Furniture and parts; (I)
24. Caps; (I)
25. Coat hanger; (I)
26. Watches, clocks, and parts; (I)
27. *Clothing; (I)*
28. Writing implements; (I)
29. Hygenic equipment; (I)
30. Decorative metal seals; (II)
31. Electrical cosmotology equipment; (II)
32. Purses, coin purses and parts; (JP)
33. Coasters; (JP)

MATERIAL
1. Volk glass
2. Porcelain, glazed
3. *Porcelain, dry*
4. Shell, mother of pearl
5. Copper alloy, unplated
6. Copper alloy, plated
7. White metal
8. Lead
9. Iron
10. Rubber, early black
11. Bone
12. Bone or vegetable ivory
(use this category only if you know it is ivory, or are unsure *if it is ivory or bone;* if you know it is definately bone put in #11)
13. Wood
14. Plastic, bristle or bakalite
15. Glass
16. White pipe clay
17. Earthenware, glazed
18. Earthenware, unglazed, dry
19. Stoneware, salt glazed
20. Stoneware, alkaline
21. Stoneware, unglazed, dry
22. Leather
23. Plastic composition (1930-1985; buttons, records, etc.)
24. Rubber based composition
25. Chrome
26. Cloth; (I)
27. Gold; (I)
28. Chalk; (I)
29. Wax based composition; (I)
30. Slate; (I)
31. Coin silver; (I)
32. Aluminum; (I)
33. Unidentifiable; (II)
34. Glazed Stoneware; (II)
35. Graphite; (II)
36. Brass; (II)
37. Cotton; (JP)
38. Stainless steel; (JP)
39. Stone; (JP)
40. Nickel; (JP)

BUTTONS:
1. Single center hole, cloth backed
2. Two holed
3. Three holed
4. Four holed
5. Shank
6. Stud (include cufflinks)
7. Unknown; (II)

HOOKS AND FASTENERS:
1. *2-piece jean rivets*
2. Single piece true rivet
3. Snap lock plate
4. Suspender parts
5. Hook and/or eye
6. Zippers and zipper parts
7. Garters and garter parts
8. Safety pins (large and small; include baby diaper pins); (I)
9. Tacks and push pins (do not include architectural or shoe fastners; (I)
10. *Tarpoline fastners; (I)*
11. Unidentifiable; (I)
12. Hasps; (II)
13. Snaps; (II)
14. S-hooks (do not use; see Template 7); (JP)

BUCKLES, BELTS AND PARTS:
1. Belt buckle
2. Leather belt parts
3. Strap buckle; (I)
4. Cloth belt parts; (I)
5. Other belt parts; (I)

SHOE PARTS:
1. Eyelets
2. Sole and/or heel
3. Undifferentiated (ask before using this category)
4. Hook for lacing
5. Shoe lasts
6. Shoe horn; (I)
7. Upper shoe parts; (I)
8. *Shoe tacks or nails; (I)*
9. Inner sole; (II)
10. Heel tap; (II)
11. *Laces and parts; (JP)*

SMOKING EQUIPMENT:
1. Tobacco pipe or parts
2. Cigarettes or parts
3. Cigar or parts (e.g., ring to cigar or wrapper, etc.)
4. Lighter
5. Tobacco case or pouch; (I)
6. Cigar or cigarette case; (I)

DOLL PARTS:
doll types:
1. Solid molded ceramic
2. Slipcast whole mold ceramic (inside is hollow)
3. Composition (ask before using this category)
4. Celluloid
5. Cloth; (II)
6. Organic (e.g., husk, nuts, apples, etc.); (II)
7. Wooden; (II)
8. Cloth/China limb doll joints (1870-1940); (II)
9. Plastic; (JP)

decoration:
0. Not decorated (i.e., features are absent or all features formed during manufacturing); (II)
1. Hand painted decoration (i.e., features including hair, eyes, clothes, etc.)
2. Applique; (JP)

color of decoration:
this category is for dolls only
0. *Not applicable, no decoration; (II)*
1. Black
2. Blue
3. Pink
4. Red
5. Brown
6. Polychrome

body parts:
1. Head
2. Body (torso)
3. Arm
4. Leg (include feet and shoes)
5. Arm or leg (use only if you are not sure which)
6. Eye
7. Complete or part of the head, arms, and legs are present; (II)

TOYS:
1. Ceramic toy vessels, childsize
2. Minature ceramic toy vessels, doll size
3. Marbles
4. Figurine
5. Metal cars, trains, pull toys, wagons
6. Non ceramic dolls (should be recorded under dolls and doll parts)
7. Game token and parts
8. Plastic toys
9. Whistle; (I)
10. Jacks; (I)
11. Car parts (wheels, tires, etc.); *(II)*
12. Balls; (JP)
13. Flashlight with Morse Code guide; *(JP)*
14. Clip-on buttons; (JP)
15. Cap gun; (JP)

COINS AND TOKENS:
(list mint date as beginning date)
1. Mexican
2. American Indian
3. Lincoln/Wheat penny
4. Liberty nickel
5. Metal tokens
6. Wooden tokens
7. Liberty head dime; (II)
8. Lincoln Memorial penny; (II)
9. Jefferson nickel; (JP)

SEWING EQUIPMENT:
1. Thimble; (I)
2. Straight pins; *(JP)*

MIRRORS AND MAKEUP CASES:
1. Mirror glass; (I)
2. Small hand carrying cases (compacts, pill boxes); (I)
3. Car mirrors (include all car mirrors); (I)
4. *Lipstick case; (I)*
5. Complete picture frame and glass; (I)

RECORDS:
1. Double sided 78 records on *graphite disk* (1915-1955); (I)
2. Single sided 78 records on graphite disk (1900-1923); (I)
3. Cylinder type records on (1890-1915); (I)
4. 33 1/3 microgroove LP (1948-1985); (I)
5. 45 rpm records (1950-1985); (I)

FURNITURE AND PARTS:
1. Knobs and pulls; (I)
2. Springs; (I)
3. Escutchons, clasps, and decorative metal plates; (I)
4. Casters; (I)
5. Cloth accessories; (I)

CLOTHING:
1. Trousers
2. Socks; (II)
3. Unidentifiable; (II)
4. Handkerchief; (JP)

WRITING IMPLEMENTS:
1. Pencil lead and parts; (I)
2. Pen parts; (I)
3. Erasers; (I)
4. Blackboard chalk; (I)
5. Slate pencil; (I)
6. Seal for wax; (I)
7. Slate board; (II)
8. Paper clip; (II)
9. Crayons; (JP)
10. Artist's paint brush; (JP)
11. Envelope clasp; *(JP)*

HYGENIC EQUIPMENT:
1. Enema nozzle; (I)
2. Toothbrush and parts; (I)
3. Merthiolate applicator; (I)
4. *Razor blade; (II)*
5. Tubes, toothpaste, medicine; (II)
6. Breath spray cannister; (JP)
7. Syringes, needles, hypos and parts; (JP)
8. Curlers (do not use; see #11 under Subclass); (JP)
9. Eye dropper; (JP)
10. Spray nozzle (aerso); (JP)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

Figure 19-5. Class 5 Faunal and Floral Remains Template.

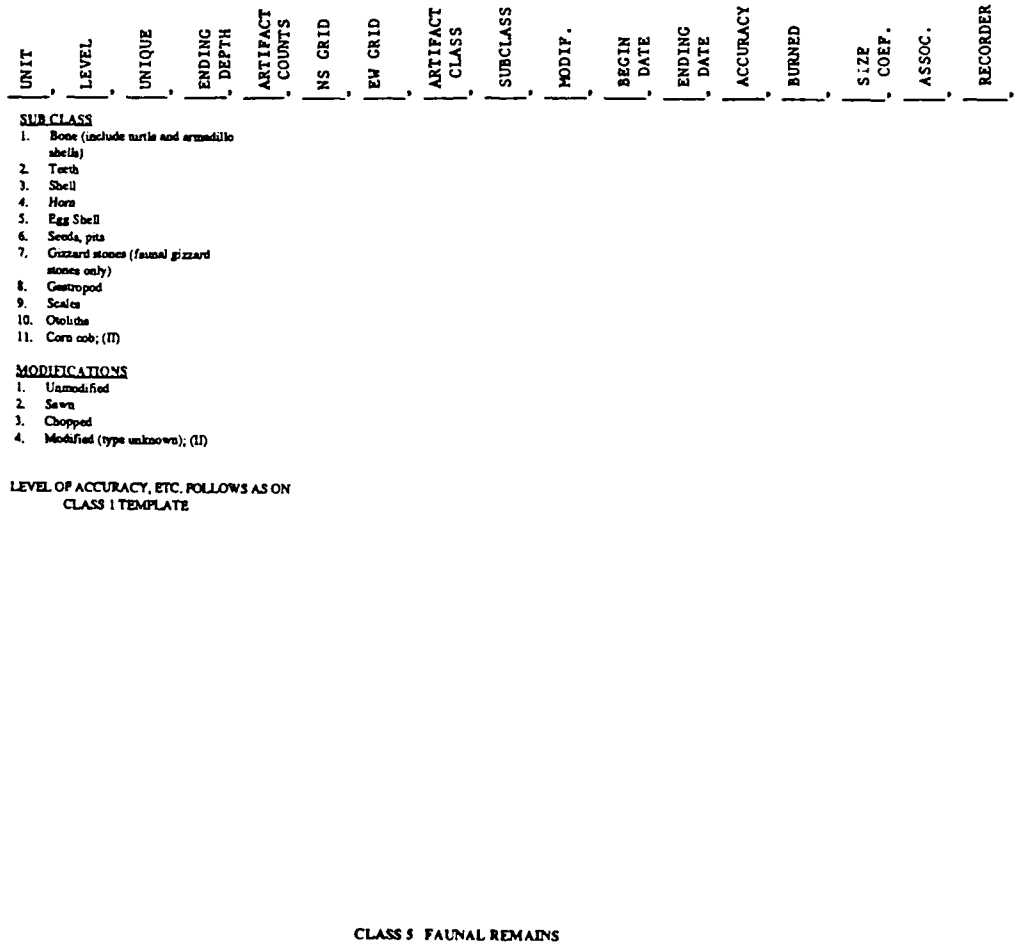


Figure 19-6. Class 6 Tin Can and Thin Metal Template.

UNIT	LEVEL	UNIQUE	ENDING DEPTH	ARTIFACT COUNTS	NS GRID	EW GRID	ARTIFACT CLASS	SUBCLASS	METAL TYPE	TIN CAN TYPES	SPECIAL CAN TYPE	WEIGHT	BEGIN DATE	ENDING DATE	ACCURACY	BURNED	SIZE COEF.	ASSOC.	RECORDER
____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____,	____

SUB CLASS
0. Possible tin can part; (II)
1. Tin cans, and tine can parts
2. Thin unidentifiable metal (counted/weighed in the field; transfer *information to laboratory data sheets)*
3. Fruit jar caps (metal part only)
4. Thin cast iron or solid metal (e.g., pieces of lead, metal chunks)
5. Wire handles to buckets, paint cans, etc.
6. Crown cap (common type; 1905-1985)
7. Unidentifiable thin iron rods (this will probably be lumped in the field with either thin unid. metal or with wire; ask before using this category)
8. Tin can keys and openers
9. Enamel ware (do not use; enamel ware will be listed on template 9 for metal kitchen ware; change made end of Season I)
10. *Hutchison stopper (1879-1891); (I)*
11. Chain; (personal chains-Template 4; building related (bathroom, light fixtures, etc.-Template 3; horse & stable, farming-Template 11); (I)
12. Non fruit jar screw caps; (I)
13. Thin unidentifiable tubing, hollow rods; (II)
14. Metal snap on cap; (II)
15. Unidentifiable metal gadgets; *(II)*
16. Pull tabs; (II)
17. Thermos tops, stoppers and parts; *(JP)*

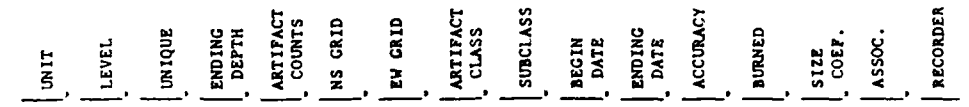
METAL TYPE
1. Iron
2. Zinc or white metal
3. Copper alloy
4. Aluminum
5. Lead; (if unidentifiable use Template 13); (I)
6. Unidentifiable (often carbonized); (I)
7. Brass; (II)

DIAGNOSTIC ATTRIBUTES
0. None; (II)
1. Tin can with center hole in top
2. Tin can with small drop of sodder on top
3. Tin can with crimped rim (check #8 before using the category)
4. Tin can *with pop top or pull tab (1960-1985)*
5. Tin can opened with key (metal strip and key)
6. Tin can; type is unidentifiable
7. Tin can with crimped rim and triangular key punch
8. Tin can, with crimped rim that is opened with a can opener and is circular in shape (1922-1985)
9. Tin can screw cap (this does not include fruit jar caps; see #11 and #12)
10. Paint can and parts
11. Edge strip can opener (1920-1985)
12. Kerr type fruit jar cap (open center; 1915-1985); (I)
13. Solid zinc screw fruit jar cap (1870-1930); (I)
14. Horizontal ribbing on tin cans; (I)
15. Snap on metal lid; (I)
16. *Screw top tin can; (JP)*

SPECIAL CAN TYPES
0. None, not applicable; (II)
1. Sardine can
2. Circular small snuff tin
3. Modern beer/soda/beverage can
4. Tobacco tin

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

Figure 19-7. Class 7 Heavy Iron Parts and Class 8 Fuel Remains Templates.



SUB CLASS

10. Miscellaneous unidentifiable heavy iron parts
11. Bucket
12. License plate; (I)
13. Eye Bolt (₹), hook screw; (II)
14. Iron pipe cap/plug; (II)
15. Tractor attachment parts; (II)
16. Braces, brackets; (II)
17. Wash tub handle; (II)
18. Car trailer hitch; (II)
19. Cast iron cooking vessels/accessories; (II)
20. Miscellaneous unidentifiable heavy iron rods/straps
21. Large pointed rod
22. Spiral twisted rod
23. Weights; (II) and scales; (JP)
24. Decorative metal plate; (II)
30. Miscellaneous unidentifiable heavy machine parts
31. Iron toothed wheels or gears; (I)
40. Cast iron stove parts
50. Iron bolts
51. Iron nuts
52. Iron washers
53. Wing nuts
54. Heavy iron hooks; (I)
55. Iron handle; (I)
56. Heavy iron rivet; (I)
57. Padlock; (I)
60. Carriage wheel sleeves
61. Barrel hoops; (I)
69. Heavy iron rings; (I)
70. Iron chain links
80. Plow blade fragments
81. Iron sickle blade holder; (I)
90. U shaped iron bracket
91. Iron car parts; (I)
92. Screened filters; (JP)
93. Ball bearings; (JP)
94. Iron swivel; (JP)
95. Iron cable; (JP)
96. Faucet head; (JP)
97. Fan blades and parts; (JP)
98. S-hooks; (JP)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

CLASS 7 HEAVY IRON PARTS

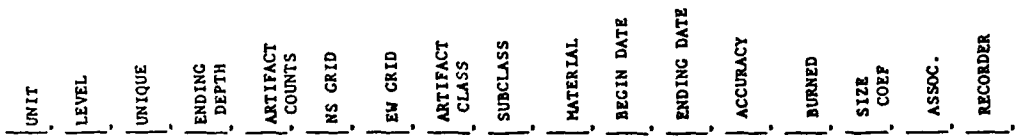
SUB CLASS

1. Coal (black)
2. Lignite (brown)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

CLASS 8 FUEL REMAINS

Figure 19-8. Class 9 Hand Tools and Implements Template.



SUB CLASS

silverware:
10. Spoon
11. Fork
12. Knife
18. Undifferentiated
40. Utensil handle; (JP)

kitchen:
13. Egg beater
14. Key can opener (dropped at end of Season I; see template 6)
15. Bottle cap opener
26. Meat grinder
33. Cork screw; (I)
35. Large kitchen knife; (I)
60. Cooking and baking vessels; (I)
39. Table vessels (metal cups and plates, etc.); (I)
42. Hand crank ice cream maker parts; (II)
43. Salt & pepper shakers and parts; (JP)
44. Meat tenderizer; (JP)
63. Stove lid lifter; (JP)
65. Measuring spoons, cups, etc.; (JP)

other household items:
1. Scissors
19. Razor blade, double edge ejector (record as personal on template 5)
20. Clothespin and part
21. Metal lamp parts (do not use; see template for electrical)
22. Castors (do not use; see template 4 for furniture and parts)
23. Funnel
45. Metal kerosene lamp parts; (III)
46. Cleaning items and parts(mops, etc.); (JP)
56. Curtin rods, attachment pieces, and parts; (JP)

other knives and accessories
9. Pocket knife
31. Knife handle; (I)
32. Wheatstone; (I)
34. Scalpel; (I)

fishing and hunting
24. Fish hook
25. Fishing weights
29. Traps and parts; (I)
51. Swivels; (JP)
52. Bobs and floats; (JP)

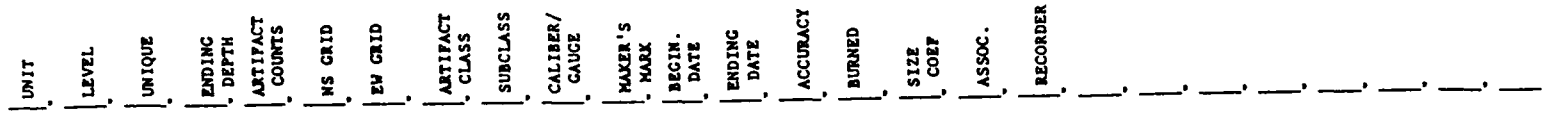
gardening
5. Hoe
6. Axe
7. Rake
8. Pitchfork
53. Harrow blade; (II)
54. Farm machinery cutting blades; (JP)
62. Garden hoses and parts; (JP)

tools
2. Hammer
3. Iron
4. Screwdriver
16. Screw wrench
17. File
27. Non-adjustable wrench
28. Pliers or wire cutters; (I)
30. Saw blade; (I)
36. Ferrules or metal handles; (I)
37. Chisel or wedge; (I)
38. Drills and bits; (II)
55. Adjustable wrench; (JP)
61. Hack saw; (JP)
64. Dog nail clippers; (JP)

MATERIAL
1. Iron
2. Copper alloy
3. Silver plate
4. Aluminum
5. Lead
6. Bone; (I)
7. Zinc;(I)
8. Stone; (I)
9. Tin; (I)
10. Enamel plated tin (enamel ware); (I)
11. Plastic; (JP)
12. Brass; (JP)
13. Stainless steel; (JP)
14. Rubber; (JP)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

Figure 19-9. Class 10 Fire Arms Template.



SUB CLASS

1. Rimfire cartridge
2. Center fire cartridge
3. Center fire shot gun shell
4. Beveled repeater type shell
5. Plastic shot gun shell, center fire
6. Bullet only
7. Shot
8. Plastic wadding (1960-1985)
9. Grape shot; (I)
10. Lead shot; (II)
11. Percussion Cap, (JP)

CALIBER OR GAUGE

caliber:

1. 22
2. 25
3. 30
4. 32
5. 38
6. 40
7. 41
8. 44
9. 45
17. Unknown; (II)
18. 30-06, (JP)
19. .357, (JP)

shot gun gauge:

10. 8
11. 10
12. 12
13. 16
14. 20
15. unknown
16. .410, (I)

MAKER'S MARK

0. None; *(II)*

single letters:

1. "L"
10. "F"
11. "G"
14. "US"(1869-1936 if rimfire)
16. "A"(1865-1924)
17. "9"(1908-1925 if rimfire)
30. "W"
44. "H"(1875-1940), (I)
47. "+"(1902-1907); (Iron Cross); (I)
49. "P", (I)
25. "HP" (1922-1985)
70. "R" (1906-1916); (I)
86. "N", (II)
87. "XL", (II)
88. "XR", (II)
136. "XB", (II)
145. "C", (JP)
146. "𝒽", (JP)

PETERS:

5. *"PETERS"/"HV"(1897-1935)*
51. "PETERS"/"NO. 15"/"IDEAL"(1897-1935); (I)
58. "PETERS"/".32"/"ACP"(1903-1985); (I)
67. "PETERS"/"HV" (22 LONG,1930-1985), (I)
89. "PETERS"/"LEAGUE"/"NO. 12" (1897-1935); (II)
90. "PETERS"/".38"; (II)
91. "PETERS"/"REFEREE"/"NO. 12" (1897-1935); (JP)
160. "PETERS"/"VICTOR"/"NO. 20"/"MADE IN USA" (1897-1935); (JP)
162. "PETERS"/"HIGH GUN"/"NO. 12"/"P" (1897-1935); (JP)
169. "PETERS"/".32 S+W"; (JP)
171. "PETERS"/"VICTOR"/"NO. 12"/"MADE IN USA" (1897-1935); (JP)
176. "PETERS"/"A10 HV"/"MADE IN USA"; (JP)
180. "PETERS"/"PREMIER"/"NO.12"
182. "PETERS"/".38 S+W"

WESTERN:

54. "WESTERN"/"MADE IN USA"/"XPERT"/"NO. 12" (1898-1940); (I)
62. "WESTERN"/"NEW CHIEF"/"NO.12" (1898-1940); (I)
35. "WESTERN"/"XPERT"/"NO. 12" (1898-1940); (I)
71. "WESTERN"/".380 AUTO"(1908-1985); (I)
92. "WESTERN"/"SUPER X"/"NO. 12" (1898-1940); (II)
93. "WESTERN"/"FIELD LOAD"/"NO. 12" (1898-1940); (II)
94. "WESTERN"/".32 AUTO"; (II)
166. "WESTERN"/"MADE IN USA"/"XPERT"/"NO. 16" (1898-1940); (JP)

US:

86. "U.S."/".41 LONG D.A." (1877-1935)
84. "U.S.(C.G.T)"/"NO.12"/"STAR" (1864-1930); (I)
76. "U.S."/"DEFIANCE"/"MADE IN USA"/"NO.12"(1869-1936); (I)
61. "CLIMAX"/"U.S."/"NO.12"(1869-1936), (I)
43. "WCF"/"U.S."/"NO.12"(1869-1936); (I)
38. ".38 SPECIAL"/"S+W"/"U.S."(1902-1985); (I)
167. "US"/".32"/"S+W"; (JP)

WRA CO.:

7. "WRA CO."/".44 W.C.F."(1875-1940)
13. "WRA 410"/"MADE IN USE"(1940-1985)
26. "WRA CO."/".32 WCF"(1875-1940)
37. "WRA CO."/".38 S+W"(1877-1940); (I)
41. "WRA CO."/"RIVAL"/"NO.12"(1884-1897); (I)
42. "WRA CO."/".38 SPECIAL"/"S+W"(1902-1940); (I)
57. "WRA CO."/".32 S+W L"(1896-1940); (I)
59. "WRA CO."/".32 AC"(1903-1940); (I)
72. "WRA CO"/"SUPER SPEED"/"MADE IN USA"(1940-1985); *(I)*
80. "WRA CO."/".44 S+W SPECIAL"; (I)
85. "WRA CO."/".44 W C.F."(1911-1949); (I)
98. "WRA CO."/".41 LDA"; (II)
99. "WRA CO."/".38 WCF"(1876-1940); (II)
100. "WRA CO."/"STAR"/"NO.12" (1884-1894); (II)
142. "WRA CO."/".38 SPECIAL"; (II)
155. "WRA CO."/"S+W"/".38"; (JP)
159. "WRA CO."/".45 COLT"; *(JP)*
174. "WRA CO."/"RIVAL"/"NO. 10"; (JP)

WINCHESTER:

32. "WINCHESTER"/"10"/"BLUE RIVAL" (1894-1904)
36. "WINCHESTER"/"RANGER"/"NO.12" (1925-1985); (I)
50. "WINCHESTER"/"NEW RIVAL"/"NO.12" (1897-1929); (I)
101. "WINCHESTER"/"REPEATER"/"NO.12" (1900-1938); (II)
102. "WINCHESTER"/"REPEATER"/"NO.16" (1900-1938); (II)
153. "WINCHESTER"/"LEADER"/"NO. 12" (1894-1943); (JP)
156. "WINCHESTER"/"BLUE RIVAL"/"NO. 12" 1894-1904); (JP)
178. "WINCHESTER"/"LEADER"/"NO. 20" (1897-1943); (JP)
181. "WINCHESTER"/FIELD"/NO.12"

S+W:

27. "NRA"/".38 S+W"
45. "RHA CO."/".32"/"S+W"(1906-1916); (I)
104. "S+W"/".38"; (II)
149. "S+W"/".38"/"SPL+P"; (JP)

R-P:

9. "R-P"/".38 SPECIAL" (1960-1985)
31. "R-P"/".30-.06 SPRG" (1960-1985)
172. "R-P"/".38 AUTO"; (JP)

GA:

82. "20"/"GA"/"MADE IN USA"; (Dove); (I)
29. "NITRO"/"12"/"EXPRESS"/"GA"

REM-UMC:

2. "REM-UMC"/"NEW CLUB" (1910-1960)
8. "REM-UMC"/"7.65MM" (1910-1976)
18. "REM-UMC"/".32 ACP" (1910-1960)
19. "REM-UMC"/".32 S+W" (1910-1960)
20. "REM-UMC"/".38 WCF" (1910-1960)
21. "REM-UMC"/".380-AUTO"/ (1910-1960)
23. "REM-UMC"/"SHUR SHOT"/"12"; (I)
34. "REM-UMC"/".38 S+W" *(1910-1960)*; *(I)*
39. "REM-UMC"/"SUPER SHOT"/"12"; (I)
40. "REM-UMC"/".32 WCF" (1911-1960); (I)
48. "REM-UMC"/"NEW CLUB"/"NO. 12"; (I)
52. "REM-UMC"/"8" (date is 8); (I)
60. "REM-UMC"/".45"/"COLT" (1940-1985); (I)
63. "REM-UMC"/"NITRO CLUB"/"NO.12"(1910-1960); (I)
66. "REM-UMC"/".38 LONG"; *(I)*
68. "REM-UMC"/".38 S+W SPECIAL"(1910-1960); (I)
69. "REM-UMC"/".32-7.65mm" (1910-1976); (I)
74. "REM-UMC"/"NITRO"/".410" (1910-1960); (I)
77. "REM-UMC"/"NITRO CLUB"/"NO.20"(1910-1960); (I)
113. "REM-UMC"/"SHURSHOT"/"NO.12"; (II)
114. "REM-UMC"/"NITRO CLUB"/"NO. 16" (1910-1960); (II)
115. "REM-UMC"/".25 ACP"; (II)
157. "REM-UMC"/"NO. 20"/"ARROW"; (JP)
164. "REM-UMC"/".300 SAV"; (JP)
173. "REM-UMC"/"NEW CLUB"/"NO. 10"; (JP)
183. "REM-UMC"/"32 S+W"/"SPECIAL"

UMC:

6. "UMC"/".32 S+W" (1867-1911)
55. "UMC"/".41 SHORT" (1884-1911); (I)
56. "UMC"/".45 COLT" (1873-1911); (I)
64. "UMC"/".38-40"; (I)
65. "UMC"/".38 S+W" (1873-1940); (I)
83. "UMC"/".38 CFW" (1911-1985); (I)
75. "UMC"/".44 CFW" (1911-1930); (I)
78. "UMC"/".41 LC" (1877-1935); (I)
79. "UMC"/".32 WCF"; (I)
116. *"UMC"/".380 CAPIT"; (II)*
117. "UMC"/".45 WCF"; (I)
118. "UMC"/".38 SHORT"; (II)
139. *"UMC"/"SH"/".38 LONG"; (II)*
175. "UMC"/".32-.20"; (JP)

UMC CO.:

12. "UMC CO."/"NITRO CLUB" (1867-1911)
24. "UMC CO."/"10"/"NEW CLUB" (1867-1911)
28. "UMC CO."/"NO. 12"/"NEW CLUB" (1867-1911)
119. "UMC CO."/"NO. 16"/"NEW CLUB" (1867-1911); (II)
120. "UMC CO."/"NO. 16"; (II)
121. "UMC CO."/"NO. 12"/"CLUB"; (JP)
179. "UMC CO."/".41 LCA"

REMINGTON:

46. "REMINGTON"/"UMC"/"NO. 16"/"NEW CLUB"; (I)
122. "REMINGTON"/"UMC"/"NO. 12"/"NEW CLUB"; (II)
144. "REMINGTON EXPRESS"/".410"; (JP)
158. "REMINGTON"/"20 GA"/"PETERS"; (JP)
184. "REMINGTON"/"NEW RIVAL"/"NO.12"

REM:

15. "REM"/"PET"/"PATENTED"

W.C. CO.

135. "W.C. CO."/".38 COLT"/ NP; (II)
138. "W.C. CO."/".38-.40"; (II)
140. "W.C. CO."/"NO. 12"/"SURESHOT (1898-1930); (II)

WW:

33. "WW SUPER"/".30-.30 WIN"
81. "WW"/"20 GAUGE"; (I)
128. "WW"/"SUPER X"; (II)
163. "WW"/".410"; *(JP)*
177. "WW"/"SUPER"/".357 MAGNUM"; (JP)

OTHER:

3. " SUPER "/"X"
4. "U"/"HI"/"SPEED" (1871-1986)
22. "PCC"/"12"/"LEAGUE" (1897-1935)
53. "NEW RIVAL"/"NO.12"(1875-1930); (I)
73. *"AMERICAN EAGLE"/"NO.12"(1875-1930); (I)*
131. "AL"; (I)
132. "RA"/"17"; (II)
133. "FEDERAL"/"MONARK"/"NO.20"; (II)
134. Unidentifiable due to condition of shell; (II)
136. "FM UMC"/".32"; (II)
137. "WRA"/"18"; (II)
141. "RWS"/".38 M+H"; (II)
143. "RELIANCE REDHEAD"/"NO. 16"; (JP)
147. "SPRG"/"R/P"/".30-.06"; (JP)
148. "SPRG"/"SUPER-X"/".30-.06"; (JP)
150. "F O"/".410"; (JP)
151. "RA"/".42"; (JP)
152. "SEARS"/"20"/"GA"; (JP)
161. "F C"/".32 AUTO"; (JP)
165. "M [illegible]"; (JP)
168. "FEDERAL"/"MONARK"/"NO. 12"; (JP)
170. "[illegible]" (bee); (JP)

LEVEL OF ACCURACY, ETC. FOLLOWS AS ON CLASS 1 TEMPLATE

CLASS 10 FIRE ARMS

Figure 19-10. Class 11 Horse and Stable Gear, Class 12 Electrical Parts, and Class 13 Miscellaneous Other Items Templates.

Table 19-2
GENERAL LAYOUT OF CATEGORIES OF INFORMATION BASIC FOR EACH TEMPLATE

Observation Number	Nature of Information Recorded
1	Excavation unit number (unique number up to 4 digits
2	Level (0 equals surface find; 1 usually denotes first 10 cm level; 2 second 10 cm, etc.
3	Lot number (if grouped)/Item number (if unique)
4	Ending depth of level (centimeters)
5	Item count
6	South grid coordinate (meters south of site 0, 0 datum)
7	East grid coordinate (meters east of site 0, 0 datum)
8 to 16	Record artifact group information and specific pertinent attributes
17	Beginning date of usage/manufacture (see Age)
18	Ending date of usage/manufacture (see Age)
19	Level of Accuracy (see Age)
20	Post manufacture modification
21	Size coefficient for excavation unit
22	General association/context
23	Laboratory recorder's identification code

types and variants useful for gleaning important sociocultural and temporal data.

Ceramic vessels, glass vessels, and architectural remains generally accounted for 50 to 90% of all the items recovered from a farmstead sites. The other 10 categories combined usually accounted for less than 20% of a site's assemblage excluding tin can and thin metal fragments (artifact group 6).

In addition to the 13 artifact groupings and subgroupings, there were several divisions of major importance within categories that enhanced the amount of information collected. These may be reviewed by referring to the templates themselves (Figures 19-1 to 19-10).

ORGANIZATION OF TEMPLATES

Each template required from 18 to 23 general observations per artifact or lot (Table 19-2). The first two observations were exactly the same for every artifact recovered from the same unit and level. Observations four, six, and seven (Table 19-2) were also the same within a single provenience. Observations three and five simply stated the lot/item number and total count for the artifact(s) under consideration.

These first seven observations provided the basic intrasite provenience or context for the artifacts being identified. Excavation unit numbers were assigned in the field and were usually given out in the order in which they were excavated. Each number denotes an unique excavation pit or trench. Levels generally correspond to 10 cm levels but sometimes may diverge from this scheme when field conditions necessitate.

Observations six and seven provide a double check on intrasite provenience and also give the precise location for a particular excavation unit. These two observations locate the unit a specific distance in meters south and east of a master datum set on or near the site.

ARTIFACT OBSERVATIONS AND ATTRIBUTES

Observations eight to sixteen record artifactual information on each item or lot under consideration. Lots are used when all the information recorded for a group of items from the same unit and level is the same. If color, surface decoration, or some other important attribute is different, then the items are split up into unique sublots so that these differences can also be recorded. For some artifact groups (e.g., templates 8 and 11) only two observations were recorded in order to analyze the items and process the information.

For other artifact groups, as many as nine separate observations were recorded to collect important information. Fragments of ceramic vessels, for example, required differentiation of major paste/ware groups (i.e., earthenwares, stoneware, porcelain), decoration types, color of decoration(s), glaze quality, and vessel morphology based on rim information. Nails, for example, required identification of method of manufacture and morphological typing and sizing. Window glass required thickness measurements, coins required dating and grading, bone required noting type of modification, firearm cartridges and shells required caliber and gauge and identification of visible maker's stamp or mark, and so on as required by the templates. Figures 19-1 to 19-10 indicate the level of information required for each artifact group.

AGE INFORMATION AND OTHER GENERAL OBSERVATIONS

The next three observations, listed 17 to 19 on Table 19-2, provide a general index of the age of the artifact under consideration. For some artifacts, these dates provided rather narrow temporal limits based on pertinent manufacturing data or marketing information. For most artifact groups, however, these dates provided only a general, crude temporal association spanning some fifty or more years and representing a broad chronological window within which the active life span of the item was usually much more narrow. The *beginning date* represented a year after which broad dissemination of the item under review was clearly evident for households in North Central Texas. It does not necessarily represent the actual dates of manufacture, acquisition, or discard but rather a beginning date of broad local use. It does not necessarily correspond to an item's patent date or initial date of manufacture since these often predate broad dissemination and commercial marketing by years if not decades. The *ending date* refers to the year after which an item was no longer either accessible for general purchase or commonly used and discarded in North Central Texas. Since some artifacts are not easily bracketed by simple chronological reference points, the next column (Level of Accuracy)

provided an indication of the relative weighing that should be given to the two dates.

The last four observations provide additional information on post manufacture modification, additional provenience data, and the individual responsible for analyzing the artifact and recording its information. These observations enabled items to be sorted by computer according to general intrasite contexts as well as by laboratory personnel.

SUMMARY

The classification scheme used for the Joe Pool Lake historic artifacts involved from 18 to 23 "observations" per artifact. Similar items, of course, were processed as a lot so long as their intrasite proveniences were identical (excavation unit and level). The information recorded provides record of the artifacts' intrasite provenience, context and association, temporal affiliation, and major morphological/functional and physical attributes.

The temporal, morphological, and functional attributes were used to compile the Tables in Chapters 4 to 16 as well as Appendix A. The amount of detail recorded for some items, however, was greater than the information presented so far. In the remainder of this section, Chapters 20 to 25 provide a closer review of six artifact categories representing subdivisions of four of the thirteen templates.

REFINED EARTHERNWARES AND CERAMIC TRADITIONS FROM FARMSTEADS

20

by

Randall W. Moir

Sherds of broken ironstone, whiteware, and similar variants of refined earthenwares were a common constituent of the sheet refuse and litter scattered across historic house sites in the Mountain Creek area. From the thirteen farmsteads investigated during the 1985 - 1986 field season, 2261 sherds of refined earthenwares were recovered. In addition, another 562 sherds of stonewares and 301 sherds of porcelain were recovered. Consequently, ceramic vessel sherds, consisting of all types of ceramic bodies, accounted for one to six percent of the assemblages recovered from each site (Table 20-1). As indicated by the data, refined earthenwares, consisting of ironstones, whitewares, ivory tinted, fiesta-type, and pure white whitewares generally made up the greatest majority of the ceramic vessel sherds. Yellowwares, coarse earthenwares, porcelains, and stonewares were much less frequent, and all together, generally accounted for less than one-third of all ceramic sherds (Table 20-1) recovered from the Joe Pool Lake Project area.

The interpretations drawn on refined earthenwares recovered from archaeological contexts provide information on chronology, social status, and intrasite activity areas, as well as insights on ceramic popularities, pottery distributions, and household ethnicity. Refined earthenwares manufactured between 1860 and 1950, the time span well represented by Joe Pool Lake historic assemblages, offered the potential consumer a wide variety of forms and styles from which to choose. Consequently, decorated wares generally revealed the individual preferences and personal tastes of each household and rarely repeated the same patterns over and over. Although individual patterns may vary, the repetitive occurrences of some manufacturers' marks indicated more limited marketing and trade dynamics than one might have expected for North Central Texas. Data from the Mountain Creek area, combined with data from several other counties within 120 km indicate that certain Midwestern American potteries gained a substantial portion of the local fine tableware markets by the early twentieth century.

In this chapter, information on the refined earthenware assemblages recovered from Joe Pool Lake historical sites is reviewed and synthesized. The data indicate that ceramic evidence of pre-1870 occupations at many of the excavated sites is absent or extremely scarce. At only two sites, 41TR39 and 41DL192, were mid-nineteenth century tableware sherds present, although in very limited quantities. Only two other sites, 41TR40 and 41DL267, yielded a few sherds of vessels definitely older than 1860. The lack of visibility of similar older wares in the archaeological assemblages from all of the remaining historic sites is a product of their recent ages and the ephemeral nature of their earliest components and occupations. The evidence for this interpretation and others is reviewed in detail along with the ceramic traditions well represented in the assemblages recovered from the Project area.

Table 20-1
OVERVIEW OF CERAMIC VESSEL ASSEMBLAGES FROM FARMSTEAD SHEET REFUSE AND MAJOR FEATURES

Site	Type	Occupation	Ceramic Sherds	Earthenwares Refined	Earthenwares Coarse	Stoneware	Porcelain	Yellowware
41TR39	Owner	1859-1976	467	366	6	36	55	4
41TR40	Owner	ca. 1870-1950s	303	181	12	48	62	
41TR42	Tenant	1907-1950s	128	83	3	25	16	1
41TR45	Owner	ca. 1910-1960s	84	53	21	5	2	3
41TR48	Owner	ca. 1880-1950	437	315	14	76	25	7
41DL181	Owner	1898-1973	168	117	6	26	18	1
41DL183	Owner	1882-1978	36	21		14	1	
41DL190	Owner	1887-1948	485	337	12	117	18	1
41DL191	Owner	ca. 1900-1978	176	97	12	46	20	1
41DL192old	Mixed	1859-1940s	188	121	2	52	13	
41DL192new	Owner	1876-1975	86	63		16	7	
41DL192red	Tenant	ca. 1920-1940	3	2		1		
41DL192Fea. 1	Tenant	ca. 1890s	220	123	1	72	24	
41DL192Fea. 3	Tenant	ca. 1930s	208	179		6	23	
41DL192	Tenant	ca. 1920-1930	12	10	1		1	
41DL196	Tenant	1898-1950	240	193		22	15	10

CLASSIFICATION OF POST 1850 REFINED EARTHENWARES

Fragments of refined earthenwares recovered from excavations of historic sites in the Joe Pool Lake area generally consisted of undecorated ironstones, bluish tinted ironstones, and pure white and light ivory tinted whitewares. These four wares were the most prevalent ceramic types among the assemblages. The vessels represented by these sherds dated from the late 1850s up to the 1960s, with most examples falling between 1880 and 1950. The ceramic traditions represented by these sherds were conservative, although current, for much of the nineteenth century.

Most Joe Pool Lake households, based on the sherds excavated, did not commonly use highly decorated, popular, or highly commercialized ceramic vessels until the early twentieth century. Some families with special status, however, switched to more decorative styles in the late nineteenth century (e.g., 41DL190 and 41DL192 Old). Excavated examples indicate that even these households still avoided highly ornamental patterns and forms commonly found in sites located further east in Arkansas, Louisiana, and the Southeast. Lightly decorated and full matching sets of fine tablewares began to show up with considerable consistency in the ceramic assemblages of nearly all households by the 1920s. Prior to this switch to semi-decorated, matched sets of fine tablewares were probably owned by each household but reserved for major occasions and special events. The older ceramic assemblages indicated that undecorated, often thickly made common ironstones and whitewares were the most frequently broken refined earthenware vessels before 1880.

In order to understand the varieties of table found in the Mountain Creek area, it is necessa review some basic information on refined earthenwares. The term encompasses ironstone and other highly fired, opaque, but nearly vitrified, dense ceramic wares as well as softer, more porous, common earthenwares like pearlware and its replacements. But, at present, there is no widely accepted classification system for categorizing refined earthenwares that date after the first quarter of the nineteenth century. The introduction of lead-safe glazes in the second quarter of the nineteenth century brought about a departure away from true pearlwares and towards whitewares and ironstones (Hughes and Hughes 1968; Lofstrom 1976; Price 1979). It is on the classification of these wares that most historical archaeologists find major disagreement.

There are, however, two schools of thought on categorizing nineteenth century refined earthenwares. First, there are some individuals (e.g., Fawcett 1980:104-109; Garrow 1982, 1983; Geismer 1982:146-157; Lofstrom 1976; Price 1979) who have had moderate success with applying paste/glaze and decoration criteria to separate various tinted shades of blue or purple from whitewares and common cream colored wares. Such classification systems follow the ceramic approach developed by South (1972). More recently, however, there are other individuals who prefer to classify nineteenth century refined earthenwares solely on their decorative indices. This second method follows closely the excellent approach developed by Miller (1980).

The Joe Pool Lake Archaeological Project incorporated the strengths of both approaches. Multiple typologies were used to probe temporal and socioeconomic patterning. Classification of nineteenth century assemblages became easier once one became familiar with twentieth century wares. The importance of this point can be illustrated with the following example.

One of the most unfortunate misunderstandings scattered throughout the literature is a belief in the continuation of true creamware beyond the 1840s. The

very slight off-white refined earthenwares of the 1870s, 1880s, or the 1890s in North Central Texas are quite pale in comparison to true creamware types of the 1780 to 1820 period. In assemblages that have been strictly dated to the nineteenth century, cream colored, off-white, or ivory tinted wares have made up only 0.62% (s.d. 0.65%) of the sherds (41DN289, 41DL192 feature 1, 41NV145, 41NV254E, 41NV254W, 41NV267, 41NV305, and 41NV306; see Moir 1987c). Based on these data, it is obvious that ceramic assemblages from sites occupied between 1850 and 1900 in North Central Texas do not contain significant quantities of creamwares or even cream colored wares.

Cream colored sherds were evident, however, in ceramic assemblages dating to the very early twentieth century and they were also fairly frequent in collections dating after 1910. The tints of many of these sherds were indistinguishable from some varieties of true creamware. Their decorative motifs and vessel forms were easily recognizable as twentieth century in association, rather than belonging to the eighteenth or early nineteenth centuries. Without the recognition of these newer, lead safe, ivory tinted wares as twentieth century examples, the historical ceramicist would categorize them as nineteenth century creamwares and place them in a much broader time bracket than necessary. Critics of glaze tints should look closely at tightly dated 1860 to 1890 assemblages before they defend a position of wide temporal associations for true creamwares. For North Central Texas, glaze tints contained useful temporal information, and they were helpful in understanding patterns of ceramic acquisition and popularity.

One last general remark about post 1850 refined earthenware classifications. One still needs to exercise caution once a classification has been developed for an area. The absence of some ceramic subtypes is as significant as their presence. For example, a substantial number of shell edged ironstone and pearlware plates were excavated from an urban dump in New England with tight contexts of 1894 to 1911 (Cheney 1982:76). Shell edged made up 2% of the fine ceramic tablewares recovered from two separate levels. Shell edged plates of any type are extremely infrequent in North Central Texas. Not a single sherd of shell edged was recovered from Joe Pool Lake historic contexts. Elsewhere in North Central Texas, only four sites (41DN289, 41NV145, 41NV235, and Y41NV158) out of some one hundred have yielded fragments of shell edged wares. Of these four, only one (Y41NV158) contained shell edged in quantities of more than 1.6%. These differences in occurrence are strong enough to point out that the presence of the same ceramic type in different contexts can not be explained simply with a single, unilateral interpretation. Ceramic types absent in rural settings, especially in areas located well outside the spheres of major urban centers and transportation networks, convey subtle, but important information about the local cultural geography and the particular material composition of a household.

The remainder of this chapter addresses ceramic variability and ceramic traditions in Joe Pool Lake assemblages. A general classification scheme is presented for post 1850 refined earthenwares and is used to categorize the Joe Pool Lake sherds. The presentation of ceramic data here is not limited to refined earthenwares, but also incorporates porcelain, stoneware, and semicoarse earthenwares. All of these ceramic types are considered in order to begin to model the usage of refined earthenwares within larger systemic contexts. Major decorative types, paste/glaze types, percentages of porcelain, estimated yearly sherd accumulation rates, and other ceramic indices are used to investigate temporal and socioeconomic patterning among the farmsteads sampled in the Project area.

THE CLASSIFICATION SYSTEM

The classification system for processing ceramic sherds from historic sites in the Project area used paste/glaze criteria and several other important observations. Attributes were noted for decoration type, motif colors, glaze quality, general vessel morphology, and evidence of heat disfiguration or burning. Five ceramic subclasses were used to sort sherds into major morphological/functional categories: (1) coarse earthenwares, (2) yellowwares, (3) refined earthenwares, (4) stonewares, and (5) porcelains. Additional information on the ceramic classification system is given in Chapter 19 and the stoneware classification in particular in Chapter 22.

Most all of the over 3243 ceramic sherds recovered from the historical sites could be easily placed into one of the above five subclasses. An occasional sherd or two would present a problem every so often, but most sherds were able to be processed without much difficulty with the aid of a comparative type collection in the lab. New subvarieties of coarse earthenwares and yellowwares were added when encountered, but most sherds could be coded within about two dozen types of refined earthenwares, stonewares, and porcelains. A total of 119 sherds, however, were burned beyond recognition and could not be place in their appropriate classes.

The comparative type collection provided a teaching tool and helped to insure comparability of identifications among laboratory members. Examples of each ceramic type in the five subclasses mentioned above were available for making direct identifications. In addition, a set of comparative refined earthenware sherds was available to each lab member for immediate use. Last of all, the main comparative ceramic type collection also contained examples of decoration types, colors, and other attributes listed on the ceramic templates (see Figure 20-1). Lab members were shown these examples, and they were encouraged to use them in order to double check identifications when minor questions arose. Problematical sherds were brought to the attention of the laboratory supervisor and set aside until a resolution was forthcoming.

DESCRIPTION OF THE FIVE CERAMIC SUBCLASSES

Five major ceramic subclasses were devised to separate ware types into broadly related groups. Although there are many other alternative classification systems, the divisions used for processing the assemblages enabled a crude sorting of sherds into several important and closely related morphological/functional groupings. The following subsections define the major characteristics of each ceramic subclass based on examples commonly represented in the Project area.

Figure 20-1. Class 1 Ceramics Template.

UNIT | LEVEL | UNIQUE | ENDING DEPTH | ARTIFACT COUNTS | NS GRID | EW GRID | ARTIFACT CLASS | TYPE | MAJOR DECORATION | MINOR DECORATION | COLOR OF DECORATION | CRAZING | VESSEL MORPH. | BEGIN DATE | ENDING DATE | ACCURACY | BURNED | SIZE COEF. | ASSOC.

SUBCLASS

1. Coarse earthenwares
2. Semi-coarse earthenwares
3. Refined earthenwares
4. Stonewares
5. Porcelains

TYPE

coarse earthenwares:
1. Tin enameled, pink bodied
2. Redware, salt bodied and glazed
3. Buffware, salt bodied
4. Tin enameled, high fired
5. Redware, unglazed coarse
6. Buffware, unglazed coarse
7. Redware redware, clear glazed exterior with white slipped internal (1895-1930); (I)
8. Bennington Type Earthenwares; (II)

semi-coarse earthenwares:
1. Plain or clear glazed coarse yellowwares, not sponged
2. Mocked Bennington type brownish glazed yellowwares
3. Mocked Rockingham type high fired varnished yellowwares
4. Plain or clear glazed coarse yellowwares, sponged
5. Imitation majolica

refined earthenwares:
1. Dark creamwares
2. Creamwares
3. Light creamwares
4. Pearlwares
5. Transitional pearlwares, early whitewares (1820-1870)
6. Ironstone whitewares (1840-1910)
7. Bluish tint high fired Mocha's type ironstone (1830-1910)
8. Bluish tint ironstone, not vitrified (1850-1900)
9. Pure white whitewares (1890-1965)
10. Dark tinted and colored glazed whitewares (Fiestawares, etc., 1930-1960)
11. Unknown, other burned
12. Pale blue (1848-1870)
13. Ivory tinted whitewares (1920-1965); (I)
14. Very light blue tinted whitewares (1880-1930); (I)
15. Deep ivory tinted whitewares (1930-1965); (I)
16. Tinted whitewares (colored paste, clear glaze; ivory); (II)
17. Ironstone Pale Blue (1890-1925); (II)

stonewares:
1. Salt glazed stonewares (glazed exterior, unglazed salt glazed interior except numbers 16 below)
2. Opaque "Bristol" slipped stonewares
3. Dark slipped stonewares (slipped exterior or exterior and interior)
4. Unglazed/lightly bodied stonewares

SUBCLASS

1. Brush type brown stonewares (1820-1920)
2. Clear glazed stonewares
3. Bright blue exterior stonewares with buff body
4. Brown slipped stonewares (slipped interior only)
5. Local light brown or beige stonewares (1890-1930); (I)
6. Greenish alkaline glazed stonewares (1840-1890); (I)
7. Unknown, an exterior surface present; (I)
8. Two tone slipped exterior; (I)
9. Gray salt glazed stonewares with dark slipped interior (1840-1910; acc=2); (I)
10. "Bristol" stonewares with bluish tint (cobalt dec.); (II)
11. Bennington type; (II)

porcelains:
1. Bluish gray tinted porcelain
2. Off white or light tinted porcelains
3. Pure white tinted porcelains
4. Unknown; generally burned; (II)

MAJOR AND MINOR TYPES OF DECORATION

1. None
2. Slipped or glazed exterior
3. Slipped or glazed interior
4. Thick applied slip banding
5. Thin hand painted banding, not located on rim
6. Hand painted annif
7. Sponge or spatterware
8. Stenciled
9. Transfer printed
10. Floral decalcomania on whitewares or porcelains only (1895-1950)
11. Relief molded, body sherds and rims only
12. Shell rim variants, plain rim (1840-1880)
13. Luster
14. Gilded (1890-1945)
15. Royal rim variant
16. Shell rim variants, cockled rim (1780-1840)
17. Hand painted single rim band
18. Molded polygon
19. Colored exterior glaze or wash (Fiestawares)
20. Cobalt blue mocha type swirls on semi-coarse yellowwares only (1860-1900)
21. Maker's mark
22. Impressed
23. Finger pressed
24. Geometric decalcomania on whitewares or porcelains only (1940-1965); (I)
25. Tan tool copper luster, under glaze (1880-1910); (I)
26. Two-tone slipped exterior; (I only)
27. Gray salt glazed stoneware/dark slipped interior (1840-1910; acc=2; (I only)
28. Tan/buff thin salt glaze; (I only)
29. Mocked iron oxide exterior salt glaze; (I only)
30. Banded ware; (II)
31. 78 rpm dec; (II)
32. 2 or more decorations; (IP)
33. Painting overpainting (Folk Americana); (IP)
34. Very light glaze wash on refined earthenware or porcelains only; (IP)
35. Incised; (IP)

COLOR OF DECORATION

0. None; (II)
1. Polychrome
2. Light blue
3. Blue
4. Dark blue
5. Brown
6. Cranberry
7. Purple
8. Pink
9. Red
10. Light green
11. Green
12. Dark olive green
13. Black
14. Bluish green
15. Light yellow
16. Bright yellow
17. Tan/beige
18. Gold
19. Silver
20. Gray
21. White
22. Copper
23. Off white (for tinted only; 1920-1945)
24. Opaque; (I)
25. Mustard; (I)
26. Mocked yellowish green; (I)
27. Orange; (I)
28. Clear; (I)
29. Unknown; (I)
30. Mocked blue gray/beige; (II)
31. Rust; (II)
32. Mocked yellowish-brown; (II)

CRAZING

1. Not looked at (for stonewares only)
2. Crazed
3. Not crazed
4. Unidentifiable
5. N/A (no glaze present)

VESSEL MORPHOLOGY (rim sherds only)

0. Not diagnostic (not a rim sherd)
1. Plate/tray
2. Hollowware

LEVEL OF ACCURACY

1. Excellent; double diagnostic
2. Possible or questionable; date bracket
3. Not double except in broad bracket
4. Date unknown
5. Discarded in field; (III)

BURNED

1. Not burned
2. Burned
3. Heat fractured; (I)
4. Melted; (I)
5. Digested (i.e., pitted stones); (I)

SIZE COEFFICIENT FOR UNIT

2500 cm^2/Area of Unit

COARSE EARTHENWARES

Red- or brown-colored earthenwares were most commonly used for flower pots and other general utilitarian vessels and jars. This was not a very common ceramic type in Joe Pool Lake assemblages. Commercially produced, molded flower pots made up the greatest percentage of this subclass and generally dated to after 1910 in North Central Texas. A few pieces of Mexican Majolica were recovered and were also placed in this subclass. Some of these tin enameled wares had a buff paste.

YELLOWWARE

Light sandy yellow to buff, semi-refined earthenwares that were sometimes highly decorated with banded slips and mocha designs, but were most often found in plain and molded forms. This type was most commonly represented by sherds of hollow vessels, especially mixing bowls, and on earlier sites, by chamber pots. Twentieth century varieties consisted of harder pastes and sometimes were more appropriately called semivitrified.

REFINED EARTHENWARES

White to extremely light buff, refined earthenwares that ran the full continuum from very light, porous and nonvitrified wares to dense, semivitrified bodies typical of the better quality ironstones or more common twentieth whitewares and tinted whitewares. Creamwares, pearlwares, whitewares, ironstones, and tinted and colored varieties of white paste refined earthenwares all fall under this subclass (e.g. Fiesta type wares). Refined earthenwares dominated the ceramic assemblages from Joe Pool Lake farmsteads and generally made up from 55 to 86% of the ceramic sherds recovered from each site. Most vessel forms were fine tablewares, such as plates, cups, saucers, and bowls. Less common forms included mixing bowls, wash basins, pitchers, pans, and chamber pots. The evolution of paste/glaze types progressed from mostly bluish-tinted wares in the mid-nineteenth century to ivory tinted and dark-colored wares in the mid-twentieth century.

STONEWARES

Tan, brown, gray, buff, orange, or red, semivitrified to vitrified wares used to form utilitarian vessels for general household functions. Glazes varied from salt glaze, alkaline glaze to a variety of dark (Albany slips) or light slips (Bristol slips). Most nineteenth century vessels exhibited throwing rings whereas more commercial wares and twentieth century vessels were often mass molded rather than hand thrown. Chapter 22 gives a review of the stonewares in detail and also gives historical information on the stoneware industry in North Central Texas. Vessel forms commonly represented included jugs, crocks, churns, bowls, jars, and pans. Reeded stemmed tobacco pipes were very infrequent and stoneware canning jars were absent.

PORCELAINS

White to grayish-white, bluish-white, or off-white, highly vitrified, semitranslucent wares that usually exhibited concoidal fractures. Some less expensive grades, however, exhibited a slightly granular texture, were commonly referred to as "hotel" wares, and actually represented a coarser grade of semiporcelain. Vessels generally were restricted to fine tableware forms such as tea cups, saucers, plates, bowls, and mugs. The most important attribute for assigning a sherd to this subclass was translucency when it was held up against a source of light. Thick sherds only needed to exhibit translucency along their thinner, broken edges.

FARMSTEAD CERAMIC ASSEMBLAGES

Ceramic sherds generally accounted for one to six percent of the entire artifact assemblage recovered from each farmstead as noted earlier (Table 20-1). Refined earthenwares were the most frequent ceramic sherd type, and generally constituted from 55 to 86 percent (mean of 68.7% s.d. of 9.6%) of the ceramic collections. Stoneware sherds were the second most frequent ceramic subclass and proportions varied from 2 to 40 percent. Porcelain was the third most frequent ceramic subclass, but its percentages fell considerably below the above two and generally ranged 1 to 20 percent. The remaining two subclasses, yellowwares and coarse earthenwares, seldom accounted for more than a few percent. These two subclasses, therefore, were not major contributors to the ceramic assemblages of farmstead middens. Furthermore, based on the broad range of artifacts represented in these middens, it is reasonable to interpret that yellowwares and coarse earthenwares were also not common utilitarian vessel types, and they were used far less often to perform daily chores or weekly household tasks than other ceramic vessels. In contrast, refined earthenware and stoneware vessels were well integrated in daily farmstead activities, and their comparative abundance in midden deposits attests to their common roles and frequent usage.

It is important to underscore the significance of the data in Table 20-1. First, the table illustrates that ceramic frequencies in farmstead midden deposits were not haphazard, chaotic, or random, but that they were highly patterned and contained useful temporal and socioeconomic information. Ceramic indices obtained from systematic sampling of yard areas around Joe Pool Lake farmsteads have captured some important socioeconomic dynamics of ceramic vessels in their larger systemic roles. Ceramic sheet refuse was formed over the entire life of a site and, as long as traditional lifeways were followed, the yard received an annual rain of artifacts and fragments as household activities and chores were conducted daily. Ceramic sherds provided just one clue to the types of activities carried out by the household and the separation of these activities across space.

Ceramic sheet refuse was also particularly useful since it seldom represented a single event or two, but it was a palimpsest of primary and secondary activities. While it would be convenient to excavate an entire yard and collect a complete sample of ceramic refuse, estimates of total sheet refuse assemblages for Joe Pool Lake farmsteads indicated counts from 100,000 to 300,000 artifacts (see Chapter 17). Given these estimates, ceramic vessel assemblages would contain

from 2000 to 15,000 sherds per farmstead. Of course, the assemblages would also contain redundant data. The small size of ceramic sherds recovered from sheet refuse contexts, for example, would require from 100 to 250 sherds to reconstruct a single, common, whiteware dinner plate. The costs of excavation and laboratory processing make even a 25% sample of a single 3500 m^2 farmstead midden unjustifiable. The Joe Pool Lake farmstead excavations generally retrieved from 1 to 2% sample fractions of each site by area. The value of these dispersed samples rests in their low level of data redundancy. Systematic coverage of a farmstead midden was the initial objective, rather than relying on large block excavations based on minimal surface information and architectural remains. More intensive exploratory work followed second on some sites after the dispersed sample indicated important anomalies (e.g., 41DL191, 41DL192, 41TR48).

This raises a second issue. Excavations at some sites included focused sampling of dense sheet refuse bands, architectural remains, recent trash features, and surface collections. A review of the subassemblages collected from these special tasks has indicated that each was biased towards the artifactual content of the area intensively examined. This, of course, was no great revelation, but it did make intersite comparisons more difficult. At 41DL192 Old, for example, two primary trash features were sampled (see Chapter 8, Site 41DL192 Old). Since both trash features represented accumulations discarded over period of not more than ten years, and probably less than five years, they provided insights on ceramic assemblages used over short periods in comparison to sheet refuse remains. The site was occupied for about 80 years, and sheet refuse contained sherds spanning the entire period (ca. 1859 to 1940). The ceramic subassemblages from each trash feature contained a much narrower spectrum of vessels and a much higher degree of redundant sherds. Redundant sherds are sherds that can be determined to belong to the same vessel either through direct crossmending or because of identical decoration, crazing, and wear. A total of 123 refined earthenware sherds were recovered from the 6840 artifacts removed from the Feature 1, and 179 sherds were recovered from 3371 artifacts from Feature 3.

The total number of refined earthenware sherds recovered from a systematic sample of the entire site at 41DL192 Old, using a 4 m grid, came to 121. This is nearly equivalent to each of the trash features, but it is not very similar in context or importance. The sheet refuse assemblage retrieved with the systematic sample contained a much broader picture of ceramic vessel forms and types. An estimate of sherd to vessel ratios for the sheet refuse assemblage averaged 2.75 sherds per vessel (a minimum of 48 vessels were identified). Often, many vessels were represented by a single sherd. Estimates for sherd to vessel ratios for the trash features at 41DL192 Old were 4.84 sherds per vessel for Feature 3 and 3.84 for Feature 1. Simple sherd comparisons were of little value, however, since each assemblage was different in composition. Minimum vessel counts would be the only comparable measure for drawing useful comparisons, but were hard to construct for large sheet refuse assemblages like the sample from 41DL192. It was recognized that minimum vessel indices would be meaningless unless a distance criteria were used to distinguish similar sherds from separate vessels. Furthermore, the abundance of undecorated whitewares and ironstone vessels made it extremely tedious and very tenuous to truly distinguish sherds from identical, but separate, plain dinner plates, cups, saucers, or bowls. Several smaller assemblages were processed using minimum vessel indices, and the results of this work are discussed further on.

The data in Table 20-1 are limited to general sheet refuse assemblages in most cases. Special excavations and collections are separated in order to distinguish some of the differences between subassemblages. Deviant cases, outliers, and broad patterns are much easier to recognize when one separates assemblages by major contexts and collection methods.

REFINED EARTHENWARES

Refined earthenware sherds, as mentioned earlier, were the most frequent ceramic type in Joe Pool Lake assemblages. Sherds belonging to this subclass were originally divided into 14 separate varieties based on paste and glaze attributes (see Chapter 19). These have been regrouped into 8 major varieties for review in this chapter (Table 20-2). The first three varieties of the expanded classification system were true creamwares and were not necessary for processing the assemblages from Joe Pool Lake. The ceramics brought in or purchased and discarded on the 32 farmsteads did not reveal any true creamwares following the definitions established by Noël Hume (1970) and South (1972). For example, one of the oldest Joe Pool Lake features, Feature 1 at 41DL192, contained no *in situ* cream colored earthenwares, ivory tinted earthenwares, or true creamwares. All other nineteenth century components also contained no true creamwares either in sherd attributes or vessel forms. The acquisitions of light ivory tinted wares, however, were revealed by many ceramic assemblages dating after 1900. Finally, when makers' marks incorporating the term *Ivory* were encountered, they almost invariability dated after 1910 or 1920 (e.g., see 41TR39).

The absence of true creamwares in Joe Pool Lake assemblages is real and is not a product of terminology. An identical situation was encountered on another large CRM project in North Central Texas (see Moir 1987c). Common ironstones and whitewares were also the dominant nineteenth century earthenware types on Richland Creek farmsteads. Most of the sherds exhibited subtle traces of bluish- or purplish-blue tinges in their glazes like the Joe Pool Lake sherds. The lighter the tinge, the greater the underlying body contributed to the paste/glaze hue. Placing these lighter off-white sherds against pre-1820 examples of creamwares enabled one to cue in visually on the light traces of bluish glaze colorant used. Creamware never has a blue tinge in its glaze, unless it is part of a hand painted, blue motif and underglaze blue, hand painted creamware is extremely rare (see Noël Hume 1970).

The pastes of post 1850 refined earthenwares also depart from the lighter ceramic bodies of the 1780 to 1820 period. Common refined earthenwares of the mid- to late nineteenth century were generally composed of denser bodied clays than earlier wares. In addition, many tableware vessels, such as plates, cups, saucers, and bowls were much more thickly formed and heavier in construction than the pearlwares and creamwares of the

Table 20-2
MAJOR VARIETIES OF REFINED EARTHENWARES FOR POST 1850 ASSEMBLAGES FROM NORTH CENTRAL TEXAS

Transitional Wares:

Ceramic vessels of this type exhibit definite tinges of blue, bluish-purple, or purple additive colorants in their glazes and are very evident in footrings or other areas of thick, puddled glaze. Cups and plates, in particular, frequently exhibit puddled glaze patches. Their paste is generally more dense than the earlier, lighter pearlwares and the glaze tinge does not have the slight greenish hues sometimes evident on early nineteenth century pearlwares. Vessels from Richland Creek sites belonging to this ware type generally dated to the 1840s and 1850s, and less often to the 1860s. Pastes may vary from highly porous, like pearlwares, to semiporous, and more closely similar to early whitewares. Shell edged wares have a simple arcing rim without the wavy, cockled edge common in earlier decades (cf. Figure 20-2a to 2b). Some shell edged wares may lack color decoration on the rim (Figure 20-2c). Soup plates range from thin to moderately thin and only reveal a slight increase in thickness over earlier wares (Figure 20-2d). Transfer printed, hand painted, molded vessel forms, and other decoration types of the second quarter of the nineteenth century occur on this ware. Date range is 1820 to 1865 with most examples falling in the 1830s, 1840s, and 1850s for these transitional type wares that follow the demise of pearlware.

Ironstone and Whitewares:

Ceramic vessels belonging to this group exhibit a very slight tinge of blue to their glaze. This tinge appears absent when placed next to pearlwares but becomes evident when placed next to pure white whitewares or a piece of pure white paper. Ironstone varieties include some of the denser wares that verge on being nonporous and semivitrified. Whiteware bodied vessels are often lighter and more porous, similar to earlier wares. Some wares may appear to lack a definite, blue tinge and be very slightly off-white due to their pastes. When these examples are placed next to a true creamware sherd, they stand out as a dull whiteware because they lack a lead glaze and generally have a whiter paste than earlier creamwares. Most often found in plain, undecorated forms, these wares also occur as transfer printed and molded forms. Vessels are much thicker in body form around the mid-nineteenth century and become thinner again at the end of the century. Plates occur as steep sided soup plates in earlier years and then as shallower plates with a single interior inflection after about 1870 (Figure 20-2e and 2f). Date range is 1840 to 1910, but most examples generally fall between 1850 and 1895.

Blue Tinted Ironstones:

Ceramic wares in this group differ from previous wares in two principal attributes. First, their paste is no longer natural white but has been intentionally tinted blue. Second, their pastes are often very hard and semivitrified. The amount of blue exhibited makes it very easy to cull out these sherds from other types and also from true pearlwares. Blue tinted ironstones appear a cold blue, blue-gray, or gray whereas pearlware would be better described as a softer blue-green or green in direct comparison. The pastes of blue tinted ironstones are much harder and the glazes may not exhibit any crazing. Plain, undecorated and relief molded, and paneled vessel forms were the principal examples of this ware type in the assemblages dating from 1870 - 1910 (Figure 20-2h and 20-2i). Transfer printing occurs but is less frequent and generally restricted to simple floral patterns after 1860 (Figure 20-2g, 2j). Date range is 1840 to 1910 with most examples falling in the 1860 to 1900 period. An excellent reference on the decorative, molded patterns often produced in this ware is Wetherbee (1980).

Pure White Whitewares:

These wares exhibit no evidence of even the slightest bit of blue colorants in their glazes. Their pastes vary from porous to semiporous. Vessel forms are thinly molded and frequently have light, repousse' patterns in floral and geometric designs (Figures 20-3a and 3b). Decalcomania is another common form of decoration and occurs in monochrome and simple polychrome, overglaze varieties on earlier wares (Figure 20-3c, d, e, and f). Gilded patterns and rim bands or accents also occur but generally date from 1900 onward. Double inflection plates are once again frequent. Glazes are often finely crazed and decal decorations may become detached from the glaze and lost. Most of the design will be evident upon careful inspection of the surface in reflected light. Date range is 1890 to present with greatest popularity from the 1890s to 1920s.

Ivory Tinted Wares:

These wares are distinguishable from all previous types due to their off white to ivory tints. Many of the examples look very similar to the much older creamwares. Two basic varieties occur: light ivory and dark ivory tinted wares. Some of the earliest examples of light ivory tinted vessels may owe their color to their sources of clay and not to any glaze additive (Figure 20-3h). Some American clay sources contribute to these element and produced off white wares when cobalt was not added to whiten the vessels. Later examples are intentionally tinted to yield ivory (Figure 20-3i) or dark ivory wares (Figure 20-3j). Floral patterns in polychrome decals, often containing pink or red roses and green leaves are frequent motifs. Vessels are thinly molded and pastes are porous to semiporous. Date ranges are 1890 to present for light ivory tinted wares with most examples falling after 1900, and 1920 to present for dark ivory tinted wares with the greatest popularity from 1930 onwards.

Table 20-2 — (*continued*)
MAJOR VARIETIES OF REFINED EARTHENWARES FOR POST 1850 ASSEMBLAGES FROM NORTH CENTRAL TEXAS

Fiesta and other Colored Wares:
Starting in the 1920s, many potteries began to experiment with glaze colors; one of which included the dark ivory tinted wares mentioned above. Fiesta ware was perfected by Homer Laughlin in 1936 but was just one of many brand names for colored wares. The most recent assemblages recovered often contained green Fiesta wares dating from the late 1930s up to the 1960s (Figure 20-3k). Less common colors included dark blue, orange, and yellow, and all of these could not be attributed to a specific pottery without makers' marks. Vessels were more thickly formed and pastes were often semivitrified and slightly grainy. A general date range of 1930 to 1970 is necessary to cover most examples.

Unidentifiable:
Burned, stained, or highly weathered sherds that could not be easily assigned to any of the above ware types were placed in this group. It also included interior fragments without any glaze.

early nineteenth century. Popular acceptance of plain and molded ironstone and graniteware forms of the mid-nineteenth century replaced the older ceramic tradition of highly decorated, but thinly formed, refined earthenwares. When pure white whitewares were introduced in the last quarter of the nineteenth century, forms reverted back to thinner, lighter bodied vessels with molded edge patterns in light repousse´. Between 1850 and 1890, some refined earthenwares were produced with a grayish to clear glaze over a very light off-white paste. Again, these were very different in appearance than the earlier creamwares, and they did not contain lead in their glaze. In the Joe Pool Lake assemblages, they were classified as whitewares and placed in the ironstone/whiteware category.

After having belabored the creamware or "CC" ware issue (c.f. Miller 1980), it would be unfair not to mention that ceramic traditions have regional and socioeconomic boundaries. For example, it was extremely uncommon <u>not</u> to encounter fragments of blue, shell edged, ironstone or whiteware plates on sites dating from the 1860s to 1880s in the Northeast. This is in direct contrast to Joe Pool Lake sites and others excavated in North Central Texas. The late occurrence of shell edged wares in the Northeast may be the result of residual breakage of older pieces, but this is unlikely based on makers' marks (see Cheney 1982:70-72). Rather, the Northeast examples may be the result of specific regional preferences, and represent an important piece of cultural information to be studied further. Urban assemblages in Texas often contain a much richer selection of ceramic varieties than contemporary rural assemblages (Fox 1983). Consequently, it is reasonable to accept regional variation as a product of differences in transportation systems, family preferences, and other broader socioeconomic elements.

With these points in mind, we can return to the refined earthenware classification system used on the Joe Pool Lake assemblages. Table 20-2 presents the classification used on these ceramic sherds. Sherds unable to be placed in a specific paste/glaze category were coded under unidentifiable. Badly stained, burned, or weathered sherds were generally placed in this category, unless they could be easily identified by other criteria (e.g., burned sherds of Fiesta wares were still easily identified). Ironstones and whitewares accounted for <u>one-half</u> to <u>three-fourths</u> of the refined earthenware assemblages. Variants of ivory tinted wares occurred on most twentieth century sites and diminished greatly in assemblages having a strong nineteenth century component. Dark colored and Fiesta type wares did not occur in contexts dating before 1935.

The oldest decorated vessels identified were from sheet refuse contexts at three sites: 41TR39, 41TR40, and 41DL192. No shell edged was recovered, as mentioned earlier. Spongewares, spatterwares, hand painted ironstone, and an engine turned annular ware were among the oldest vessels represented. These wares essentially predated 1870 and occurred only on the above mentioned sites.

Transfer printed patterns were also generally scarce and were restricted to simple border patterns of the late nineteenth century except for a few ornate blue patterns dating to the mid-nineteenth century. Most transfer prints depicted floral designs in underglazed shades of green, brown, and purple. Mulberry (i.e., very dark purple) and dark blue were very infrequent. Some twentieth century refined earthenware sherds were also transfer printed but the quality was generally poorer and the patterns were not delicately engraved. Nearly all of the nineteenth century transfers were open patterns of vines, leaves, and sprigs of flowers with much undecorated space between design elements (Figure 20-2g and 2h). A few consisted of fine geometric lines and patterns between the rim and the floral designs themselves. These patterns also emphasized open spaces rather than busy designs. Plates and cups were the most frequent vessel forms decorated with transfer printing. Green and several greenish hues were the most frequent color used. These wares dated between 1860 and 1910.

Beginning in the last decade of the nineteenth century, several additional forms of decorated wares became popular among the rural households of the Project area. Decalcomania and light, relief molded wares (i.e., light repousse´) began to show up in small amounts in ceramic assemblages dating after 1890 (Figure 20-3). The decalcomania design itself first appeared as an over-the-glaze form of decoration on pure white whitewares and very late ironstones. Designs usually consisted of delicate sprigs of vines, leaves, and flowers in monochrome patterns of bluish-green, dark turquoise, or less frequently, a dull red. Cups, teawares,

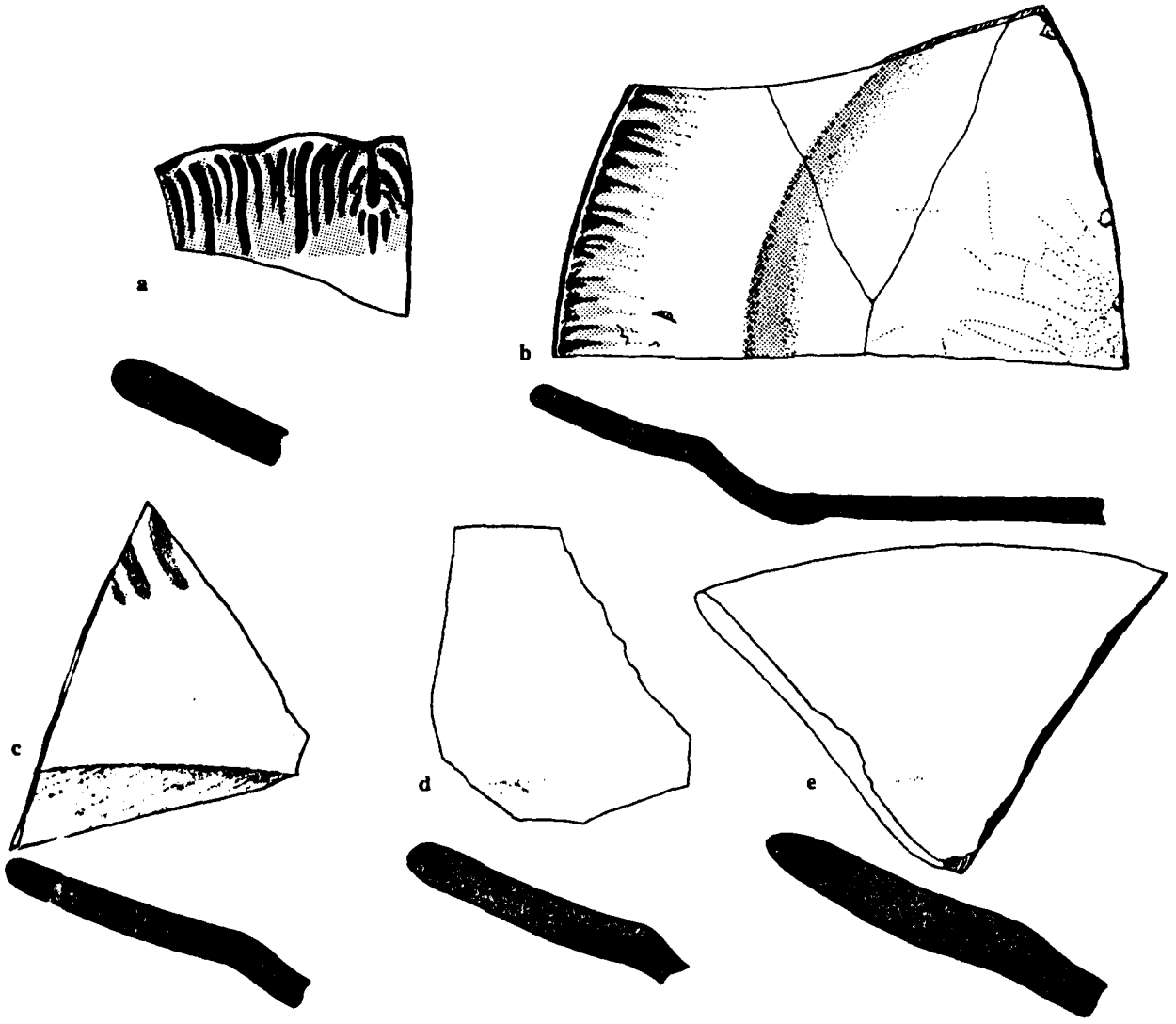


Figure 20-2. Examples of common types of refined earthenware plates ca. 1820 - 1890: (a) cockled, shell edged ·earlware (pre-1840, not found in Project area); (b - d) transitittional wares (ca. 1820 - 1865); (e - g, k) ronstone (ca. 1850 - 1890); (h -i) molded and paneled blue tinted ironstone (ca. 1840 - 1870); (j) late edge ·nolded ironstone (ca. 1870 - 1890). Colors are (a) green, (b) blue, (c) no color added, (g) bluish green, and (k) lark green.

and r lates were decorated with very open floral patterns. Sevc al excellent examples were recovered from the olde: trash feature, Feature 1, at 41DL192 Old and were unlike any examples recovered from the Richland Creek Project located about 100 km south of the Mountain Creek area.

The first 20 years of this form of decalcomania seems to have presented problems since the decoration would separate or rub-off more easily than desired. Thus, many catalogs around the turn of the century emphasized that their decorated ceramic patterns would not "wash or wear off" unlike their competitors' ceramic vessels (Montgomery Ward and Co. 1895:527; Sears, Roebuck and Co. 1897, 1902). Of course, less expensive wares would not always be warranted against this defect. Many decalcomania decorated sherds in Joe Pool Lake assemblages from the 1890 to 1920 period have lost part or all of their decalcomania decorations. Green leaves seem to separate from the glaze more easily than the pink roses (Figure 20-3c). The overglaze decoration was not stable and after being buried in the soil for years, it frequently became detached from the glaze and was lost to the soil. But, by angling sherds between a strong light source and then reflecting the light off of the glaze, one was usually able to see a dull, matted design left behind as a film on the glaze. The design would outline the original pattern. Later decalcomania wares, especially the polychrome patterns on ivory

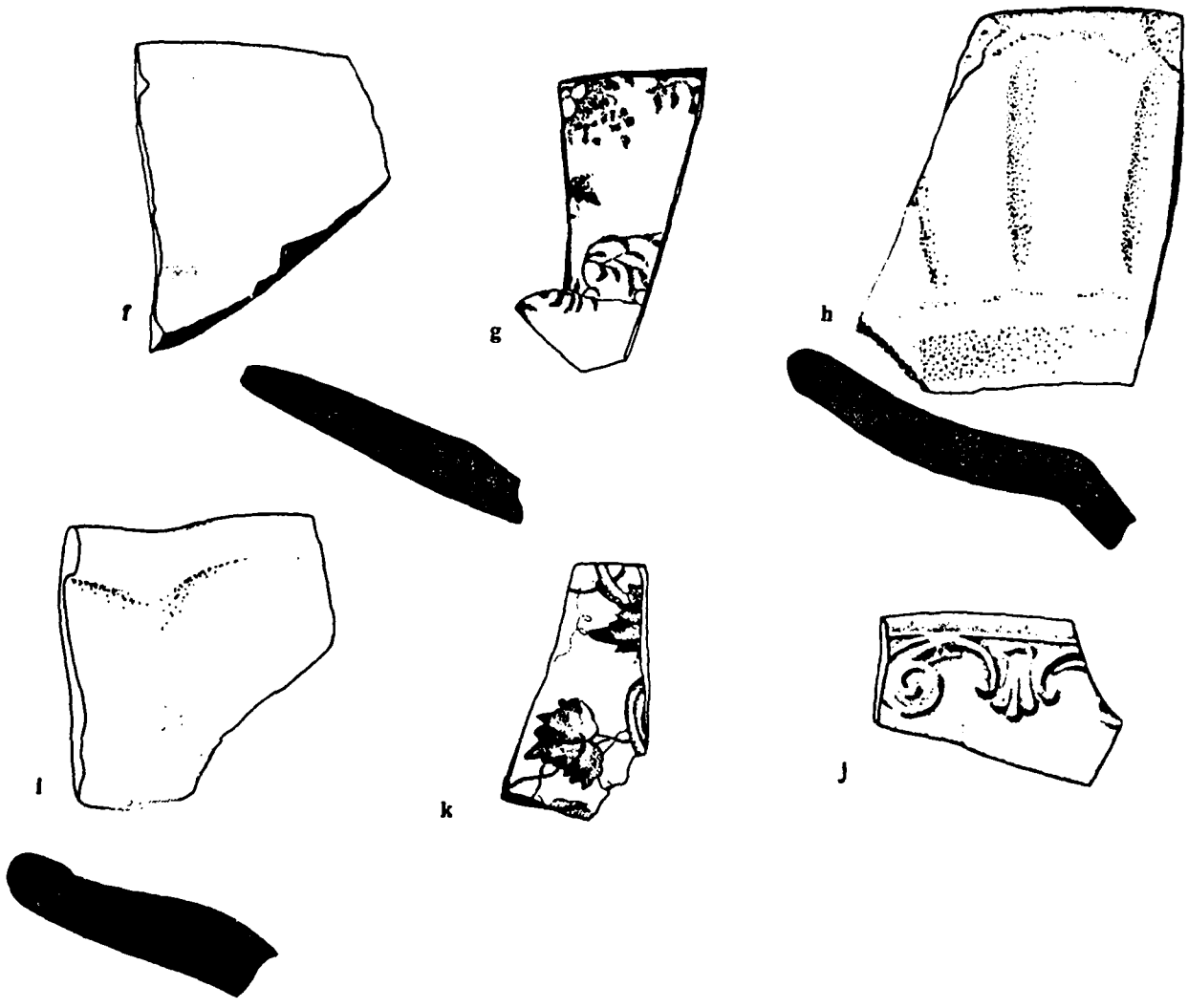


Figure 20-2 — (*continued*). Examples of common types of refined earthenware plates ca. 1820 - 1890: (a) cockled, shell edged pearlware (pre-1840, not found in Project area); (b - d) transitional wares (ca. 1820 - 1865); (e - g, k) ironstone (ca. 1850 - 1890); (h -i) molded and paneled blue tinted ironstone (ca. 1840 - 1870); (j) late edge molded ironstone (ca. 1870 - 1890). Colors are (a) green, (b) blue, (c) no color added, (g) bluish green, and (k) dark green.

tinted wares, were able to overcome this defect with greater success (Figure 20-3j). The earlier forms of decalcomania, however, seem to have more of a problem with it. Although specific counts were not recorded, sherds with the decal colors "washed off" seemed to range from 15 to 65% of all decalcomania examples depending on age and soil conditions.

Several comparatively rare examples of early decalcomania were recovered and exhibited additional hand applied coloring (i.e., enameling) to their patterns. Several excellent examples were recovered from 41DL192. Similar overglazed handpainted designs were found on some transfer printed sherds and these decorated sherds looked very similar to the decal examples. All of these sherds were from vessels that were manufactured in the late nineteenth century (ca. 1880 to 1900).

The most frequent forms of decalcomania recovered from Joe Pool Lake farmsteads occupied after 1900 were floral patterns in polychrome on pure white whitewares (Figure 20-3c), and light ivory, or deep ivory tinted wares (Figure 20-3j). Pink and red roses with green leaves were the most typical patterns recovered. Patterns with roses were popular in many potteries. Cunningham (1982) illustrates the *Petit Point Rose* (Ibid:87), *Wild Rose* and *Heather Rose* (Ibid:93), and *Virginia Rose* (Ibid:195), and she also lists dozens of others in her Index on patterns (Ibid:317-319). Other flowers were also encountered occasionally in the assemblages.

The borders of plates and bowls were decorated with very light repousse' designs of dots, lines, and scrolls, especially on the earliest wares. Generally, the body of these vessels were pure white whitewares. Precise identification of the patterns is not possible for most

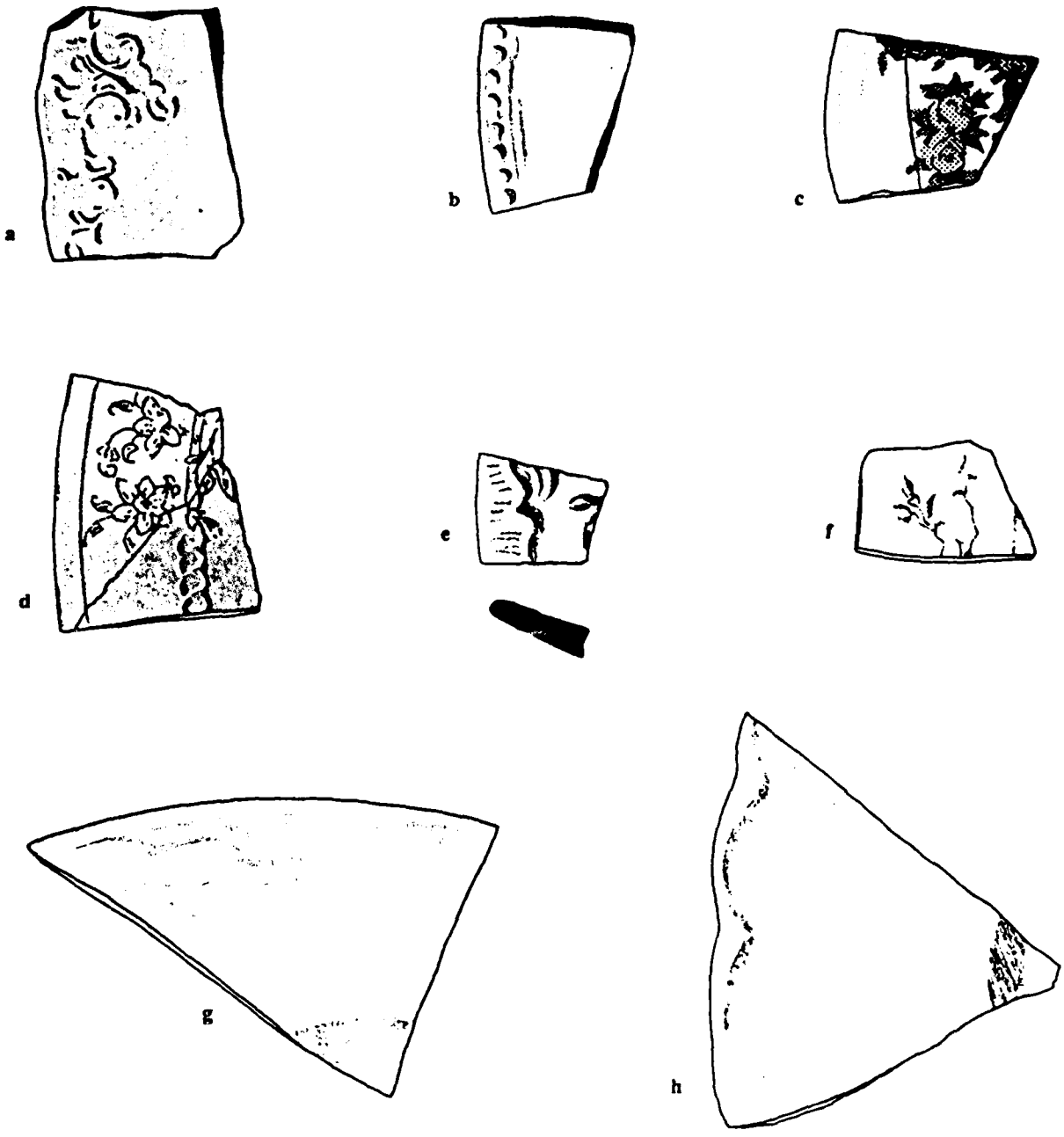


Figure 20-3. Examples of post 1890 varieties of refined earthenwares from North Central Texas farmsteads. Pure white whitewares (a - f) ca 1890 to 1920 with light repoussé patterns in (a) and (d). Decalcomania overglaze decoration in monochrome aqua and blue green in (e) and (f), and polychrome (rose, brown, green) in (c) and (d). Light ivory tinted wares (g and h) ca. 1890 to 1920. Dark ivory tinted wares (i and j) with heavy relief decoration and polychrome overglaze decalcomania (j) ca. 1930 to 1945. Green Fiestaware with decorative banded ridge (k) post 1930.

sherds since there were many variations available at the turn of this century. Some of the fragments were of lesser quality variants of patterns displayed in the 1902 and 1906 Sears, Roebuck and Co. catalogues. The Glenmore Rose pattern (American manufactured) for example, although containing heavy embossing and panelling as well as gold gilding, is a close variant of the most common rose design recovered from Joe Pool Lake farmsteads after 1900 (Sears, Roebuck and Co. 1902:789). A more elaborate version may be seen in the 1906 catalog as the Rosemere Pattern made by Laughlin China Company (Sears, Roebuck and Co. 1906:355). Variants of this pattern were much less frequent in the twentieth century assemblages but were distinguishable by scroll designs between floral sprays. Gilding in gold or silver was more common on sherds from the Mountain Creek area than it was from sites to the south (Figure 20-3j) and it was usually restricted to twentieth century types.

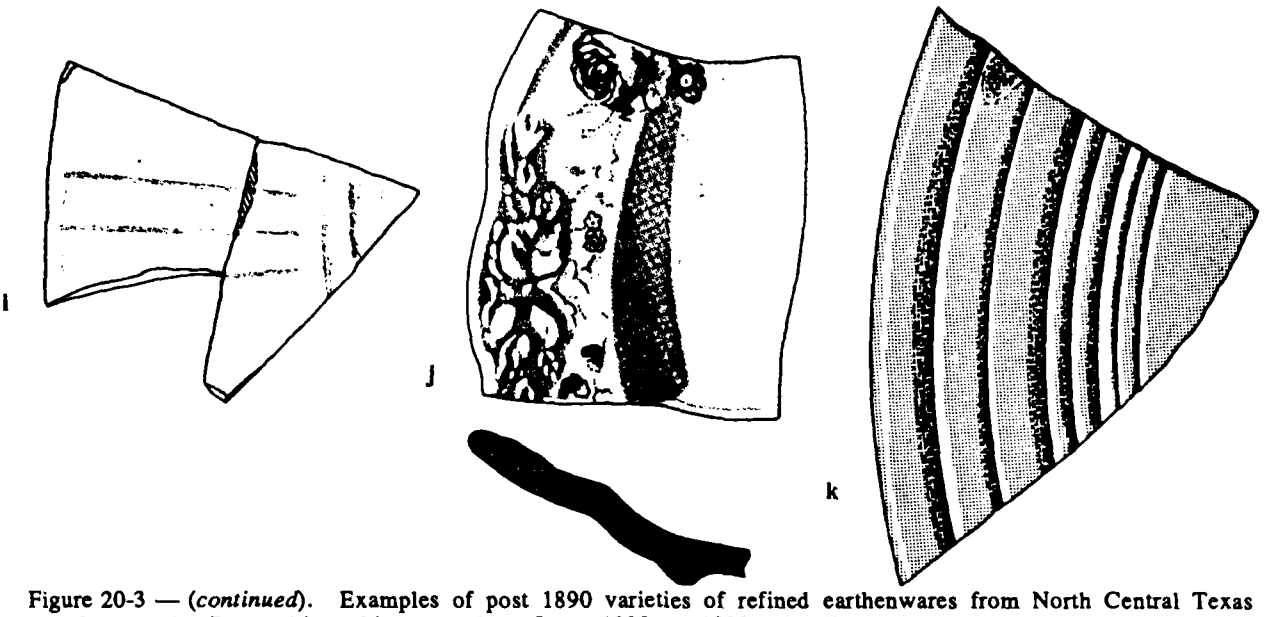


Figure 20-3 — (*continued*). Examples of post 1890 varieties of refined earthenwares from North Central Texas farmsteads. Pure white whitewares (a - f) ca 1890 to 1920 with light repoussé patterns in (a) and (d). Decalcomania overglaze decoration in monochrome aqua and blue green in (e) and (f), and polychrome (rose, brown, green) in (c) and (d). Light ivory tinted wares (g and h) ca. 1890 to 1920. Dark ivory tinted wares (i and j) with heavy relief decoration and polychrome overglaze decalcomania (j) ca. 1930 to 1945. Green Fiestaware with decorative banded ridge (k) post 1930.

A maker's mark from the Pool site (41DL191) identified one vessel's pattern as Angelus by Homer Laughlin. Gates and Omerod (1982:Figure114c) illustrate this mark and list its date as ca. 1909. The 1908 Sears, Roebuck and Company catalog illustrates the Angelus pattern by Laughlin and lists a 56 piece dinner set for $3.69 (Sears, Roebuck 1908:349). The set was the least expensive of the three offered by Sears and manufactured by Laughlin.

Twentieth century sherd specimens from some of the assemblages revealed strong household preferences for ivory tinted and dark tinted/colored or fiesta-like wares (e.g. 41TR39, 41DL181, 41DL191). Green and yellow colored fiesta-like wares were among the more common varieties encountered. In addition, some mid-twentieth century transfer prints were also present, similar to the types of wares purchased in soap box giveaways. A few examples of Currier and Ives monochrome transfer printed patterns were recognizable in the ceramic collections from the Joe Pool Lake Project area.

SUMMARY

Ceramic assemblages from Joe Pool Lake sites were primarily composed of post 1880 refined earthenware varieties. No shell edged ironstone or other pre-1850 wares were recovered. The oldest vessels represented were transfer printed transitional late pearlwares/early ironstones dating from the 1840s to 1850s. These were encountered only at 41DL190 and 41TR39. In addition, a few pre-1860 sherds were recovered from 41DL267. The most abundant ceramic tablewares represented in all the collections were plain or lightly decorated following the traditions found in other parts of North Texas. Households were current in their ceramic style preferences but were very unpretentious in their choice of decorations and fashion. Socioeconomic separation between landowner and tenant assemblages was not evident in the types of fine tablewares recovered. This followed the pattern encountered on other projects in North Texas.

WINDOWS AND WINDOW GLASS

21

by

Randall W. Moir

Fragments of window glass were recovered from all thirteen historic sites intensively examined in the Joe Pool Lake project area. In total, over 6379 sherds were excavated producing an average of 532 sherds per site. Consequently, these sherds offered an opportunity to test several hypotheses regarding window pane thickness, size, socioeconomic status, and chronology. For example, a recent study conducted by Southern Methodist University on several dozen farmsteads in Navarro and Freestone Counties 100 km south of Joe Pool Lake indicated that the frequency of window glass sherds excavated from general yard midden contexts provided strong socioeconomic and architectural information for sites abandoned by 1910 (Moir 1987a:75-77). In addition, several archaeologists have noted that window pane thickness increased during the nineteenth century and this trend was also evident in some of the Richland Creek assemblages (Carlson 1984; Moir 1982b, 1983d). In this chapter, window glass data from Joe Pool Lake sites are used to test and refine these hypotheses and to gather additional insights on the historic properties under intensive study and mitigation.

FLAT GLASS AND WINDOW PANES

Although it may seem a bit obvious to most, it is extremely important to separate flat glass from vessel glass in order to achieve useful results. Not all flat glass represents window pane glass. But, from the inspection of thousands of fragments from seventeenth, eighteenth, and nineteenth century assemblages, all flat glass fragments can be easily separated from sherds of bottle glass and other types of glass containers. Fragments of case bottles or panel bottles, for example, two bottle shapes most likely to yield flat pane-like fragments, may produce sherds that appear not to curve upon casual inspection. The true identity of these sherds, however, can be easily noted with a few simple observations. Bottle glass blown in a mold is uneven in thickness due to the properties of heated glass and the laws of physics. Fragments from these bottles will be thickest in the center of the panel and thinnest in the corners. Although their outer surface may be flat, their inner surface will curve. Light reflected off their inner surfaces will migrate across their face rather than produce a quick, even flash as found on flat glass. Window pane fragments and other types of flat glass yield "flat reflections" on both sides when they are angled at a single light source.

In addition, container sherds are uneven in thickness when mold shapes are not circular. Small sherds of flat glass (i.e., less than 20 mm) do not exhibit any measurably differences in thickness in cross section. Flat sherds of bottle glass often show a difference that is visually noticeable. Color and surface texture are also helpful attributes for separating flat glass from container sherds. Nearly all window glass is tinted or colored rather than absolutely clear unlike many glass containers. This is quickly noticeable by

placing modern pane fragments on white paper. The sherds will display a slight green, grayish green, or bluish green hue which is most evident when looking at their edges. The thicker the sherds the darker the color. Manganese decolorized window glass is extremely rare and I can point to only one example among literally hundreds of historic sites personally reviewed (see 41NV289, in Chapter 7 in Moir and Jurney 1987a). Consequently, most sherds of bottle glass and other types of glass vessels can be easily separated from flat glass by inspecting both sides of the sherd and checking for uniform thickness when total length is less than 20 mm.

The above points help to separate flat glass from bottle/vessel glass. Since some flat glass never served as window pane glass, then how does one separate fragments of mirrors, car windows, furniture and other items from pane fragments? Although such contamination of types is not unavoidable, there are several simple techniques that have yielded productive results in most cases. First, most plate glass can be removed from an assemblage by limiting window pane glass to all sherds measuring less than 3.3 mm thick. In 1924, the U.S. Government established formal specifications for common window and set the upper thickness of double strength panes at 3.18 mm (Monro 1926:95; Roenke 1978). Special flat glass such as plate glass could be manufactured at thicknesses much greater than 3.18 mm. In this study, flat glass that was thicker than 3.2 mm was removed from the assemblages in order to concentrate on common pane fragments. This upper limit or cutoff applies equally well to nineteenth century flat glass and serves as a useful method for removing thicker specialty glass from common window glass. Finally, flat glass from contexts away from dwellings or from specific trash features was also excluded in order to remove sherds that may have non-window pane associations. Vandalism of many of the Joe Pool Lake historic buildings, however, made it a lot harder to concentrate only on pane samples taken from immediately around a structure. As a result of the thousands of pane sherds that have entered each site since abandonment in the 1970s, many assemblages have a biased sample of their latest window panes which will be addressed further on.

WINDOW FRAMES AND FRAME CHRONOLGY

Window panes and window frames contain important information about house construction and the socioeconomic ranking of their builders or intended occupants. Architectural historians have long recognized the important relationship between upper class window styles and household status (Kelly 1924; Isham and Brown 1900; Whiffen 1969). For all classes, windows have been very important status markers for several centuries. For the upper classes, window configurations conveyed a message to others in a community about the important social rank held by a family. Windows provided a complementary medium for accenting exteriors, and were often closely matched in style and construction to blend well with a dwelling's size and status. For example, a mid-nineteenth century plantation house would contain as much glass in a single window frame as one might find in an entire single pen log dwelling. This applies aptly well to many of the dwellings in the Joe Pool Lake project area. The day laborer's house at 41DL192 has only four windows containing about 3 m^2, while Hintze tenant (41DL196) contained five windows with 5.5 m^2, and Hintze (41DL181) landholder ten windows and 12 m^2, of glass and frames.

Some general information on the evolution of window frames and panes is useful to set the background for interpreting the flat glass assemblages from Joe Pool Lake farmsteads. In particular, the size of common window frames and panes for dwellings has evolved considerably in the last one and a half centuries. Basic developments in window frames have been recognized by architectural historians for over fifty years (e.g., Isham and Brown 1900; Kelly 1924; Kimball 1928; Whiffen 1969). Figure 21-1 illustrates typical trends in common window frames for vernacular dwellings in North America between about 1650 and 1925 (Davies 1973; Keyes 1937; Roenke 1978; Wilson 1976). These styles only apply to lower and middle class rural dwellings located in moderately well settled areas. Houses built in remote frontier settings or by very well to do individuals do not fit this schematic progression The progression, of course, is generalized and exceptions are frequent.

Upper class dwellings do not follow this simple progression. Wealth and personal tastes for new styles make many exceptions to this ideal scheme. Overall, wealthy families usually built much larger houses which also required much larger window frames and panes in order to be proportionately proper and aesthetically pleasing. Windows, of course were a fairly expensive accessory and, consequently, closely correlate with the status of a dwelling. The Burleson Plantation house (41NV236), for example, dates to the mid-nineteenth century and was built by a very wealthy landowner in rural Navarro County (see Chapter 7 in Moir and Jurney 1987a). Each window in this central hall dwelling required 1.7 m^2 (18.3 ft^2) of glass, which is about 1.5 times the amount of glass required to glaze the two-over-two window frame shown in Figure 21-1. The Anderson Plantation house in Joe Pool Lake (41DL190) would have contained nearly twice as many windows as the Burleson Plantation house. It was reported to have had 14 rooms and two stories based on informant recollections before it burned to the ground in the 1940s. At the other end of the socioeconomic scale for landowners was the Holveck household that constructed a single pen frame house on 41DL183 located in the Project area. The four windows in this small dwelling required 0.84 m^2 of glass each, or about one half of the amount found in a single window at the Burleson Plantation or the Anderson Plantation house based on conservative estimates. The two-over-two window frame shown in Figure 21-1 required about 1.16 m^2 of glass (12.5 ft^2) and was slightly larger than the window sizes found in typical frame houses before 1890.

Sizes of window frames and panes for mid- to late nineteenth century farmsteads in North Central Texas are illustrated in Figure 21-2. Examples from structures in the Project area and several other projects have been used to compile this information (Crosby 1977; Moir

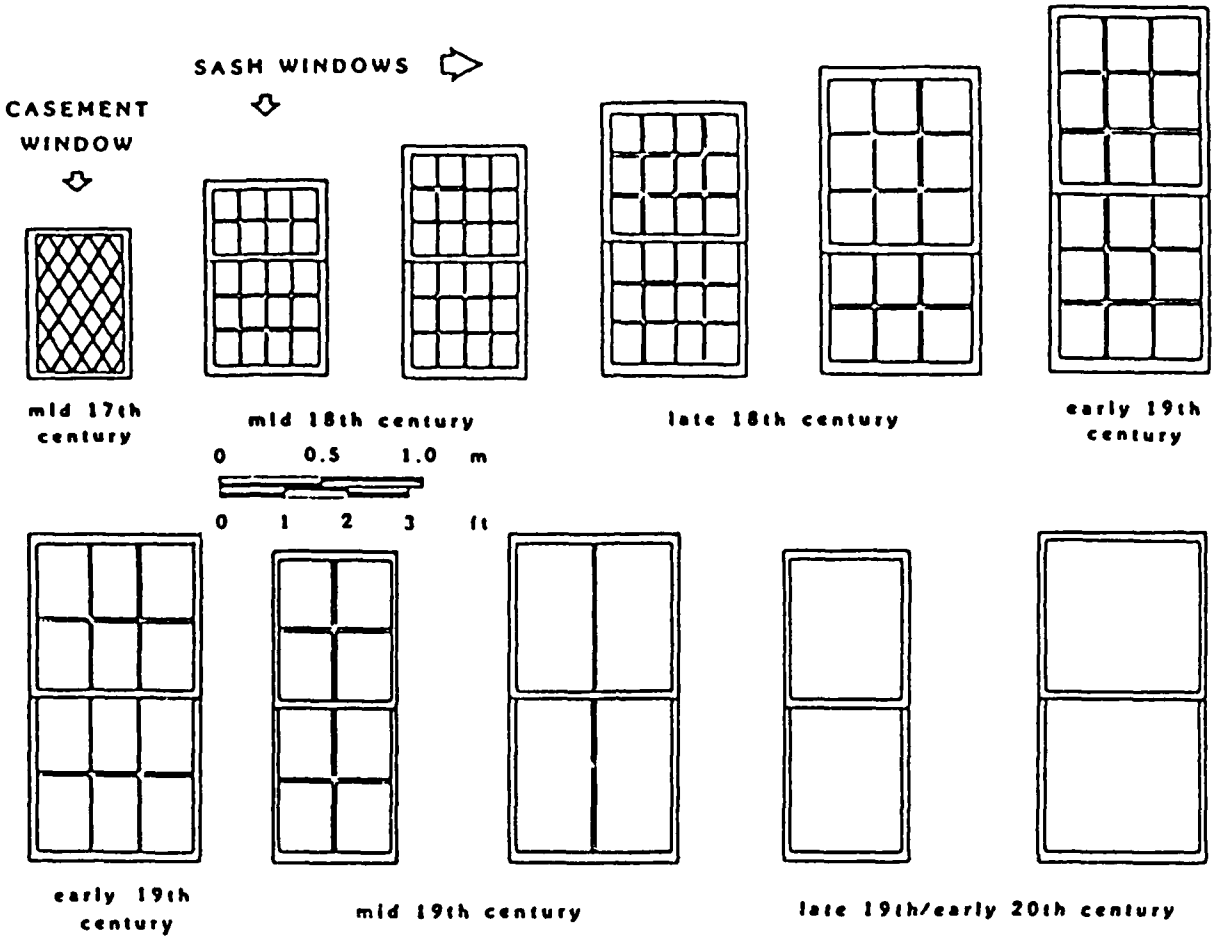


Figure 21-1. Generalized scheme of window pane development for non-upper class rural dwellings. As illustrated, both window panes and frames increased in area until the early nineteenth century, and thereafter only panes increased while the sizes of frames fluctuated in either direction.

and Jurney 1987a; Ferring and Reese 1982). The most important point is the dramatic difference between the size of the windows associated with single pen log dwellings, and the sizes found in much larger dwellings of log, frame, and braced frame construction. When these differences are also correlated with the number of windows typically associated with dwellings categorized by socioeconomic class, the total amount of window glass contained in each is dramatically different. Thus, a late nineteenth century plantation house such as 41DL190 may contain 30 times more window glass by surface area than a small single pen log house also dating to the late nineteenth century.

The total surface area displaced by window frames and panes provides one measure or index of a dwelling that can be correlated with affluence or socioeconomic status of its occupants for nineteenth century rural Texas (Figure 21-2). If the typical single pen log cabin is assigned an average of 0.65 m^2 of window glass, the single pen frame 2.4 m^2, the two room Cumberland and/or dogtrot 4.6 m^2, the rural plantation central hall 21 m^2, and the larger two story plantation house like the one at 41DL190 41 m^2 then the following index is derived: log single pen 1, frame single or double pen 4, log/frame dogtrot or frame Cumberland 7, braced frame central hall plantation house 32, and two story 14 room plantation house 63. For mid- to late nineteenth century rural dwellings, this index provides a crude socioeconomic scale or rank ordering. Of course, the precise ranks of 1, 4, 7, 32, and 63 would not be obtained, but rather something on the order of 0 to 2 for lower and lower middle class rural dwellings, 4 to 10 for middle to upper middle class, and 30 or greater for upper class dwellings.

ANNUAL ACCUMULATION OF WINDOW GLASS

Window glass sherds were excavated from every farmstead midden investigated in Joe Pool Lake. The number of sherds diverged dramatically from as many as 1,358 at 41DL192 to as few as 19 at 41DL183. However, absolute frequencies are misleading since there were also differences in the amount of excavation, length of occupation, and even the final fate of each dwelling. All of these variables have an effect on the total number of sherds recovered. Furthermore, nearly all of the dwellings had been vandalized in the last 20 years, and window panes were a frequent casualty adding

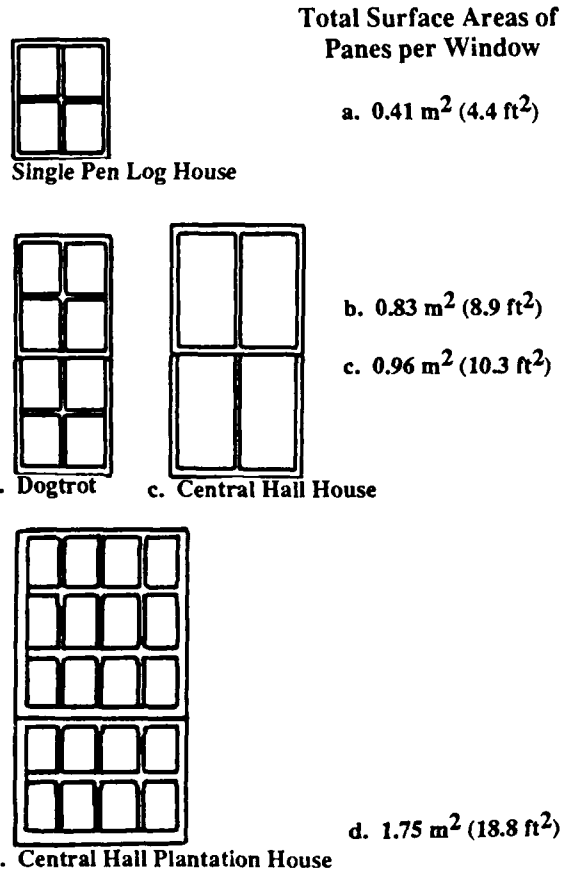


Figure 21-2. Examples of window sizes for rural dwellings in North Central Texas. The small log cabin would usually have had only one or two windows, whereas the plantation house would probably have had twelve to sixteen windows.

thousands of fragments to midden deposits in a single episode. Consequently, most of Joe Pool Lake sites have inflated window glass frequencies.

The last column of Table 21-1 presents the estimated total annual accumulation of window glass sherds for each site based on excavations. These figures exclude feature counts in order to minimize the effects produced by idiosyncratic features and extremely localized events. Any unit from a major feature or containing more than 40 sherds of window glass was excluded from the tabulation (see Appendix A). Units containing hundreds of window pane sherds were considered to be underrepresented in sampling because of the very small sample fraction recovered from each site. In short, the occurrence of units containing large numbers of window glass sherds at some sites was considered random and not a good indication of the total amount of flat glass scattered across the general yard. If excavations had covered all dwelling areas completely, then these high frequency units could be judged more accurately. Since their encounter was a result of mere random chance, the placement of an excavation unit next to a former window location, it was appropriate to exclude these high frequency features to limit unnecessary variability. Consequently, only window glass counts recovered from general sheet refuse contexts were used to estimate the annual accumulation of flat glass at a site. Because many of the Joe Pool Lake structures had been severely vandalized and their windows broken and scattered, it was necessary to apply the 40 sherd per unit limit to remove some of the recent effects of abandonment when computing some window glass indices. The old 1859 house at site 41DL192 will serve as an example of how one index was computed.

The total number of window glass sherds recovered from general sheet refuse contexts around the oldest Penn farmhouse at 41DL192 was computed by taking the total number of window glass sherds excavated, 1237, and subtracting the 955 sherds that were recovered from features and units containing over 40 sherds (i.e., 172 sherds in S312 E104, 16 sherds in S327 E96 a feature, 155 sherds in S328 E96, 83 sherds in S328 E112, 119 sherds in S356 E112, 43 sherds in S360 E112, and 367 sherds from special excavation units 103, 132, 142 to 145, 147, 148,and 150). The result is 282 sherds. To derive the the average annual midden accumulation of window glass, it is necessary to divide 282 sherds by 106 excavation units, yielding 2.66 sherds/excavation unit. This figure is then multiplied by 4 to adjust the value from the 50 x 50 cm excavation unit to a simple per m^2 average, and then multiplied by 1800 m^2 constituting the site area around the old house. The final product is 19,152 sherds which represents a crude but useful estimate of the total estimated number of window glass sherds in sheet refuse contexts around this dwelling at 41DL192. To compute the average annual accumulation of window glass sherds around the 1859 house, one simply divides 19,152 by 81, the number of years that the house was occupied and the resulting product is 236 sherds/year. This figure represents an average value of the number of flat glass sherds added to general sheet refuse contexts annually based upon the above assumptions and premises. In review it is computed by taking: 282/106 = 2.66, then 2.66 x 4 = 10.64; then 10.64 x 1800 = 19,152, rounded off to 19,150, then divided by 81 years to yield 236 sherds per year annual accumulation rate.

These figures represent a general socioeconomic index that reveals strong separation between major social classes for the nineteenth century. At the same time, the index provides little separation between classes for the early twentieth century. For the nineteenth century, the most striking pattern to emerge is the extremely low frequency of window pane fragments on small landholders' and tenants' sites of short duration as illustrated in the Richland Creek project (see Moir 1987a:75-77). Part of this pattern is evident in the Joe Pool Lake data. The significance of annual accumulation rates is most evident when the Joe Pool Lake data are combined with the Richland Creek data. Informant data, archival research, and excavation data (i.e., architectural features and sheet refuse patterning) from both Joe Pool Lake and Richland Creek are used to provide the following conceptual model for interpreting window glass data and *Annual Accumulation Indices* (hereafter *AAI*).

The *AAI* figures in Table 21-1 provide some quantitative insights on the composition of Joe Pool Lake historic sites. These figures alone, however, do not provide enough data to enable meaningful interpretations. Second, it is more advantageous to

Table 21-1
INDICES FOR WINDOW GLASS FROM FARMSTEADS IN JOE POOL LAKE

Sites	Years Occupied	Sherds[1]	SMUs[2]	Sherds/ SMU	Site Area (m^2)	Estimated Total Flat Glass	Average Annual Index (sherds/site/yr)[3]	Comments
Landowner								
41TR39	119	169	172	0.98	4500	17,690	149	core structure ca. 1880, with three additions
41DL192 New	99	97	94	1.03	3200	13,180	133	1876 house, many additions/alterations
41DL181	80	157	36	4.36	4600	80,220	1003	core Cumberland, kitchen addition
41DL191	78	68	33	2.06	2800	23,070	296	reused older pens, ca. 1900
41DL190	65	265	50	5.30	3200	67,840	1044	14 room "mansion", ca. 1887
41TR40	65	274	86	3.19	3600	45,940	707	2 story w/ additions, ca. 1885
41DL183	63	14	16	0.88	2500	8,800	140	single pen frame w/ additions, ca.1892
41TR45	50	47	58	0.81	3800	12,300	246	recent house, ca. 1900
Tenants								
41DL192 Old[4]	81	282	106	2.66	1800	19,150	236	single pen w/ additions, ca. 1859
41TR48[4] Main	70	446	140	3.18	3000	38,160	545	two story, ca. 1880 (SR)
41DL267	65	168	104	1.62	2000	12,960	199	several episodes ca. 1880 onward (SR)
41DL196	50	366	113	3.24	1900	24,620	492	Cumberland, ca. 1900
41DL268	50	69	74	0.93	1300	4836	97	double pen w/ addition, ca. 1885
41TR42[4]	43	138	73	1.89	4600	34,780	809	rural Victorian, ca. 1907

1 Single units with flat glass counts above 40 fragments excluded
2 Feature units and special excavations excluded
3 Derivation for AAI is explained in text
4 Initially built and occupied by a landowner

Table 21-2
AVERAGES FOR SEVERAL WINDOW GLASS INDICES BY OWNERSHIP STATUS

Temporal Affiliation	Socioeconomic Group	Mean Values for Window Glass: Sherds per SMU	Sherds per Site[1]	Average Annual Index (sherds/site/yr)	Sites in Sample
Mid 19th-20th	Owner	0.48	17,690	149	TR39
	Tenant	2.66	19,150	236	DL192 Old
Late 19th-mid 20th	Owners	3.72	42,320	628	TR40, DL190, DL192 New
	(s d)	(1.40)	(27,510)	(460)	
	Tenants	1.91	18,650	280	DL267, DL268, TR48
	(s d)	(1.15)	(17,380)	(234)	
Early to late 20th	Owners	2.03	31,100	421	DL181, DL183, DL191,TR45
	(s d)	(1.66)	(33,310)	(393)	
	Tenants	2.57	29,700	650	DL196, TR42
	(s d)	(0.95)	(7180)	(224)	

1 Total sherds based on sample fraction

Table 21-3
AVERAGES FOR SEVERAL WINDOW GLASS INDICES BY OWNERSHIP STATUS AND PERIOD FOR RICHLAND CREEK SITES

Period	Socio-Economic Group	Mean Values for Window Glass: Sherds/ SMU	Total Sherds/ Site[1]	Total Sherds/ Year	Sites N[3]
Pre-1910	Tenants[2]	0.07	656	27	4
	(s d)	(.06)	(660)	(20)	
Pre-1910	Landowners	0.79	15,400	273	4
	(s d)	(.63)	(17,650)	(285)	
Post 1900	Tenants	1.58	21,792	472	9
	(s d)	(.75)	(13,713)	(236)	
Post 1900	Landowners	1.55	21,640	393	6
	(s d)	(.96)	(13,047)	(190)	

1 Total sherds based on sample fraction; see Tables 5-1 and 5-2 in Jurney and Moir 1987

2 Excluded extreme values of site 41NV143

3 Number of sites in sample

compute averages for specific variables or groupings than it is to interpret each *AAI* on a case by case basis. These two positions were evident in the Richland Creek window glass data and appear to apply equally well to the Joe Pool Lake data (see Moir 1987a). Table 21-2 provides averages for the Joe Pool Lake data according to the property status of the major occupants(landowner versus tenant). The oldest group, mid-nineteenth to mid-twentieth century sites contains only one case each and, therefore, does not represent an average of several cases. The next group, late nineteenth to mid-twentieth century sites reveals that owners were associated with window glass indices that were about twice the values found for tenants. This quantitative difference is interpreted as independent support that landownership represented a major division for nineteenth century sites in North Central Texas. Landowner's houses were considerably larger and contained more space and windows. While this is not a completely new revelation, it begins to provide an independent method for checking and controlling sites which are not well documented. It also indicates the distinct difference found among nineteenth century households where socioeconomic stratification was much more pronounced than in the early twentieth century.

The last temporal group on Table 21-2 is composed of strictly twentieth century sites. For this group, it is important to note that tenants have finally surpassed owners in their *AAI* index. In order to better interpret this reversal, it may be helpful to present the *AAI* indices from Richland Creek (Table 21-3). Overall, Richland Creek historic sites were occupied for shorter durations than the Joe Pool Lake sites, about 40 to 50 years rather than 70 to 80 plus years. Second, most Richland Creek sites were abandoned before 1950 and vandalism or fire were not major factors in their post abandonment phase, unlike Joe Pool Lake sites. These two factors probably contributed to a greater time capsule effect or quality general not found for the Joe Pool Lake sites. Nevertheless, combining the data in Tables 21-2 and 21-3 yields a fuller picture not possible with the Richland data alone.

The oldest group of sites from either table is the pre-1910 set from Richland. Although it does not have a close counterpart among the Joe Pool sites, it nevertheless provides even stronger support for the great socioeconomic division between tenants and owners. Since these sites are essentially nineteenth century in occupation (i.e., a few are occupied up to 1910, but others are abandoned by 1890), the average *AAI* for owners is nearly 10 times the tenants (Table 21-3). This is much greater than the Joe Pool Lake earliest group average (late nineteenth to mid-twentieth) because the average *AAI* became substantially larger for twentieth century tenant sites. This effect is seen in the data of both Richland and Joe Pool. In this respect, both data sets are similar in that they contain essentially twentieth century sites. Tenant *AAI* indices outstrip owners by 25% for Richland and 50% for Joe Pool. Unlike the previous century, the stimulus for these differences is the effect of greater mobility of tenant households and the more unstable tenant economy. Thus, many tenant houses were abandoned periodically due to seasonal and economic influences. At the same time, tenant dwellings were becoming larger and more comparable in size to small landowner dwellings and log structures were no longer common.

For the Richland Creek project, there was a strong relationship between between dwelling size/construction and window glass *AAI*. For example, site 41NV267, originally a single pen log dwelling with subsequent remodeling yielded a window glass *AAI* of 88 sherds/year. The Baker farmhouse, a dogtrot with two flanking fireplaces 15 m apart and intensive sheet refuse indicative of central access on the front and rear, produced an index of 321 sherds per year. The Burleson Plantation, a large braced frame central hall structure with 12 extremely large windows, produced an index of 656 sherds per year. For these three dwellings, there was a strong correlation between sherd indices, dwelling size, and socioeconomic status. The correlation continues for some of the Joe Pool sites. The frame single pen with addition (a modified double pen) at 41DL183 yielded an *AAI* of 140 sherds/year. The frame single pen with large addition at 41DL192 old yielded an *AAI* of 236. The two story house at 41TR48 yielded 545 and the large, 14 room two story plantation house at 41DL190 yielded 1044. These indices follow a sequence that seems to correspond to total window area and dwelling size relationships. This relationship is similar to the tenant and landowner relationship noted earlier for pre-1910 dwellings.

Based on these data, the frequency of window glass sherds in sheet refuse deposits, after major features have been excluded, provides an index that correlates closely with socioeconomic standing for nineteenth century rural farmstead residences. The strength of the relationship provided an opportunity to offer interpretations for reconstructing dwelling types on sites with no direct oral or documentary evidence concerning the former structure. Based on the results presented in Tables 21-1, 21-2, and 21-3, nineteenth century tenant sites containing log houses, probably

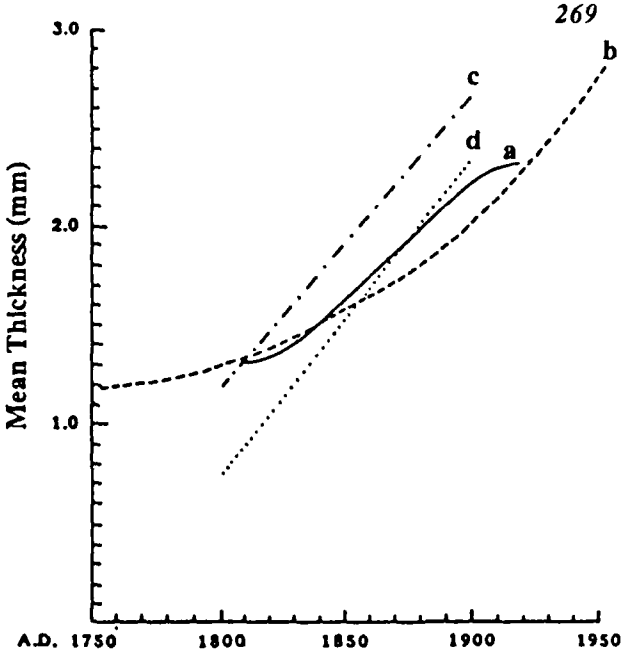
simple single pen dwellings with only a couple of small windows at most would produce *AAI*'s of about 37 (s.d. 29; n=6; Table 21-3). No log houses were known among the Joe Pool sites intensively examined. Returning to the 1, 4, 7, 32 relationship noted earlier in regards to window area, one can apply these ratios to the data at hand. If 37 were taken to be the average *AAI* for a single pen log house, then the average *AAI* for a single or double pen frame dwelling would be 148 (i.e., 4 × 37), 259 (i.e., 7 × 37) for the average Cumberland or frame dog trot, and 1184 (i.e., 32 × 37) for the large central hall upper class plantation house.

Applying this information to Table 21-1, one finds that it holds true for only 6 (41TR39, 41DL183, 41DL190, 41DL192, 41DL267, 41DL268) of the 14 cases. If one recognizes that two story dwellings such as 41TR48 and 41TR40 fall somewhere between 259 and 1184, then the ratios work fairly well (i.e., 8 out 14 times) despite late abandonment and recent vandalism of windows. It should be noted, however, that Joe Pool site's *AAI* will probably prove to be slightly on the high side due to these post occupation disturbances for all dwellings destroyed in the last 20 years.

In summary, from all of these data there exists a rank order, or rough correlation, between the variables of floor area, number of windows, total surface area of windows, socioeconomic status, and window glass accumulation (i.e., index of average number of sherds accumulating onsite per year; see Tables 21-1 to 21-3). Fewer differences were evident in the twentieth century window glass data, although the two story dwellings (41TR40 and 41TR48) yielded above average indices. The total quantity of window glass able to be documented for many of the structures in Joe Pool Lake provided additional information for corroborating some of the hypotheses generated by Richland Creek. Consequently, the amount of flat glass scattered across a historic house site offers potentially useful information about the status of the occupants and the size/construction of their dwelling. The limits of interpretation for window glass data could be greatly strengthened by focusing on highly documented sites of short duration (i.e., 30 to 60 years of occupation). In the next section, data on pane thickness is examined using the assemblages of flat glass recovered from around Joe Pool Lake dwellings.

PANE THICKNESS AND DATE OF MANUFACTURE

Investigations by historical archaeologists since the late 1960s have revealed that flat glass gradually increased in pane thickness for most of the nineteenth century (e.g., Chance and Chance 1974; Grosscup and Miller 1969; Walker 1971). Thickness of pieces of broken windows added support to the idea that changes in window pane size (e.g., Figure 21-1) and shifts in production methods also affected pane thickness. The primary published treatise on the thickness of flat glass is the detailed study by Roenke (1978). Other publications, technical reports, and manuscripts not mentioned above are Adams (1980); Chance and Chance (1974); Cissna (1981); Demeter and Lowery (1976);



Study	No. of Cases
a Moir 1982	45 cases
b Moir 1977	4 cases
c Roenke 1978[1]	15 cases
d Cissna 1981[2]	unknown

Figure 21-3. Least squares regression lines for predicting initial construction dates based on mean thickness of window glass (all sherds less than 3.3 mm). The solid line represents the equation used to date Joe Pool assemblages.

1. Data taken from Roenke 1978 computed in Moir (1982b).
2. Formula compiled by Inashima (1981) and presented in Cissna (1981).

Grange (1975); Inashima (1981); Lees (1977); Martinez (1976); Moir (1977, 1978, 1982b, 1983d); Rotham (1980); Steele, Ross, and Hibbs (1975); and Wentworth (1979).

Most studies on thickness of window glass fall into three groups based on the particular measurements used to represent assemblages: maximum - minimum thickness values (e.g., Walker 1971), modal thickness (e.g., Chance and Chance 1976; Roenke 1978), and thickness (e.g., Cissna 1981; Inashima 1981; Moir 1977, 1978, 1982b). The original stimuli for all studies are usually traced to two areas: Arkansas and the Pacific Northwest. The pioneer work of Walker (1971) in Arkansas, for example, was the primary impetus for all studies in the third group, also located east of the Rocky Mountains. Most studies in the second group except for Wentworth (1979) and Adams (1980), however, are from the Pacific Northwest.

Viewed together, data from technical reports and other studies provide irrefutable evidence that flat glass did indeed become thicker over the entire country during the nineteenth century. Several regression equations for thickness are illustrated in Figure 21-3. The solid line is the equation used to date the Richland/Chambers sites.

Many previous studies have incorporated some additional noise in their data sets because explicit sampling and collection procedures were not formulated. Collection policies, selection of appropriate point estimators for both time and thickness, and recognition of important site specific variables (e.g., age, length of occupation, site function, socioeconomic status, etc.) need due consideration to obtain satisfactory results.

Context, or the precise intrasite provenience of each sherd of flat glass, for example, is the single most important variable, requiring exact control, in order to study change in thickness over time. Poor context generally underrepresents correlations between most thickness indices and time. Other very important elements are initial construction date, likelihood of structural additions, occupation span, site function, socioeconomic status of initial and subsequent occupants, minimum/maximum sherd count requirements, criteria for identification of flat glass, and criteria for removing atypical window glass or speciality kind of flat glass. Once these relationships are clearly understood, then mean thickness of a sample of common window pane fragments can be used to derive a comparatively accurate initial construction date for a dwelling, providing that important requirements have been satisfied.

Research thus far has revealed similar least squares regression lines for modeling mean thickness in the Northeast and South for dwellings constructed between 1810 and 1915 (Moir 1982b). Thickness data from both of these areas have produced the equation I = 84.22 (T) + 1712.7 for dating the initial construction of dwellings. This equation explains 93% (r = .965) of the variation between mean thickness (T) and initial construction date (I) for 45 structures (Moir 1982b). Several independent checks have been made using published data and have yielded similar results (e.g., Huntington 1982:33, Lees 1977; and others).

There are, however, several important qualifications to these findings. Mean thickness for structures built earlier than 1810 or later than 1915 is a poor indicator of construction date. Changes in the methods of production of flat glass and changes in window styles make thickness of little use for deriving initial construction dates. In 1924, U.S. government specifications for common window glass set thickness of single strength panes at 2.04 to 2.54 mm and double strength at 2.77 to 3.18 mm (Monro 1926:95; Lees 1977; Roenke 1978). Consequently, thickness of common window glass by definition is restricted to values thinner than 3.3 mm by the early twentieth century. Excluding sherds with thicknesses greater than 3.2 mm filters out special varieties of flat glass (i.e., uncommon or special pane glass of special flat glass for non-window pane functions), and yields more reliable results. Common window glass not used for window panes (e.g., furniture, mirror, fish tank, picture frames, etc.) can be filtered out by limiting assemblages to sherds found within 4 m of a structure.

In summary, limiting flat glass samples to units directly associated with architectural remains and excluding sherds thicker than 3.2 mm help to filter out extraneous pane fragments and specialty flat glass to yield a more reliable assemblage for deriving chronological information. If these two precautions are followed, then an accurate (i.e., ± 7 years) estimate of the initial construction date of a dwelling can be obtained in six out of ten cases. Sample sizes have to be reasonable and samples not collected from a single point or two. Length of occupation also needs to be less than 70 years, and if structural additions are present, these need to be recognized and sampled separately. Last of all, upper class dwellings, urban dwellings, and specialized structures are less likely to produce useful results, and the formula is not designed to be applied to these other categories of buildings.

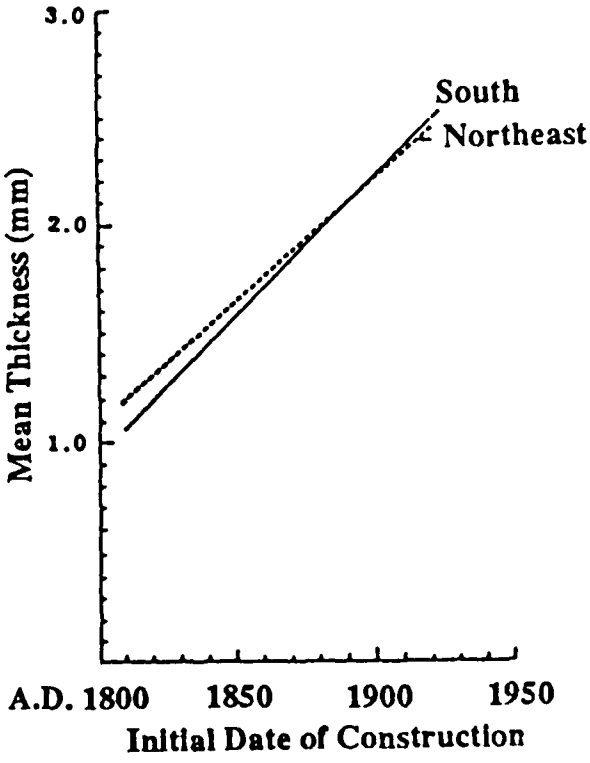


Figure 21-4. Least squares regression of window glass thickness by initial date for structures for two major U. S. regions. The Northeast and South compare very favorably and indicate essentially the same relationship between thickness and time (after Moir 1982b).

SELECTING AN APPROPRIATE POINT ESTIMATOR

Initial beginning dates are much more useful for window glass studies, so long as length of occupation is under 70 years. These points have been recognized after reviewing regressions run on Roenke's (1978) data and also after looking at histograms for sites occupied for long periods (Moir 1982b). The initial construction date is a much more realistic temporal reference point than mid range of occupation for the following reasons. Windows, in most situations, are installed during the initial construction of a structure. Entire window replacement, costly for middle and lower class dwellings, does not seem to present problems that affect empirical evidence until after 70 years of occupation.

Table 21-4
PREDICTIVE MODEL FOR DATING LOWER TO MIDDLE CLASS RURAL DWELLINGS IN THE UNITED STATES EAST OF THE CONTINENTAL DIVIDE USING MEAN THICKNESS OF WINDOW GLASS

Date	Mean Thickness based on Regression	General Range for Mean Thickness	Comments
1600 to 1720	does not apply	from 1.00 to 1.35 mm	needs substantial checking
1720 to 1800	does not apply	from 1.20 to 1.65 mm	needs substantial checking
1810	(1.16)		adjust to 1.30 mm[1]
1820	(1.27)		adjust to 1.33 mm[1]
1830	1.39		↑
1840	1.51		↑
1850	1.63		↑
1860	1.75		high correlation
1870	1.87		between each
1880	1.99		↓
1890	2.11		↓
1900	2.22		↓
1910	(2.34)		adjust to 2.27 mm[1]
1920	(2.46)		adjust to 2.30 mm[1]
1920 to 1980+	does not apply	from 1.90 to 2.80 mm	needs substantial checking

[1] These are recommendations only

The Joe Pool sites underscore this problem and verify the need to limit occupation to less than 70 years per assemblage context.

Breakage, for most sites it seems, is usually random and results in more fragments of original panes being added to the archaeological record, than fragments of replacement panes. Collection of samples from many different spots along the exterior wall lines will minimize chances of recovering replacement pane fragments as long as occupation is limited to less than 70 years. This does not mean, however, that all structures occupied for longer periods are useless. Stratigraphic contexts can seal original pane fragments broken earlier in occupation from later episodes.

Figure 21-3 indicates that the highest correlation between mean thickness and initial construction date occurs from about 1810 to 1915. Cases outside of this period have shown poor trends over time (Moir 1982b, 1983d). Figure 21-4 illustrates least squares regression lines by region. The least squares regression lines for the south and northeast are very similar. The small amount of divergence is due to slightly different distributions at opposite ends of the temporal spectrum (see Moir 1982d).

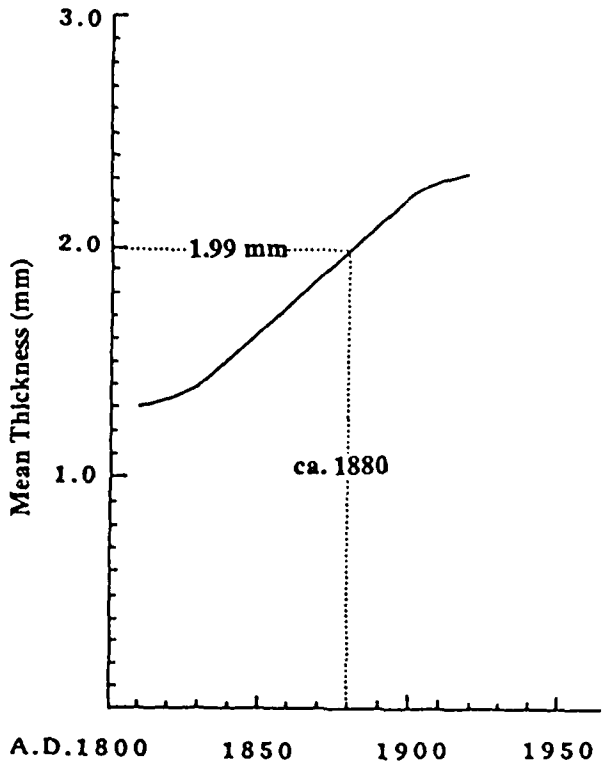


Figure 21-5. Least squares prediction line for deriving an initial date of construction based on mean thickness, as long as precautions are enforced and sampling is adequate.

PREDICTING CONSTRUCTION DATE

It is clear that window glass becomes thicker as the nineteenth century progresses. Walker (1971) stated this relationship over a decade ago and Roenke (1978) demonstrated it four years ago. Based on data given in Moir (1982b), a highly predictive relationship between mean thickness (T) and initial data of construction/occupation is evident. Forty-five cases (Moir 1982b: Table 1) produced a correlation coefficient of 0.965 (r value) for mean thickness and beginning date between 1810 and 1915. The equation ID = 84.22 (T) + 1712.7 and be used to predict an initial construction date since it accounted for 93.1% of the variability contained in the trial containing 45 sites. But, it is necessary to "bend" the ends of the least square regression line representing this formula to improve the relationship in each tail. These changes are illustrated in Figure 21-5 and Table 21-4.

In order to use this technique, mean thickness needs to be computed to the nearest 0.01 mm (measurements taken to 0.1 mm). If the requirements stated earlier are fulfilled, then Figure 21-5 and the above formula may be used to obtain a theoretical beginning date, as long as the site/structure was initially constructed/occupied sometime between 1810 and 1915.

Table 21-5
DATA ON WINDOW GLASS THICKNESS ORDERED BY FORMULA DATE

Site	Mean Thickness[1]	Formula Date[2]	Construction Date	Error (Years)[2]	Sample Size	Periods of Construction/Alteration 1st	2nd	3rd	Total Windows #	Area[3]
41DL267 (south)	1.97	1878.8	ca. 1880	-1.2	64	1880	?	?	unknown	
41DL192 (new)	2.07	(1887.6)	ca. 1876	(11.6)	97	1876	1910	1930	10+	10+
41DL267 (all)	2.07	1888.7	ca. 1880	8.7	168	1880	?	?	unknown	
41DL192 (old)	2.12	1891.7	ca. 1859	(32.7)	106	1859	1885	1912	12	11.6
41DL183 (old)	2.22	1899.7	ca. 1892	7.7	13	1882	1910	?	7	4.5
41TR39 (house)	2.23	1900.5	ca. 1859	(41.5)	160	1859	1880	1910	17	2.7
41DL196 (SR)	2.25	1902.2	ca. 1900	2.2	366	1900	?	?	5	5.5
41TR42 (SR)	2.29	1905.6	ca. 1907	-1.4	138	1907	?	?	11	4.9
41TR48 (main)	2.30	1906.4	ca. 1880	26.4	52	1880	?	?	5?	?
41TR40 (SR)	2.31	1907.2	ca. 1885	22.2	274	1885	?	?	11?	?
41TR48 (south)	2.31	1907.2	ca. 1880?	27.2	420	1880?	?	?	3?	?
41DL191 (main)	2.41	1916.2	ca. 1900	16.2	68	1900	1930	1950	19	26.9

[1] Absolute value is truncated; measured in millimeters

[2] Parentheses denote structures/sites occupied for more than 65 years

[3] Area measured in square meters

THICKNESS AND THE DATING TECHNIQUE FOR JOE POOL LAKE SITES

Twelve contexts were selected to apply the window glass dating technique (Table 21-5). Two of the farmsteads contained multiple dwellings and provided an opportunity to investigate change in pane thickness within the same property. None of the dwellings were more recent than 1915 although several had additions dating to after tnat date (i.e., 41TR39, 41TR45, 41DL191, 41DL192 new). One site yielded an extremely small sample of window glass (n=13), but produced an accurate date (41DL 33). Usually, samples of 15 or 20 sherds are needed before satisfactory results can be obtained. Samples above 30 sherds are more adequate to avoid errors. However, twelve sherds from eight excavation units, all located along wall lines of a house occupied for less than 30 years, can give highly useful results. At the other extreme, a single unit yielding 300 sherds will usually give poor results and, as mentioned earlier, needs to be excluded, or at least weighed, if used. Feature window glass was excluded from the following cases.

Satisfactory results were achieved for 5 of the 12 cases. Since four sites violated the explicit precautions of the technique (i.e., they were occupied for more than 70 years), it is more accurate to state that satisfactory results were achieved in 5 out of 8 cases. But, if we throw out any examples where sample size was less than 15 sherds, then the rate of success was 4 out of 7 cases (57%) when age was computed and fell within 10 years (i.e., error was a + or - 9 years at maximum). This was slightly below the Richland Creek rate of 69%. Successful dates for Joe Pool dwellings were derived for 41DL183, 41DL196, 41DL267, 41TR42. The average error for all the six cases with occupations of less than 70 years was 6.4 years (s.d. 9.5 years).

In conclusion, mean thickness of common flat glass from dwellings built between 1859 and 1907 in the Joe Pool Lake project area provides an independent check for chronology for structures associated with lower and middle class nonurban households. Computed construction dates based on flat glass fell within 10 years of initial occupation dates in 4 out of 7 cases where sample size was greater than 15 sherds. For one site with a sample of only 13 sherds, the formula date also worked fairly well. In two out of five cases, sites occupied for more than 65 to 70 years yielded an average error of 26 years, and provided strong empirical support that window replacement and/or additions/alterations severely affect the accuracy and applicability of the mean thickness dating technique.

WINDOW GLASS STUDIES: A SUMMARY

The previous discussions have revealed that window glass assemblages from farmstead sites in the Joe Pool Lake project area in North Central Texas contain significant information about socioeconomic status and chronology. The general frequency of flat glass sherds thinner than 3.3 mm in non-feature contexts (i.e., general sheet refuse), sampled using a systematic grid of 4 m or less, provides an excellent indicator of dwelling type and general socioeconomic position for structures built before 1880. Mean thickness of a sample of flat glass collected from immediately around, or under, a dwelling provides a useful tool to derive an initial construction date for middle class or lower class dwellings of average construction and located in rural settings (see Moir 1982b, 1982e for details). Together, these two uses of flat glass offer highly useful tools for historical archaeologists working on nineteenth century farmsteads of short occupations (i.e., less than 70 years).

LOCAL UTILITARIAN STONEWARE VESSELS:

DEVELOPING A REGIONAL MODEL OF STONEWARE USE ON FARMSTEADS IN NORTHEASTERN TEXAS DURING THE NINETEENTH AND EARLY TWENTIETH CENTURIES

22

by

Susan A. Lebo

INTRODUCTION

Utilitarian stoneware vessels were an important part of the rural economy in northeastern Texas during the nineteenth century. Due to vessel weight and size, families immigrating to Texas were not likely to bring more than a few stoneware pieces with them. In inland areas, limited transportation and prohibitive costs for importing stoneware clays and completed vessels made it necessary for families to rely on locally produced goods and services. Stoneware pottery technology was introduced as early as 1839 as potters immigrated to this area (Humphreys and Schmidt 1976), particularly from North Carolina, South Carolina, and Georgia (Malone et al. 1979). Over 50 stoneware potteries operated in northeastern Texas during the nineteenth and twentieth centuries to meet the demand for food preparation and storage containers. Denton County potteries were established near the Eagle Ford geological group, which provided excellent stoneware clays. Other potteries located further away from the Joe Pool Lake area were situated along the boundaries of the Wilcox-Sand Formation (Humphreys and Schmidt 1976:22) in Limestone County and as far east as Panola and Henderston Counties in East Texas (Figure 22-1).

The stoneware assemblages recovered from thirteen farmsteads in the Joe Pool Lake area are reviewed and synthesized. This information indicates that stoneware vessels in the project area reflect strong temporal and regional patterning. Sites occupied before rail service reached Dallas and Denton in 1872 primarily yielded fragments of stoneware vessels produced in Denton potteries. Stonewares produced in Limestone County or in East Texas predominated at farmsteads in the area between 1870 and 1900, while imported vessels from Dallas, East Texas, and potteries in the Midwest occurred at sites occupied after 1900. Major vessel types, including jug, jar (wide and small mouth), churn, bottle, bowl, and pitcher forms were identified which exhibited temporal and functional variability. Frequency seriations, indicating that four major glaze types (salt, alkaline, natural clay, and bristol) occurred and provided excellent temporal information on farmstead assemblages.

In the latter half of this chapter, stoneware data from farmsteads in the Richland Creek, Lewisville Lake, Rusk Plantation, and Big Sandy areas (Figure 22-2) are presented and reviewed along with the assemblages from the Joe Pool Lake project. The purpose is to develop a regional model of the role of stoneware vessels considering the availability and use of different glaze styles and vessel types in rural areas of northeastern

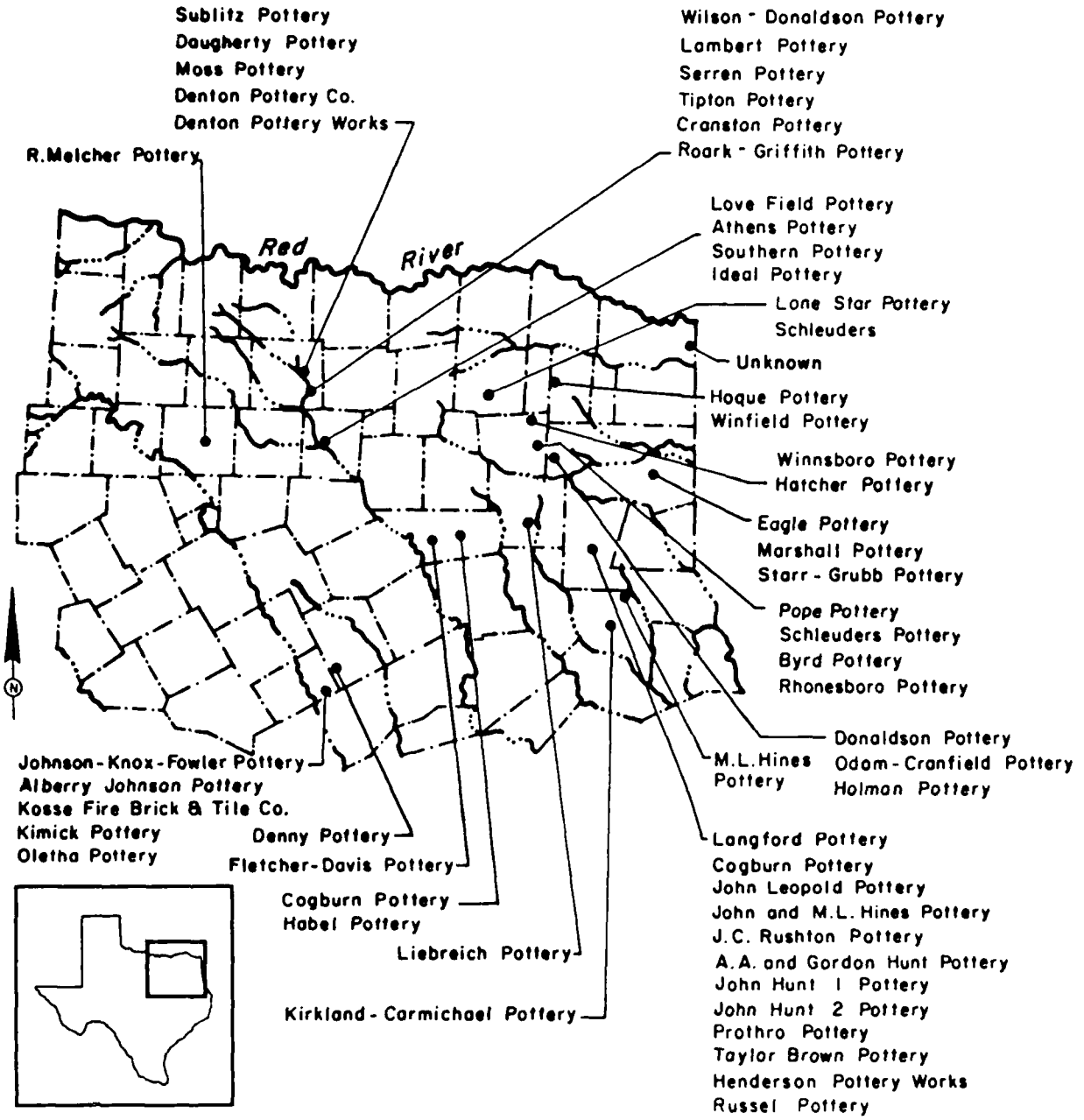


Figure 22-1. Location of stoneware potteries in northeastern Texas, 1839-1930.

Texas during the late nineteenth and early twentieth centuries.

ANALYSIS METHODOLOGY

Nearly all stoneware sherds recovered were used to make minimum vessel estimates. Only extremely fragmentary (less than 2 mm) or badly burned sherds were excluded, accounting for less than 1% of the total stoneware assemblage. A classification scheme was developed using seven variables to identify vessels: interior glaze type, exterior glaze type, interior glaze color, exterior glaze color, vessel shape, paste structure and inclusions, and paste color. Stoneware sherds were assigned vessel numbers (i.e., Vessel 1, Vessel 2, and so on) based on these variables, providing a count for Minimum Number of Vessels (MNV) recovered. All sherds assigned to the same vessel were given a single vessel number. MNV based solely on rim sherds were not tabulated because rim fragments were infrequent. Base sherds alone were not used because of insufficient information for identifying vessel type. Vessel form was determined using four attributes: rim form, handle form, body shape, and throwing ring curvature. Jugs, crocks, churns, churn lids, jugs, and bowls were the major forms identified. Vessel fragments that were too small to be assigned to one of these classes were identified as either

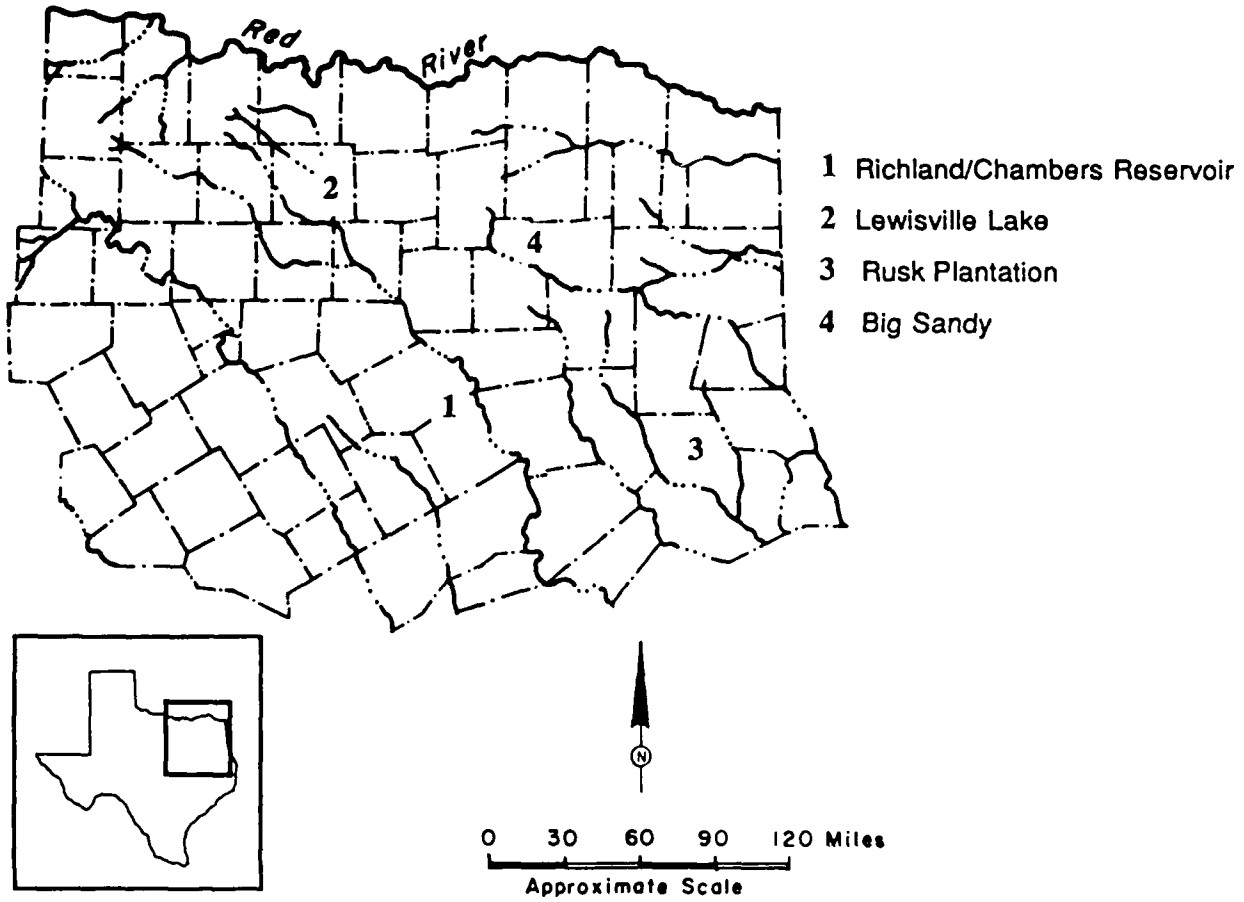


Figure 22-2. Location of pottery collections compared with the Joe Pool Lake material.

bulbous (curved sides) or cylindrical (straight sides) in shape. No distinction was made between vessels that were bulbous between the rim and base and vessels that were bulbous only between the shoulder and rim (e.g., shouldered jugs).

STONEWARE GLAZES

Four stoneware glazes were produced in Texas during the nineteenth and early twentieth centuries. These were salt, alkaline, natural clay, and bristol glazes (see Table 22-1), and their use varied over time.

SALT GLAZES

. glaze was the most common utilitarian stoneware glaze used during the nineteenth century (Greer 1981) and was produced in Texas before 1850 (Sweezy 1984). Glazing was accomplished through vaporization of common table salt which, when combined with a sufficiently silica free pottery surface, produced a clear sodium silicate glaze. Salt may be introduced into the heated kiln three or four times during a single firing to assure adequate glazing (Greer 1981). Three variations of the salt glazing style are evident in the project area vessels: dry interior/salt glazed exterior, salt glazed interior/exterior, and clay slip interior/salt exterior. Each of these glaze combinations was used in this region of Texas during the nineteenth century.

DRY INTERIOR/SALT GLAZED EXTERIOR

This glazing style is most common on jugs and narrow mouth jars which have small openings, or on wide mouth vessels that were stacked in the kiln, reducing the amount of the interior exposed to the salt vapor during firing. According to Greer (personal communication 1984), these vessels were produced in this region between 1840 and 1865.

A total of 17 salt glazed vessels with dry interiors were recovered in the project area. Six each were found at 41DL192 Old (1859 house area) and 41DL190, two at 41TR39, and one each at 41TR48 and the root cellar (Feature 1) at 41DL267. Several potteries in Denton County produced salt glazed vessels with dry interiors prior to 1870, including the Wilson-Donaldson (41DL19), Lambert (41DN74), Serran (41DN75), and Roark (41DN18) potteries. The Alberry Johnson Pottery (41LT122) in Limestone County is also reported to have produced vessels with dry interiors and salt glazed exteriors between ca. 1859 and 1866, however, because of the distance between Limestone County and the Joe Pool area, this pottery does not appear to have been a major source of stoneware vessels for residents in the project area. In addition, the vessels identified at sites in the Joe Pool area reflected glaze and vessel forms produced at the Denton potteries mentioned above. They contained dense iron inclusions, included many poorly

Table 22-1

NINETEENTH AND TWENTIETH CENTURY STONEWARE POTTERIES IN NORTHEASTERN TEXAS[1]

TARL #, Pottery Name Location, County[1]	Years in Operation	Glaze Types[2]
—*Love Field Potteries* Love Field, Dallas, Dallas Co.	1925-	BR
—*Athens Pottery Co* Dallas, Dallas Co.	1914-1920	BR
—*Southern Pottery* Dallas, Dallas Co.	ca. 1920-1930	BR
—*Ideal Pottery* Dallas, Dallas Co.	20th c	BR
41DN16, Cranston Pottery Alton at Hickory Creek,	ca. 1854-1880	S, NC
41DN18, Roark Pottery Lloyd, Denton Co.	ca. 1868-1880 ca. 1890-20th c.	S, NC
41DN19, Wilson-Donaldson Pottery near 41DN75, Denton Co.	ca. 1840s-1880s	S, NC
41DN74, Lambert Pottery near Denton, Denton Co.	ca. 1860s-	S, NC
41DN75, Serran Pottery near Alton Church, Denton Co.	1850s-1880s	S, NC
—*J. Sublitz Pottery, D. B. Doughert Pottery, A. H. Moss Pottery* near Denton, Denton Co.	19th	S, NC
41FA30, Denny Pottery South of Denny, Falls Co.	post-1900	NC, BR
41HS31, Eagle Pottery Marshall, Harrison Co.	1850-1875	S, NC
41HS32, Marshall Pottery Marshall, Harrison Co.	1896-	NC, BR
—*Star Pottery* and later *Grubb Pottery* Marshall, Harrison Co.	ca. 1895-	NC?, BR
—*Unknown* Athens, Henderson Co.	1895-1900	?
—*Fletcher Davis Pottery* Malikoff, Henderson Co.	ca. 1895- ?	?
—*Schleuders Pottery* Cornersville, Hopkins Co.	ca. 1865-1905	NC
—*Lone Star Pottery* Cornersville, Hopkins Co.	? l. 19th c.	?
—*Cogburn Pottery* Henderson Co.	1857-1866	?
41LT11, Johnson-Knox-Fowler Pottery near Kosse, Limestone Co.	ca. 1856(7)- 1910(12)	S, NC, BR
41LT122, Alberry Johnson Pottery near Kosse, Limestone Co.	ca. 1859-1866	Dry/S
41LT123, Kosse Fire Brick & Tile	1875-1890	S, NC
—*Hohn Pottery*	l. 19th c.	
—*Kimick Pottery*	l. 19th c.	ALK, NC
—*Dimelow Pottery*	ca. 1870	
—*Oletha Pottery* near Kosse, Limestone Co.	ca. 1890	NC
41MR57, J. S. Nash Pottery Marion Co.	ca. 1850-1880	ALK
41MR58, Mulligan Frazier Pottery Marion Co.	ca. 1875-1900	ALK
41NV79, M. L. Hines Pottery Garrison, Nacogdoches Co.	m. - l. 19th c.	S
41NA80, Kirkland-Carmichael Pottery Nacogdoches, Nacogdoches Co.	ca. 1889-1900	S, NC, ALK
—*Unknown* Panola Co.	? - pre-1903	?
—*R. Melcher Pottery* 15 miles W of Weatherford Parker Co.	l. 19th-e. 20th c.	NC, BR
41RK54, Langford Pottery Henderson, Rusk Co.	m. 19th c. - ?	S
41RK55, Coburn Pottery Henderson, Rusk Co.	ca. pre-1850	?
41RK57, John Leopold Pottery Henderson, Rusk Co.	ca. 1850-1870 ca. 1870-1880	ALK, NC
41RK58, John & M. L. Hines Pottery Henderson, Rusk Co.	ca. 1880	ALK ?
41RK59, J. C. Rushton Pottery Henderson, Rusk Co.	ca. 1872-1900	ALK
41RK60, A. A. & Gordon Hunt Pottery Henderson, Rusk Co.	ca. 1890-1900	ALK, NC
41RK61, John Hunt Pottery #1 near Henderson, Rusk Co.	ca. 1889-1900	ALK, NC/S, ALK/S, NC
41RK62, John Hunt Pottery #2 near Henderson, Rusk Co.	ca. 1900-1930	NC/S, BR
41RK63, Prothro Pottery Bank of Cherokee Bayou, Henderson, Rusk Co.	ca. 1846-1870	S ?
41RK64, Taylor Brown Pottery Henderson, Rusk Co.	ca. 1839?-1873	ALK, NC
41RK76, Henderson Pottery Works Henderson, Rusk Co.	1890-1894	S, NC, BR
41TT105, Hogue Pottery also called Winfield Pottery Winfield, Titus Co.	ca. 1865-1972	ALK, ALK, NC, BR
41UR23, Odam-Cranfill Pottery also called Calloway Hills Upshur Co.	m. - l. 19th c.	ALK, NC
41UR24, Holeman Pottery Old La Rue Property, Upshur Co.	m. - l. 19th ?	ALK
41UR26, Donaldson Pottery Rhonesboro, Upshur Co.	1915-1916	BR
41WN107, Byrd and Rhoneboro Potteries Rhonesboro, Wood Co.	l. 19th - 1930s	S, NC, BR

1 Taken from Lebo (1987a:Table 8-1); sites designated (--) do not currently have TARL numbers

2 Glaze types (S=salt, NC=natural clay slip (often denoted Albany or Albany type), ALK=alkaline, BR=bristol, ALK/S=alkaline with salt overglazing, and NC/S=natural clay slip with salt overglazing)

fired examples, and were reduction fired. Based on these attributes, all of the dry interior/salt glazed exterior sherds found at the Joe Pool sites are identified as being from vessels produced in the Denton area.

Similar stoneware vessels were identified in the assemblage from site 41DN289 in the Lewisville Lake area, southeast of Denton (see Figure 22-2). This site was dated ca. 1850 ± 5 years (Cliff and Moir 1985:A-12)

and is located close to the major Denton potteries between the Joe Pool Lake and Denton areas. This information indicates that, prior to the railroad, families in this region predominantly purchased stonewares produced in the Denton area. Wares produced in Limestone County and East Texas were unable to compete in the Joe Pool and Lewisville Lake areas. A small number of vessels from these potteries may have been purchased by families that resided for several years in other areas of northeastern Texas before settling near Cedar Hill.

SALT GLAZED INTERIOR/EXTERIOR

The use of salt glazing on the interior, as well as the exterior, was very uncommon in this region and was largely restricted to production prior to 1875. A single vessel at 41TR39 reflected this technique and included two body sherds that were too small to determine vessel form.

CLAY SLIP INTERIOR/SALT EXTERIOR

The most common salt glazing technique involved applying a natural clay slip to the interior surface and salt glazing the exterior and was utilized in this region between 1850 and 1900. This glaze combination was represented at the thirteen farmsteads investigated in the project area, occurring at all sites initially occupied before 1900. Natural clay/salt glazed vessels were produced in each area within northeastern Texas and accounted for almost a third of all stoneware vessels found in the Joe Pool Lake area. The earliest production of this glaze combination close to the project area was in Denton County and started in the 1840s or 1850s (see Table 22-1). These vessels included primarily jugs, crocks, and jars. Early vessels recovered from Joe Pool Lake and Lewisville Lake farmsteads exhibited considerable variability in firing and included many sherds that were underfired, overfired, or the glaze adhered poorly to the vessel, making it difficult to determine glaze types on some sherds. Later vessels exhibited better firing control including both wheel thrown and pressed varieties.

ALKALINE GLAZES

Alkaline glazes spread in use and popularity from the Edgefield area of South Carolina, where they were first used, westward across the entire South between the 1820s and 1860s (Greer 1981). Early alkaline glazed stoneware produced in East Texas dates to about 1839 at the Taylor Brown Pottery in Rusk County. Alkaline glazes were typically used on both interior and exterior surfaces, and because of their tendency to separate during firing, they are characterized by a runny, almost molasses appearance. Early alkaline glazes were made from ash, clay, and sand. Wood ash or slaked lime were used as a flux to reduce the required firing temperature (Sweezy 1984). Overall, these wares were the least expensive to produce, and as such, were very popular throughout much of the South during the nineteenth century. They were produced at 25 potteries in Limestone County and East Texas. Three potteries (see Table 22-1) produced this glaze type prior to 1870: Taylor Brown (ca. 1839) and Prothro (ca. 1846), located in Rusk County, and Nash (ca. 1850), located in Marion County. No alkaline glazed wares were produced in Denton County during the nineteenth century.

Alkaline glazed stonewares were poorly represented in the Joe Pool area and included three vessels at 41TR39 and one at 41DL190. All four vessels were bulbous or ovoid in shape and were probably from one of the pre-1870 potteries that produced alkaline stonewares. It was possible to predict that few alkaline glazed stonewares would be found at early farmsteads in the Joe Pool area based on the evidence that Denton potteries were the major source of stonewares for the area during the 1850-1870s period, and none of these potteries produced alkaline glazed stonewares. However, this did not explain why they were absent at sites occupied between the mid-1870s and 1900 when stonewares from Limestone County and East Texas were imported to the Joe Pool Lake area.

This problem was also noted in the Richland Creek area (Lebo 1987a) where alkaline glazed stonewares were also uncommon, although many of the potteries that produced salt and natural clay slip glazed vessels which were purchased by residents in the area also produced alkaline stonewares. This information indicated that the paucity of alkaline glazed vessels in the Richland Creek area did not reflect a lack of availability but, instead, a personal preference for non-alkaline vessels. Initially, this seemed unlikely, since the use of alkaline glazes was an uniquely southern tradition not found north of North Carolina. In addition, this glaze style was the most popular style in the South during the nineteenth century. The answer became clear when the state of origin was recorded for families at these sites, which indicated that, in the Richland Creek area, alkaline glazed stonewares occurred at farmsteads occupied by families from the South, or who had lived in one of the southern states before immigrating to Texas.

Two sites were occupied by families from Tennessee who settled first in Missouri, then Mississippi, before homesteading in northeastern Texas. Five sites were occupied by freed slaves and their children, and vessels at these sites may have been given to them by their former masters when they were freed or by their parents when they began their own households. In addition, they would also be more likely to purchase alkaline glazed stonewares than families that immigrated from the Midwest or Northeast.

This pattern was also evident in the Joe Pool Lake area, where alkaline glazed stonewares were found at two sites (41TR39 and 41DL190) occupied by families that owned slaves and had resided in the South prior to settling in Texas. Of the eleven other historic properties that were intensively investigated, none owned slaves.

Site 41TR39 was occupied by Marion Loyd, his wife Friendsina, their four children, and by his younger brother's wife Ann Haney (from South Carolina) and her children following Tom's death in 1873. Marion Loyd and his younger brother, James, were from Illinois and settled in Arkansas for eight or nine years before homesteading at 41TR39 in the Joe Pool area in 1859. Marion married Friendsina Cheshier, and James married Susan Cheshier in the 1860s. The Cheshier family lived in Dallas, and James moved there after his marriage, while Marion and his wife resided at the Loyd homestead, with six slave families that belonged to the Cheshiers. A total of three alkaline glazed stoneware

vessels were found at 41TR39, representing at least 33% of the older vessels from the site. Other vessels included 33% dry or natural clay slip interior and salt glazed exterior vessels and 33% natural clay slip interior and exterior vessels, mainly from Denton potteries.

Site 41DL190 was owned by the Napoleon Bonaparte Anderson family. N. B. Anderson was originally from Kentucky and owned several slaves. He settled in the Cedar Hill area in the 1850s and at 41DL190 around 1881. He was related to the John Penn family by his marriage to Mary Jane Penn. A single alkaline glazed vessel was recovered which may represent part of the stoneware assemblage purchased by the family while residing in Ellis County during the 1850s to 1880 period. In addition, a number of other early, pre-1880, vessels were found in the assemblage at 41DL190 which also may have been used at their earlier homestead. These included both dry and natural clay slip interior/salt glazed exterior vessels (see earlier discussion on salt glazed stonewares).

In summary, alkaline glazed stonewares in the Joe Pool Lake area occurred in early, or pre-1880, assemblages and were purchased or brought into the project area by households that were from the South or had resided in the South for a period before settling in northeast Texas and that maintained the traditional lifeways of upper status southern landowners.

NATURAL CLAY SLIP GLAZES

These glazes have often been referred to as Albany slip, Albany glaze or Albany type, Michigan slip or Indiana slip, and natural clay slips. While these terms have been used interchangeably, they are not equivalent. All of the above slips or glazes are natural clay slip glazes, but Albany, Michigan, and Indiana refer to particular slip glazes based on the locations where the clays were mined. Albany type has been ubiquitously used to include both Albany slips (slips from Albany, New York) and local natural clay slips. As such, it is difficult at best to assess whether local clays, imported clays, or both were used for glazing. The term natural clay slip glazes will be used here, since it is unknown at this time which potteries in northeastern Texas used imported clay slips in addition to local slips and which stoneware fragments recovered in the Joe Pool Lake area were produced using local versus imported slips.

Natural clay slips were used by stoneware potters in the nineteenth and early twentieth centuries. Glazing was applied by eithe. dipping the vessel in prepared slip or by pouring the slip over the vessel. Initially, natural clay slipped interiors were used in conjunction with salt glazed exteriors, as mentioned previously. Soon thereafter, clay slips were used on both the interior and exterior surfaces. While clay slips were shipped to the South from Indiana, Michigan, and New York prior to the Civil War, their costs were substantial and prohibited their use by many small potteries. Following reestablishment of trade after the war, clay slips became readily available in the South, including Texas, and began replacing salt and alkaline glazes. By 1875, salt glazed vessels were being replaced by slip glazed vessels. In northeastern Texas this technique was used as early as the 1860s and was common between the 1870s and 1900. It continued to be used by some potteries into the 1940s (see Table 22-1). Interior and exterior slipped stonewares were produced at 26 potteries in this region, nine in North Central Texas and 18 in East Texas. Vessels exhibiting interior and exterior slipped glazes accounted for 118 of the stoneware vessels (31%) in the Joe Pool Lake assemblages, and examples were present at all thirteen sites.

A variant of this type of ware was also recovered. On some vessels, a salt glaze was added over the exterior clay slip glaze. Only two potteries in the region, both in East Texas, produced this ware type, and its production was restricted to between 1889 and 1915 (John Hunt Pottery #1 and #2, located near Henderson in Rusk County; see Table 22-1). Only a few vessels with a combination natural clay slip and salt glazed exterior were found in the Joe Pool Lake area and included one vessel each at 41DL181, 41DL192 New, 41DL267, and 41TR48.

Similar vessels were identified at farmsteads in the Richland Creek area (Lebo 1987a) and were recorded at four sites initially occupied before 1900 (41NV145, 41NV267, 41NV235, and 41NV306) but were absent at sites abandoned before 1890 (Visionary Hill, 41NV254E, and 41NV254W). Although not quantified, these vessels accounted for a higher percentage of the assemblage at sites in the Richland Creek area than in the Joe Pool Lake area and reflected a difference in proximity and access to vessels produced at the John Hunt potteries. Personal preference also may have been a factor, but this has not been measured.

BRISTOL GLAZE

Bristol glazes became popular during the Victorian period in England at a time when the public was concerned about sanitation and cleanliness. They were introduced into the United States in the 1880s and became popular in industrialized potteries in the North and Midwest by ca. 1890. In rural and less industrialized potteries in the South, they became popular around 1900. Early bristol glazes were used in conjuction with a natural clay slip on the shoulder, mouth, and interior. These vessels were glazed to imitate British stoneware ale bottles which had a ferrugionous glaze on their upper bodies and a bristol glaze on their lower sections (Greer 1981:212). These multicolored vessels, referred to here as two-toned, generally occurred as shouldered whiskey or syrup jugs or mixing bowls. Two-toned vessels were popular until about 1920 when bristol glazes were almost always used alone on both the interior and exterior surfaces. Decoration was sometimes added to this otherwise bland glaze in the form of cobalt bands, sponged and spattered designs, and stenciled and decalcomania decorations (Greer 1981).

NATURAL CLAY SLIP GLAZE/BRISTOL EXTERIOR

A total of 11 potteries in the region produced bristol stonewares (see Table 22-1). The closest potteries producing this kind of glaze were located in Dallas and included the Love Field, Athens, Southern, and Ideal Potteries, all of which began production after 1914. None of the potteries in Denton produced bristol glazed stonewares, and the next closest sources for this ware were Denny Pottery in Falls County and the Johnson-Knox-Fowler Pottery in Limestone County. The

later pottery ceased operation around 1910 or 1912. Also, no indication was found that any of these potteries produced natural clay glazes or two-toned vessels as well bristol interior and exterior vessels. This information indicates that a change occurred after 1900, and residents in the Joe Pool Lake area had to rely more heavily on stonewares produced much further from the project area, including wares imported from the Midwest.

Natural clay interior and bristol glazed exterior jugs recovered in the Joe Pool assemblages included wheel thrown, pressed bullet, and two-piece jugs. These vessels were far less frequent than all other types in the assemblages recovered from farmsteads in the project area, except at 41TR42, 41TR45, and 41DL192 New. Sites 41TR42 and 41TR45 were both initially occupied between ca. 1907 and 1910, when two-toned vessels were the most popular. Indications are that earlier styles, including salt and alkaline glazed vessels, were no longer being produced in quantity and had largely been replaced. Two early vessels, each represented by a single sherd, were found at 41TR45 but predated occupation at the site by more than 15 or 20 years, one sherd being found in an eroded roadbed. Three similar intrusive or highly curated vessels brought by the Charles Bowman family when they homesteaded 41TR42 were also found. The remaining assemblage dated to the turn of the century or the early twentieth century when the site was owned by the Bowman family and, later, the Williams. A high number of two-toned vessels were recorded at 41DL192 New, reflecting the absence of stoneware vessels at the site shortly after 1900, as indicated by the absence of bristol glazed stonewares in the assemblage.

BRISTOL INTERIOR/EXTERIOR

A total of 122 bristol glazed interior and exterior vessels was recovered at farmsteads in the Joe Pool Lake area, accounting for 32% of the stonewares found in the project area. They were produced as early as 1890 but were not popular until after 1910. Jugs and crocks were the most common and included both wheel thrown and press molded varieties. Jugs included shouldered and two piece styles as well as more traditional cylindrical jugs with sloping shoulders. Both large food storage crocks and modern kitchenware forms, such as butter crocks, were found, although the latter were very uncommon. Several pitchers with cobalt blue bands were recovered from 41DL190. Five kitchenware vessels were found including one vessel each at 41DL196, 41DL267, and three features: the root cellar at 41DL267 (Feature 1), one root cellar at 41DL191 (Feature 2), and a 1930s trash deposit (Feature 3) at 41DL192 Old. The low frequency of kitchenware forms in the Joe Pool area suggests that stonewares may have largely been replaced by other types of containers before 1930.

VESSEL FORMS

Major vessel forms produced in this region of Texas included jugs, churns, crocks, and preserve jars. Bottles, pitchers, and bowls were also common but were less frequently recovered from archaeological sites. Stylistic variability was recorded for rim forms and vessel shape which provided important temporal information. Changes were evident in the frequency of vessel types, rim forms, vessel shape, and other stylistic attributes over time.

JUGS

Jugs were the most common vessel form recovered from farmsteads in the Joe Pool Lake area. These small mouth vessels were intended to hold a variety of liquids including liquors, vinegar, water, syrup, and molasses. They were sealed with cork or wood stoppers and were produced in a variety of sizes and shapes. Smaller sizes were included in the bottle category because their general shape resembles that of a glass bottle and because they generally lacked handles (see bottles). Large jugs were produced in sizes that ranged from one to ten gallons, with the majority occurring under five gallons. These vessels generally had a single strap handle, while those over five gallons had double strap handles to aid in carrying and pouring (Greer 1981). No oversized jugs sherds (over five gallons) were recorded in the project area.

Two major styles of attached strap handles were produced and included: (1) attached to the neck of the vessel, and (2) attached or forming part of the lip. Because of the fragmentary nature of the sherds recovered, it was not possible to determine the frequency of these two handle styles. However, based on collections from potteries in the region and an examination of the stoneware assemblages from the Richland Creek area, it is probable that many early jugs in the Joe Pool Lake area had handles that were attached to the neck, while later jugs primarily had handles that formed part of the lip. For example, the Roark Pottery (41DN18) in Denton produced both styles during its early years in operation (ca. 1868 - 1880) but only jugs with lip-attached handles after 1880.

Four jug types occurred in the Joe Pool Lake area (see Figure 22-3). These exhibited a general temporal trend from ovoid (Type 1) to cylindrical jugs with sloping shoulders (Types 2a and 2b) to shouldered jugs (Types 3a and 3b) to two-piece jugs which were formed by attaching various sized and shaped shoulders to a standard, mass produced base (Type 4). Type 1 jugs were common prior to the 1850s and were replaced by Type 2 jugs in the 1850s and 1860s. Type 1 jugs, then would represent stoneware pieces that individual families brought with threm when they immigrated to the project area or that they purchased very shortly after they arrived. Ovoid forms were identified at 41TR39, but no jug rims or neck fragments were found. These vessels would primarily have occurred as small jugs and bottles with dry/salt, natural clay/salt, or alkaline interior and exterior glaze styles. Type 2 jugs were common at all pre-1900 sites and remained popular into the 1900s. These jugs occurred with dry/salt, natural clay/salt, natural clay interior and exterior, natural clay/bristol, and bristol interior and exterior glazes. The majority would have had strap handles that were attached and formed part of the lip or rim. Type 3 jugs were popular during the 1890s and continued into the early twentieth century. Shouldered jugs were found in the sheet refuse at 41TR39, 41TR40, 41DL183, 41DL192 Old (after 1900), 41DL268, and the 1930s trash deposit (Feature 3) at 41DL192 Old. Four glaze combinations were recorded for these vessels: (1) natural clay slipped interior and a salt glazed exterior body, probably with a natural clay

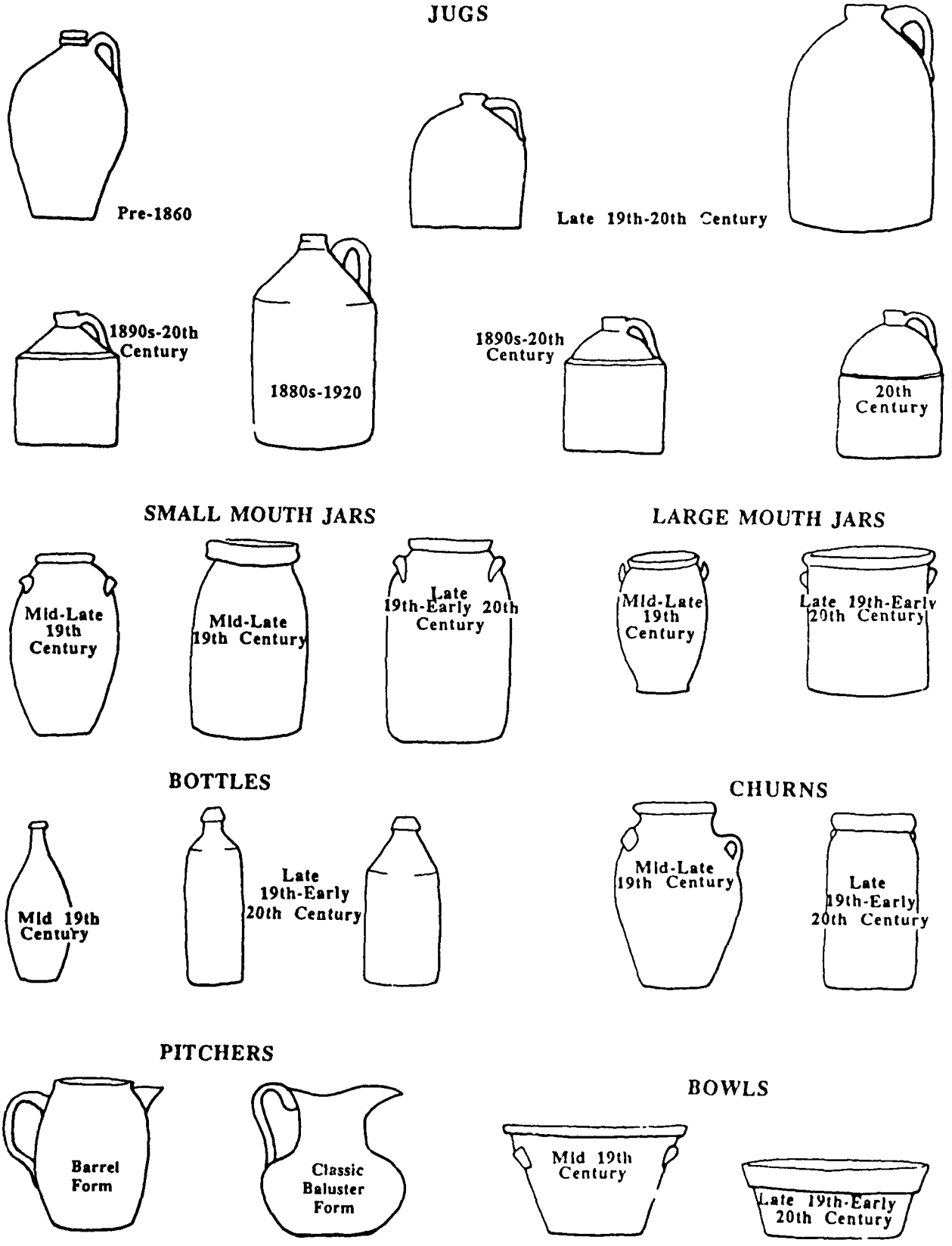


Figure 22-3. Temporal patterning of major stoneware vessel forms.

shoulder (shoulder missing), (2) natural clay interior and exterior, (3) natural clay interior with a bristol exterior body, probably a natural clay shoulder (shoulder missing), and (4) bristol interior and exterior body (shoulder type unknown). Few Type 4 jugs were found and included several from 41DL192 Old, including Feature 3, and 41DL267. Two-piece jugs were probably imported into the area from the Midwest and date to the early twentieth century. Both natural clay slipped interior and exterior and bristol interior/exterior varieties occurred.

CHURNS

Three to six gallon churns were the vessels most frequently recovered. Although no handles were found, the majority would have had lug handles. Churns with a single lug handle on one side and a strap handle on the other, as well as examples with multiple handles, were not commonly produced in this region of Texas. A total of seven churns was identified in the assemblages from the Joe Pool Lake area including two in the sheet refuse at 41DL181 and one each from 41DL267 and 41TR42. In addition, two were recovered from Feature 1 at 41DL192 Old and one each from Feature 2 at 41DL191 and Feature 1 at 41DL267. Natural clay interior and exterior churns were found at 41DL181 and 41DL267, while the remaining were all bristol interior and exterior. Two of the churns were represented by lid fragments and these were from 41TR42 and Feature 1 (root cellar) at 41DL267.

Churns were used as preserve jars for food storage as well as for churning milk. As such, the relatively low frequency of churns at farmsteads in the project area may indicate that wooden churns were also used.

CROCKS AND PRESERVE JARS

Crocks (wide mouth jars) and preserve jars (small mouth jars) were the second most frequently recovered vessels in the Joe Pool Lake area. Ovoid forms were common prior to 1860 while bulbous forms date to the last half of the nineteenth century, and later cylindrical forms date primarily after 1880. Crocks generally ranged in size from one-half gallon to ten gallons, with lug handles on those over one gallon. However, some crocks were made without handles. Crocks were used for food storage and provided a larger container for pickling and salt preservation of foodstuffs than preserve jars. These vessels did not have an inner ledge for a lid. Some preserve jars, on the other hand, were made with an inner ledge while others were not. Crocks and preserve jars without lids were covered using a piece of cloth which was tied down over the rim. This served to discourage insects and reduce spoilage. When pickling, wide plates or weights were used to keep the food submerged in the pickling solution. These vessels served as excellent containers for food storage because of their wide mouth.

The low percentage of narrow mouth preserve jars may reflect the paucity of rims recovered, as well as the use of large, wide mouth crocks and churns for storing food. In addition, while most potteries produced crocks, many may not have also produced preserve jars, or, if they did, may have produced a smaller number of jars. For example, the Roark Pottery (41DN18) produced both crocks and preserve jars, but the latter were considerably less frequent (Lebo et al. 1988). The dominance of jugs also indicates that the need for preserve jars may not have been as great as for crocks. Many fruits and vegetables were preserved by drying or were canned using sugars, syrups, or vinegar. Items such as potatoes could be stored for long periods in cool, dry places, including root cellars. Fruits, nuts, grains, and salted and pickled foodstuffs may have been stored in wooden or open stoneware vessels that when empty could be used for other household tasks, thereby providing a wider range of functions than narrow mouth preserve jars. As such, there would be a smaller demand for preserve jars.

A total of 18 jars was found, including 17 ovoid, bulbous, or cylindrical crocks and one preserve jar with an interior ledge. An ovoid crock was recovered at 41TR39 which had a rim diameter that was wider than the side or base. It was alkaline glazed on the interior and exterior and was probably brought by the Loyd or Cheshier families when they immigrated to the Joe Pool area. Early bulbous crocks were also relatively uncommon in the project Lake area and may partially reflect the low frequency of rim fragments recovered. Among the six crocks represented in the assemblage at 41TR48 was a bulbous crock produced at one of the potteries in Denton County. It had a natural clay slipped interior and salt glazed exterior. Five natural clay slip interior and salt glazed exterior vessels were recovered from 41DL190, 41DL192 New (2), and 41TR48 (2) and included both slightly ovoid and cylindrical forms. None were found with handles still attached. Natural clay slipped interior and exterior vessels were found at 41DL181, 41TR39, 41TR40, and 41TR48 (2) and generally represented early acquisitions or highly curated crocks, while the five bristol interior and exterior glazed crocks from 41DL181 (3), 41DL190, and 41TR48 were purchased after 1900 and most probably after 1910. The crock at 41DL190 was recovered in a unit located at the top of the stairway to the root cellar and represented a crock which had broken *in situ*, probably while someone was carrying something into or just out of the root cellar. A total of 28 pieces was recovered and, when fitted together, provided an almost a complete vessel. A small preserve jar was found at 41TR42 with a natural clay slipped interior and exterior which is almost black in color. It was highly curated and was probably brought as part of the household belongings when Charles Bowman left his parent's home and built the house at 41TR42.

PITCHERS

Stoneware pitchers were underrepresented in the Joe Pool area, only two pitchers being found at 41DN190. Both were a classic baluster form which has a full rounded bottom with a cylindrical top section. According to Greer (1981:103), the top section is usually one-third of the total height, and baluster pitchers were the most common type produced. Stoneware pitchers were common in sizes from one quart to one-and-a-half gallons. The two pitchers at 41DL190 were probably about two quarts in size, had bristol glazed interior and exteriors, and several cobalt bands around the center on the exterior. Both pitchers were burned and probably were still being used when the house burned in the mid-

1940s. One pitcher was represented by 28 sherds including nine found during testing in 1980. The remaining 19 were recovered from a single unit at S296 E300, located under the burned house during the mitigation work at 41DL190. Several pieces recovered during different seasons crossmended. The second pitcher was also almost complete, and a total of 18 sherds was found, including one found during testing and 17 during mitigation. It was also located under the house, at S296 E284. Both pitchers were press molded and were probably produced in the early twentieth century.

BOTTLES

Bottles were not widely produced in Texas during the nineteenth century. They primarily included containers for holding liquids such as beer and ale, or ink bottles. These vessels were small mouthed forms that generally were produced without handles and were a quart or less in capacity (Greer 1981). No bottles were recovered in the Joe Pool Lake area, but their presence at farmsteads in the Richland Creek area, 60 miles to the south (Lebo 1987a), indicates that they were available to residents in the project area. Bottle forms found in the Richland Creek area included a small number of ovoid bottles, including one alkaline and two dry/salt or salt/salt bottles, and cylindrical forms with squared shoulders. Both natural clay slip and bristol glazed varieties were found, including one stenciled *CORSICANA*. It is important to note that bottles were also very uncommon in the Richland Creek area, and were recovered from only four of the 18 sites examined.

BOWLS

Bowls were recovered from half of the farmsteads in the Joe Pool Lake area. All of the bowls were a heavy band form which became popular after 1860 (Greer 1981:97). This form has a rim with a thick, flattened band that allowed bowls to be interstacked during firing, which made it possible to stack more bowls in the kiln and also prevented the rim from being distorted or misshaped during firing. As such, this type of bowl was more economical to produce than other forms (Greer 1981:97-8) and remained popular during the late nineteenth and early twentieth centuries. Commonly produced sizes were one, one-and-a-half, and two gallon capacities. Bowls found in the Joe Pool Lake area included a complete natural clay slipped interior and exterior bowl from Feature 1 at 41DL192, which was probably discarded before it actually broke. The entire bowl was recovered, comprised of seven sherds and exhibited an extensive heat fracture that cracked the base. The rim and upper portion of the bowl remained whole. A second natural clay slipped bowl was found at 41DL190. Natural clay slipped interior with two-toned natural clay slip and salt glazed exterior bowls were found at 41DL181 (2) and 41DL190. The remaining bowls had bristol interiors and exteriors and included one at 41TR39, two at 41TR48, and one at 41TR40 with cobalt blue bands.

TOBACCO PIPES

Two tobacco pipes were identified (which were not counted in the total number of stoneware vessels), including one each from 41DL192 Old and 41TR48. They were produced in two-piece molds, with the mold line cross-sectioning the pipe from the tip of the stem to the tip of the bowl. The pipe bowl fragment found at 41DL192 Old was from a unit at S324 E96, located about 12 m west of the original house and 4 m north of Feature 1. It was salt glazed on both the interior and exterior and was undecorated with the exception of a raised band around the rim of the bowl. The glaze color was gray, while the stem fragment from 41TR48 was pink to tan in color. It also had a plain, salt glazed exterior, and the interior was natural clay slipped.

The recovery of the tobacco pipes at 41DL192 Old and 41TR48 indicate that these items were available in the Joe Pool Lake area. In addition, it is important to note that they were found at a farmstead, rather than a pottery site, and therefore did not represent discarded, defective pipes. The presence of tobacco pipes at the above two sites also indicates that stoneware pipes were probably available for only a short period being most common before 1890. Both sites were intensively investigated using a 4 m grid.

Similar pipes were found in the Richland Creek area (Lebo 1987b). They were recovered from five sites initially occupied before 1880 and abandoned before 1915. Each site was investigated using a 2 or 4 m grid. Based on this information, there appears to be a correlation between initial occupation, sampling intensity, and the recovery of stoneware tobacco pipes. Early sites where pipes were not recovered included 41NV254W and 41NV235. Site 41NV254W was a low density site, while 41NV235 was a large plantation site with the midden extending over a very broad area. Tobacco pipes were not found at two early sites in the Joe Pool Lake area that were excavated using a 4 m grid, 41DL192 New and 41TR39. These figures indicate that tobacco pipes were found at 61% of the early sites in the Richland Creek area and 50% of those in the Joe Pool area both excavated using a 4 m grid. The higher recovery rate for the Richland Creek area may also reflect availability.

Several stoneware potteries produced a small number of tobacco pipes between 1850 and 1880. The Alberry Johnson Pottery in Limestone County produced pipes while in operation between ca. 1857 and 1866. The J. S. Nash Pottery in Marion County (ca. 1850 - 1880) and the Matthew Duncan Pottery in Bastrop County (ca. 1856 - 1880) also produced pipes (Davey 1979; Malone and Greer 1973). A fifth pottery that produced stoneware pipes was the Cranston Pottery (ca. 1854 - 1880) in Denton County. This last pottery was located closest to the Joe Pool Lake area and produced plain, salt glazed pipes. Although the pipes were intended for use by the potters and their assistants rather than for sale (Davey 1979; Walker 1971), some may have been sold. Because of the absence of maker's marks on any of the pipes found in the region and because little is known about their production, it is not possible at present to identify which pottery produced the specimens found in the project area.

OTHER

Miscellaneous vessel types recovered in the Joe Pool Lake area included a German mineral water bottle at 41DL192 New and a European ale bottle at 41TR45. No other foreign stoneware vessels were found in the

project area. Modern kitchenwares were recovered at five sites, including a crock at 41TR48 and unidentified kitchenware vessels at 41DL191, 41DL196, 41DL267, and 41DL192 Old.

SUMMARY OF STONEWARE ASSEMBLAGE FROM THE JOE POOL LAKE AREA

Four stoneware glazes were produced in northeastern Texas and were purchased by families in the Joe Pool Lake area during the nineteenth and early twentieth centuries. These glaze styles included salt, alkaline, natural clay, and bristol. Salt glazed stonewares, increasing in popularity during the 1860 to 1880 period, occurred at all farmsteads initially occupied before 1900. Dry/salt glazed vessels were frequent in the area and were available from potteries in Denton County. Salt/salt vessels were very uncommon, while natural clay/salt was the most popular salt glazing combination found in the project area. These vessels represented approximately one-third of all vessels recovered. Alkaline glazed stonewares were found at two sites and were purchased before 1870. This style was never popular in the area and accounted for an extremely small percentage of all stonewares from farmsteads in the project area. Natural clay/natural clay vessels accounted for one-third of all vessels and were predominantly represented by wares produced in Denton County during the 1860 to 1880 period. Imported wares from Limestone and Henderson counties and East Texas were common after 1880. Natural clay interior and exterior vessels with a light salt glazing were uncommon in the project area, though produced in East Texas during the 1880 to 1890s period. Natural clay interior and bristol glazed exterior vessels accounted for only 9.2% of the stonewares recovered and were popular between 1890 and 1915. On the other hand, bristol/bristol vessels comprised 32% of the assemblage and were popular after 1915. They included wares from several Dallas potteries, Limestone, and Henderson county potteries and imports from East Texas and from the Midwest.

Pre-1860 forms, including ovoid jugs, crocks, and bottles were extremely uncommon in the project area and may have been stoneware vessels brought by families when they immigrated to the area. Sites initially occupied before 1880 contained a high percentage of local stonewares produced in Denton County and included an assortment of jugs, crocks, churns, and some preserve jars. Jugs were the most common, followed by wide mouth crocks. Sites occupied after 1880 contained fewer vessels produced in Denton County, reflecting the availability of wares produced in other areas of northeastern Texas and shipped to the area by rail. Additional markets were opened after 1890 and included vessels produced in the Midwest. Overall, jugs were the most common vessels found in the project area, followed by crocks, bowls, and churns. Preserve jars, pitchers, and bottles were infrequent or absent. Stoneware tobacco pipes were not well represented, occurring as low frequency items at pre-1880s farmsteads.

Stylistic variability was also evident for different vessel forms, which provided evidence of temporal change. Ovoid forms were primarily produced before 1860, were replaced by bulbous vessels and, later, around the turn of the century, by highly cylindrical styles. Rim and handle styles also changed on both jugs and wide mouth crocks and churns and became more standardized after 1900.

MODELING STONEWARE VESSEL USE IN NORTHEASTERN TEXAS DURING THE NINETEENTH AND TWENTIETH CENTURIES

Stoneware vessels contain important information about traditional rural foodways, marketing, and economics at farmsteads in northeastern Texas. Stoneware pottery production replaced earthenware production in the South in the early nineteenth century. Farmers in frontier and isolated inland areas needed to be largely self-sufficient, and a wide variety of utilitarian vessels were produced by agrarian potters to meet the demand. Some potters farmed most of the year and produced stoneware pottery after the last crops had been brought in from the fields. Areas were selected that were suited for both farming and pottery making. Many early potteries began as family operations of uncles, brothers, sons, and nephews producing stoneware vessels for local use. Wares were shipped within a one hundred mile radius of the pottery by wagon or rail (Greer 1981:251). This pattern remained unchanged until the early twentieth century. By the 1890s industrialized potteries in the Midwest began making inroads, shipping wares into Missouri, Arkansas, and Texas. Stonewares produced at small, nonindustrialized potteries in Texas were largely shipped only within the state, either by wagon or rail. Shipment by wagon was common until about 1930, when wagons were largely replaced by trucks (Greer 1981:255). Other innovations reduced the need for and use of stoneware storage vessels during the early twentieth century. Less expensive mass-produced metal and glass containers cut deeply into the market formerly held by local potteries. New food preservation techniques, including changes in canning, pickling, and refrigeration, slowly reduced the need for large stoneware vessels.

Stonewares comprised a larger percentage of the total artifact assemblage at sites occupied before 1880 than at later sites. In addition, acquisition and discard rates for stoneware vessels and the ratio of stoneware sherds to other ceramic types changed over time, reflecting changes in the demand for utilitarian stonewares. Fluctuations were also evident in glaze styles, vessel forms, and in the number of potteries operating at different time periods during the nineteenth and twentieth centuries. Some changes were local, others were region-wide, and some occurred at similar periods in different areas while others occurred more rapidly or more slowly between different areas.

QUANTIFICATION OF STONEWARE ASSEMBLAGES FROM NORTHEASTERN TEXAS

The frequency of stoneware vessel sherds in the sheet refuse middens at farmsteads in northeastern Texas

Table 22-2
RELATIVE FREQUENCY OF STONEWARES AND REFINED EARTHENWARES AND THE STONEWARE INDEX FOR FARMSTEADS IN THE RICHLAND CREEK AREA[1]

Site	% Stoneware[2]	% Refined Earthenware[2]	Index[3]
41NV235	1.4	3.7	3.78
41NV145	1.8	4.5	4.00
41NV254E	6.7	7.2	9.30
41NV254W	7.1	7.3	9.72
41NV267	3.9	4.4	8.86
41NV102	1.3	7.3	5.60
41NV306	7.4	10.9	6.78
41NV305	6.4	12.5	5.12
41NV285	1.0	3.2	3.12
41FT156	.3	4.2	.71
41NV316	.8	2.0	4.00
41NV319	1.1	6.1	1.80
41FT164	.8	6.3	1.26
41NV289	.7	4.0	1.75
41FT163	.5	4.0	1.25
41NV174	.5	1.4	3.57

1 Taken from Table 8-4 (Lebo 1987a)

2 Frequencies were tabulated using all remains recovered during testing and mitigation seasons

3 Index is computed by dividing % stoneware by % refined earthenware × 10

Table 22-3
INDEX OF STONEWARE VESSELS DEPOSITED PER YEAR FOR FARMSTEADS IN THE RICHLAND CREEK AREA[1]

Site	MNV[2]	Years of Occupation[2]	Index MNV/year[3]
41NV235	1.4	3.7	3.78
41NV145	1.8	4.5	4.00
41NV254E	6.7	7.2	9.30
41NV254W	7.1	7.3	9.72
41NV267	3.9	4.4	8.86
41NV102	1.3	7.3	5.60
41NV306	7.4	10.9	6.78
41NV305	6.4	12.5	5.12
41NV285	1.0	3.2	3.12
41FT156	.3	4.2	.71
41NV316	.8	2.0	4.00
41NV319	1.1	6.1	1.80
41FT164	.8	6.3	1.26
41NV289	.7	4.0	1.75
41FT163	.5	4.0	1.25
41NV174	.5	1.4	3.57

1 Taken from Lebo (1987a:Table 8-3)

2 All sites are ordered by beginning date

3 MNV was computed using only fragments recovered from units on a systematic grid

provided an empirical data base that indicated a strong temporal association among households in the Joe Pool Lake and Richland Creek areas. Stoneware sherds comprised a very small percentage of the total artifacts recovered from farmsteads and were significantly more frequent at sites initially occupied before 1890 and abandoned before 1915. Sites within this date range contained primarily local or regionally produced stonewares (see next section), while those after this period contained wares imported from other regions, including the Midwest. Quantification of the relative decrease in stonewares in the household assemblage at rural farmsteads was most visible in the Richland Creek area where many sites were occupied for less than 50 years (Table 22-2). Stoneware vessels sherds ranged in frequency between .3% at 41FT156 to 7.4% at 41NV306, with ten sites clustered between .3 and 1.4 and six clustered between 1.8 and 7.4%. Stoneware sherds accounted for over 1.3% of the assemblage from all sites occupied within the period between ca. 1850 and 1915 indicating that stonewares decreased in frequency over time. This pattern was also visible when an index of the relative frequency of stonewares and refined earthenwares was calculated (stonewares/refined earthenwares × 10, with 10 being the highest possible value). Refined earthenwares remained relatively stable over time (Moir 1987c:69-148), providing a standard to measure temporal fluctuations in stoneware frequencies. A higher index value (Table 22-2 column 4) was recorded for early sites (ca. 1850 to 1915 period), the ratio of stonewares to refined earthenwares being between 3.8 and 9.7, while the ratio ranged between 0.7 and 4.0 at later sites (column 4). A correlation was also evident between length of occupation and the ratio index. The highest index values occurred at sites 41NV254E and 41NV254W, both occupied for less than 15 years. All of the sites with index values above 3.8 were occupied for less than 40 years, while all sites except 41FT163, which fell below 4.0, were occupied for over 40 years. A similar pattern was evident based on the number of stoneware vessels (MNV) recovered at farmsteads in the Richland Creek area (Table 22-3). Discard rates were determined for each site by dividing the MNV recovered by the number of years of occupation. Discard rates for early sites ranged from .90 at 41NV235 to 3.14 at 41NV267 from .18 to .80 at late sites. Less meaningful rates were calculated for farmsteads in the Joe Pool Lake area because all of the sites in the project area were occupied for over 60 years, and none were abandoned before 1915 (Table 22-4).

Stoneware sherd distributions were moderately clustered at farmsteads in both the Joe Pool Lake (Table 22-5) and Richland Creek (Table 22-6) areas. The percentage of units containing stoneware sherds (column 7) ranged from 6.7% to 30.3% at Joe Pool Lake farmsteads and was partially associated with initial site occupation or length of occupation. The highest values were recorded at 41DL190, 41DL192 Old, and 41TR48, while sites 41TR39, 41DL192 New, and 41DL268 all had low values. The mean number of stonewares found in units containing sherds (column 8) ranged from 1.25 to 7.10, with all but three sites clustering between 1.25 and 1.9 sherds. The high values at 41DL183, 41DL190,

Table 22-4
RELATIVE FREQUENCY OF STONEWARES AND REFINED EARTHENWARES AND THE STONEWARE INDEX FOR FARMSTEADS IN THE JOE POOL LAKE AREA

Site	% Stoneware[1]	% Refined Earthenware[1]	Index[2]
41TR39	.2	2.1	.95
41DL192 Old	1.5	4.7	3.19
41DL267	.03	.1	3.00
41DL268	.02	.1	2.00
41DL190	.9	2.7	3.33
41TR48	.5	2.0	2.50
41TR40	.4	1.5	2.67
41DL192 New	.5	2.2	2.27
41DL183	1.5	2.2	6.82
41DL181	.7	2.5	2.80
41DL191	.6	1.2	5.00
41DL196	.3	2.0	1.50
41TR42	.4	1.2	3.33
41TR45	.1	1.4	.71
41DL192 Feature 1	1.0	1.8	
41DL267 Feature 1			
41DL191 Feature 2	4.3	10.9	3.94
41DL192 Feature 3	.3	5.1	.59

1 Frequencies were tabulated using all remains recovered during testing and mitigation seasons

2 Index is computed by dividing % stoneware by % refined earthenware x 10

and 41DL268 reflect vessels which were broken near the end of occupation and were not deposited as sheet refuse. For example, three vessels, two pitchers and a crock, account for the disparate value calculated for 41DL190. The pitchers were recovered from under the burned dwelling and were represented by 27 sherds and 18 sherds, respectively. Both were largely complete. The crock was found in a single 50 x 50 cm^2 unit at the top of the root cellar stairway and was comprised of 28 sherds. Other vessels were primarily represented by one to two sherds. This information indicates that stonewares at farmsteads in the Joe Pool Lake are not highly clustered, rather they occur as low frequency items within each unit. In addition, while generally between 10 and 30% of all units contain stonewares (column 7), an equal number of vessels were represented by sherds from several units. Some units also contained sherds from several different vessels.

The stoneware assemblages recovered from farmsteads in the Richland Creek area reflected a similar pattern (Table 22-5). The percentage of units containing stoneware sherds (column 7) ranged from .8 to 55.8% and was strongly associated with initial site occupation and length of occupation. The highest values were recorded at early sites abandoned before 1915 and ranged from 37.6 to 55.8% of the units containing stoneware sherds. Several early sites that clustered within the lower range (.8 to 26.2%) included 41NV235, 41NV254E, and 41NV254W. The sheet refuse midden was extremely dispersed at site 41NV235 (Burleson Plantation) and was

Table 22-5
STONEWARE VESSEL REMAINS FROM UNITS AT FARMSTEAD SITES IN THE JOE POOL LAKE AREA

Site[1]	Sherds[2]	MNV	Frags/ MNV	Units	Units /Frags	%Units /Frags	Cluster Index[3]
TR39	31	22	1.41	115	22	19.1	1.41
DL192O	44	28	1.57	76	23	30.3	1.91
DL267	42	23	1.83	122	28	23.0	1.50
DL268	14	7	2.00	75	5	6.7	2.80
DL268s[4]	8	2					
DL190[5]	142	33	4.30	67	20	29.9	7.10
TR48	76	56	1.36	154	42	27.3	1.81
TR40	52	37	1.41	122	28	22.9	1.86
DL192N	28	14	2.00	146	15	10.3	1.87
DL183	14	12	1.17	25	5	20.0	2.80
DL181	27	21	1.29	76	17	22.4	1.59
DL181s[4]	30	26	1.15				
DL191	32	26	1.23	138	22	15.9	1.45
DL196	19	10	1.90	120	11	9.2	1.73
TR42	35	29	1.21	95	20	21.1	1.75
TR45	5	5	1.00	61	4	6.6	1.25
DL192F1	66	20					
DL267F1	28	15					
DL191F2	12	7					
DL192F3	7	5					

1 All sites are ordered by beginning date and are preceded by 41 (e.g., 41TR39)

2 Number of sherds includes all stoneware vessel fragments recovered during testing (1980) and mitigation (1985-1986) except those from flower pots

3 This index represents the average number of stoneware sherds in units containing stonewares and can not by definition fall below 1.00. It is compiled by dividing column 6 into column 2. Units located in the area where the Old and New components over-lapped were designated here as New

4 Fragments from surface collections at these sites are recorded separately

5 Two vessels from 41DL190 were from specialized features and were not represented in the assemblage recovered from the sheet refuse midden

characterized by low density remains at 41NV254F and 41NV254W, including stoneware sherds. The mean number of stonewares found in units containing sherds (column 8) at Richland Creek sites ranged from 1.4 to 2.9 indicating that stonewares sherds were not highly clustered at farmsteads in the Richland Creek area. In addition, no association was visible between the initial date of occupation or length of occupation and the mean number of sherds per unit containing stonewares. On the other hand, the mean number of sherds per vessel was clustered, and reflected the sampling fraction recovered at each site (column 4). As the sampling fraction increased from an 8 m to a 4 m or even a 2 m grid, the mean number of sherds per vessel increased, except at 41NV254E which was a low density site. This information indicated strong correlations among grid size, sampling fraction, and level of redundancy, with more sherds being recovered from each vessel at sites excavated using a 2 or 4 m grid. This pattern also

Table 22-6
STONEWARE VESSEL REMAINS FROM UNITS AT FIFTEEN FARMSTEAD SITES IN THE RICHLAND CREEK AREA

Site[1]	Sherds	MNV	Frags/ Cluster MNV	Units	Units/ Frags	%Units /Frags	Index[2]
NV235	72	45	1.60	197	45	22.8	1.60
NV145	426	84	5.07	578	235	40.6	1.81
NV254E	51	22	2.32	354	37	10.4	1.39
NV254W	85	21	4.05	286	61	21.3	1.39
NV267	566	116	4.87	351	196	55.8	2.89
NV102O	194	40	4.85	258	97	37.6	2.00
NV102N[3]	13	7	1.85	117	9	0.8	1.44
NV306[4]	559	96	5.82	508	236	46.4	2.37
NV285	85	40	2.13	224	45	20.0	1.89
FT156	23	10	2.30	157	12	7.6	1.92
NV316	48	26	1.84	156	31	19.8	1.55
NV319	69	23	3.00	207	42	20.2	1.64
FT164	60	19	3.15	185	30	16.2	2.00
NV289	37	23	1.60	167	25	14.9	1.48
FT163	98	18	5.44	225	59	26.2	1.66
NV174	38	26	1.46	52	20	38.4	1.90

1 Taken from Lebo (1987a:Table 8-2); All sites are ordered by beginning date and are preceded by 41 (e.g., 41NV235); 41NV102 is divided into Old and New components

2 This index represents the average number of stoneware sherds in units containing stonewares and can not by definition fall below 1.00. It is compiled by dividing column 6 into column 2.

3 Units located in the area where the Old and New components over-lapped were designated here as New

4 Fragments from intensive surface collection are included in columns 1-3; Value of 1.74 was calculated for stonewares recovered from 50 × 50 cm units, and 1.60 for surface collection units

occurred in the Joe Pool Lake area (see Table 22-5, column 4) but was not as strong.

STONEWARE GLAZE PRODUCTION AND POPULARITY FOR NORTHEASTERN TEXAS

Early potteries in northeastern Texas were small, and according to Greer (1981:251), "most pots from small local shops were destined to be used within about a one hundred mile radius of the pottery. Intensive study has shown that this surely was true of the small shops operating during the second and third quarters of the nineteenth century in Texas." Different settlement patterns, ethnic and socioeconomic backgrounds, and differences in the state or country of origin are reflected in the stoneware styles produced by individual potteries between different regions of Texas.

Stonewares from sites occupied prior to 1900 represented a stable assemblage, where old and broken vessels were largely replaced by the acquisition of new stoneware vessels. On post 1900 period sites, this pattern continued until the 1920s when the traditional agrarian lifeways of many rural communities and industries underwent further change. Popular culture and

Table 22-7
STONEWARE GLAZE TYPES FROM SITES IN SEVERAL PROJECT AREAS IN NORTHEASTERN TEXAS

Initial Date of Occupation	Joe Pool Lake	Richland Creek	Lewisville Lake	Big Sandy
Post-1900:				
S				
ALK				
NC/NC	X	X	X	
NC/BR	X	X	X	
BR/BR	X	X	X	
1890-1900:				
S	X	X		
ALK				
NC/NC	X	X	X	
NC/BR	X	X	X	
BR/BR				
1880-1890:				
S	X	X	X	
ALK				
NC/NC	X	X	X?	
NC/BR				
BR/BR				
1865-1880:				
S	X	X	X	
ALK	X	X	X	
NC/NC	X	X	X?	
NC/BR				
BR/BR				
Pre-1865:				
S	X	X	X	X
ALK	X	X		X
NC/NC	X	X	X	
NC/BR				
BR/BR				
Number of Sites	13	18	1	10

1 Based on data in (Lebo 1987a; Perttula et al. 1986); Glaze Types (S = salt, Alk = alkaline, NC = natural clay, BR = bristol)

mass produced items began replacing earlier products supplied largely for local or instate markets. Local stoneware storage vessels were replaced by stoneware, metal, and glass containers manufactured in the Midwest. As early as the 1870s Midwest industrial potteries began shipping wares to Missouri, Arkansas, and Texas. Many small potteries stopped production between 1920 and 1930, and all but a few that remained at the beginning of the Depression, closed. Those that survived produced a limited range of vessels designed to capitalize on a different market. The Marshall Pottery in Harrison County (41HS32) continues to operate today, turning out flowerpots, pitchers, 5-gallon churns, and smaller lines of mugs, small jars, and water coolers. As a result

Table 22-8
SERIATION OF STONEWARE VESSELS FROM FARMSTEAD SITES IN THE JOE POOL LAKE AREA BASED ON INTERIOR AND EXTERIOR GLAZE COMBINATIONS[1]

Site	Date Range Circa	Dry/Salt #	Dry/Salt %	Salt/Salt #	Salt/Salt %	NC/Salt #	NC/Salt %	Alk/Alk #	Alk/Alk %	NC/NC #	NC/NC %	NC/BR #	NC/BR %	BR/BR #	BR/BR %	Total[2]
Seriation 6																
Features																
DL192 F3	1930s													5	100.0	5
DL191 F2	1920s					1	14.2			1	14.2			5	71.4	7
DL267 F1	1890s	2	13.3			5	33.3			2	13.3	1	6.7	5	33.3	15
DL192 F1	1885-1895					7	36.8			5	26.3	2	10.5	5	26.3	19/20
Seriation 5																
Pre-1910																
TR45	1910-1960					2[3]						1	50.0	1	50.0	2/5
TR42	1907-1950					3[3]				13	54.2	8	33.3	3	12.5	24/29
DL196	1900-1950									3	30.0	1	10.0	6	60.0	10
Seriation 4																
Pre-1900																
DL191	1900-1978					1	4.2			9	37.5			14	58.3	24/26
DL181	1898-1978					5	10.9			13	28.3	5	10.9	23	50.0	41/46
DL183	1892-1978					3	25.0			2	16.7	1	8.3	6	50.0	12
Seriation 3																
Pre-1890																
DL192 New	1876-1975					3	23.1			7	53.8	3	23.1			13/14
DL268	1876-1930s					2	22.2			6	66.7	1	11.1	5	55.6	14
TR40	1885-1950					10	27.0			14	37.8	5	13.5	8	21.6	37
DL192 F1	1885-1895					7	36.8			5	26.3	2	10.5	5	26.3	19/20
TR48	1880-1950	1	1.9			20	37.0			15	27.8	4	7.4	14	25.9	54/56
DL190	1881-1948	6	18.8			13	40.6	1	3.1	6	18.8			6	18.8	32/33
Seriation 2																
Pre-1880																
DL267	1870s-1940s					7	30.4			11	47.8			5	21.7	23
Seriation 1																
Pre-1865																
DL192 Old	1859-1975	6	22.2			3	11.1			11	40.7	2	7.4	5	18.5	27/28
TR39	1859-1978	2	9.1	1	4.5	4	18.2	3	13.6	5	27.7	1	4.5	6	27.3	22

1 Frequencies tabulated using all remains (excluding flower pots) recovered during testing and mitigation

2 Adusted MNVs were calculated and include only identifiable vessels

3 Intrusive sherds

of these changes, stoneware vessels recovered from farmsteads occupied after 1920 reflected a declining assemblage, the majority of the vessels having been purchased during early occupation at the sites.

A total of 48 potteries have been identified in northeastern Texas, including 23 in the north central area and 25 in the eastern counties (see Table 22-1). Initial pottery production began ca. 1840 in both areas and continued into the twentieth century. Salt glazing was more prevalent in the north central area and was produced at over 52% of the potteries in the area. The highest percentage occurred in Denton County, where all eight potteries produced one or more varieties of salt glazed stoneware. Dry/salt and natural clay/salt were both produced in Denton and Limestone counties. A smaller number of potteries in Limestone County produced salt glazed vessels (37.5%), while none are recorded in Falls or Parker counties. In East Texas only 32% produced salt glazed wares, while 48% produced alkaline vessels. One pottery in Limestone County produced similar wares, and none did in Denton, Falls, or Parker counties. Natural clay slips were common in both areas, occurring at 66.7% of the potteries in north-central Texas and 52% in eastern Texas. A smaller number of potteries produced bristol in each area, 38.1% and 24%, respectively. In addition, differences were evident within both areas. For example, all of the potteries in Denton County produced salt and natural clay varieties but no bristol glazed vessels, while the reverse was evident in Dallas County.

Table 22-9
SERIATIONS OF STONEWARE VESSELS FROM EIGHTEEN FARMSTEADS IN THE RICHLAND CREEK AREA BASED ON INTERIOR AND EXTERIOR GLAZE COMBINATIONS[1]

Site[2]	Date Range	Dry/Salt #	Dry/Salt %	Salt/Salt #	Salt/Salt %	NC/Salt #	NC/Salt %	Alk/Alk #	Alk/Alk %	NC/NC #	NC/NC %	NC/BR #	NC/BR %	BR/BR #	BR/BR %	Total[2]
Seriation 4																
Post 1900																
NV174 New	1920-1965													10	100.0	10/11
NV289 New	1911-1965											4	26.7	11	73.3	15
FT164	1910-1950									1	5.2	1	5.2	17	89.5	19
NV319	1905-1945					1	1.0			3	30.0			6	60.0	10/23
NV102New[4]	1905-1945													2	33.3	2/3
Seriation 3																
Pre-1900																
NV316	1900-1950					2	7.7			7	26.9	6	23.1	11	42.3	26
FT156	1895-1954											5	55.5	4	44.4	9/10
NV285	1895-1955					3	15.7			2	10.5	2	10.5	12	63.1	19/40
NV174 Old	1895-1920	2	13.3			3	20.0			5	33.3	5	33.3			15
NV289 Old	1890s-1910					4	57.1			3	42.8					7
Seriation 2																
Pre-1880																
NV102 Old	1873-1905					7	16.3			23	53.5	2	4.6	11	25.6	43/44
NV306	1873-1895					23	25.6			51	56.7	3	3.3	13	14.4	90/96
NV267	1873-1910	1	0.8			32	28.6	2	1.8	61	54.5	2	1.8	15	13.4	112/116
NV254 West	1870-1885	1	4.8			7	33.3			13	61.9					21
NV254 East	1870-1885					14	63.6			8	36.4					22
Seriation 1																
Pre-1860																
NV145	1859-1915			2	2.5	23	28.4	3	3.7	38	46.9	2	2.5	13	16.0	81/89
NV235	1855-1905			5	12.5	9	22.5	2	5.0	19	47.5	1	2.5	5	12.5	40/45
V. Hill	ca. 1850-1865	5	35.7	2	14.3	2	14.3	3	21.4	2	14.3					14/15

1 Taken from Lebo (1987a:Table 8-10); frequencies were tabulated using all remains recovered during testing and mitigation

2 Sites are preceeded by 41 (e.g., 41NV174); Visionary Hill is located west of the project area in Corsicana, and does not have a TARL number at this time

3 Adjusted MNVs were calculated and include only identifiable vessels; all European, kitchenware, flowerpot, and unidentifiable sherds (due to condition) were excluded

4 Four natural clay/natural clay vessels recovered at 41NV102 New dated to the old component and were included in the figures for 41NV102 Old

Glaze types were recorded for farmstead sites in several project areas within northeastern Texas, including Joe Pool Lake, Richland Creek, Lewisville Lake, and the Big Sandy area (Table 22-7). This information correlated with the data recorded for potteries in each area and indicated that several glazes were not locally produced in the Lewisville Lake and Big Sandy areas and were purchased in some areas later than in others. Farmsteads recorded in the Joe Pool Lake and Richland Creek areas received mitigation level field work, while surface collections were recovered in the Lewisville Lake area and limited test excavations were conducted in the Big Sandy area.

DATING GLAZE STYLES IN NORTHEASTERN TEXAS

Three studies have demonstrated that stylistic or temporal changes in utilitarian stoneware vessels (Bartovics and Adams 1980; Lebo 1983, 1987a) can be used as an aid for dating historic archaeological sites. Frequency seriations were conducted based on MNV counts and indicated that specific stylistic attributes (e.g., glaze type) varied in frequency (or occurrence) over time. When samples were limited to locally produced vessels, these stylistic changes could be more tightly dated.

Stoneware assemblages from farmsteads in the Joe Pool Lake and Richland Creek project areas provided a valuable empirical data base that could be used for dating stoneware vessels in northeastern Texas and for making comparisons between historical information recorded on glaze styles for local potteries and for vessels purchased by rural families in the region. Additional support data were provided from assemblages in the Lewisville Lake and Big Sandy areas.

All identifiable vessels (MNV counts) recovered from 50 × 50 cm units on 2 m, 4 m, or 8 m grids, from

specialized features and from systematic surface collections were used. Eighteen farmsteads in the Richland Creek area and thirteen in the Joe Pool Lake area are used here to draw comparisons. Sites were divided into five temporal groups based on initial occupation at Joe Pool Lake and four temporal groups in the Richland Creek area. Initial occupation dates were used because they provide a better measure of the stoneware vessels brought by families when they immigrated to the two project areas. This also makes it possible to begin to quantify the percentages of the stoneware assemblage represented by curated vessels, by early acquisitions after establishing a homestead, and by later purchases of replacement vessels at each site. Finally, most Joe Pool sites were occupied for over 60 years, and their terminal occupation dates often postdated the last acquisition of stoneware vessels by as much as 30 or 40 years.

Frequency data for each vessel were recorded based on interior and exterior glaze treatment. Both surfaces were used instead of the traditional approach which focuses on tabulating stoneware assemblages using only exterior glaze treatment. When interior glaze information was recorded, it was treated as a secondary attribute. Using this method dry/salt, salt/salt, and natural clay/salt vessels are grouped together as *salt*, alkaline/alkaline, alkaline/alkaline with salt, and alkaline with natural clay slip interior and exterior are grouped as *alkaline*. Natural clay/natural clay, natural clay/bristol, and natural clay/natural clay with salt (two-tone) are grouped as *natural clay*, and natural clay/bristol, two-tone natural clay and bristol, and bristol interior/exterior are grouped as *bristol*. By recording both the interior and exterior glazes, it is possible to examine temporal variability within each of the four groups mentioned above. For example, different temporal trends are evident among dry/salt, salt/salt, and natural clay/salt, which were masked when the three were grouped together. Separate trends are also visible between natural clay/bristol and bristol/bristol. In addition, stonewares which date to earlier components at several sites are also evident using this approach.

Seriation data for farmsteads in the Joe Pool Lake area are presented in Table 22-8. Data for the Richland Creek area are presented in Table 22-9.

JOE POOL LAKE FARMSTEADS

Salt Glaze

Salt glazing increased in use in the Joe Pool Lake area between 1860 and 1885 and continued to be produced and purchased until about 1900. Salt glazed vessels were completely absent at sites initially occupied by the turn of the century or later. Only 8.8% of all salt glazed vessels were recovered from sites initially occupied after 1885, while 15.7% were found at sites occupied before 1870. The highest frequencies of salt glazed vessels occurred at 41DL190 and 41TR48, indicating that the peak popularity of salt glazing was ca. 1880. Considerable temporal variability was also evident between the different salt glazed styles.

While it initially appeared that dry/salt glazed vessels were uncommon, accounting for only 4.5% of all stonewares recovered in the project area, they were not. Instead, at several sites, they represented about 20% of the stoneware vessels found. Dry/salt glazed vessels occurred at 41TR39 and 41DL192 Old, initially occupied ca. 1859 to 1865. A total of two were recovered from the sheet refuse midden at 41TR39 and six from 41DL192 Old. Two occurred in the root cellar fill at 41DL267 (Feature 1), six at 41DL190, and one at 41TR48. Together these figures indicate that dry/salt glazed vessels were common at farmsteads in the project area between ca. 1860 and 1880. As mentioned earlier, these vessels were produced at all major potteries in Denton County between ca. 1840-1880 (see Table 22-1).

The highest frequency of dry/salt glazed vessels occurred at 41DL192 Old, followed by 41DL190. The initial occupations of 41DL190 and 41TR48 postdate the production of dry/salt glazed stonewares and indicate that the two families probably brought these vessels with them. The Anderson family at 41DL190 first lived in Ellis County, just outside the project area, and would have had the same access to Denton potteries as residents in Cedar Hill or within the Joe Pool Lake area. The absence of dry/salt glazed vessels at 41DL192 New and 41DL268 suggests that neither site was initially occupied until after 1880. Based on their placement within seriation 3, it is probable that they date ca. 1885.

A single interior and exterior salt glazed vessel was found at 41TR39, accounting for .3% of the stonewares recovered in the project area. No potteries in Denton County produced this glaze style, and no similar salt/salt vessels were recovered in the Lewisville Lake area. A few such vessels were identified in the Richland Creek area (see next section), and occurred at three sites occupied before 1860 (Visionary Hill, 41NV235, and 41NV145). This information indicates that salt/salt glazed stoneware vessels were uncommon in northeastern Texas, including the Joe Pool Lake area, and were more popular before 1860.

Natural clay slipped interior and salt glazed exterior vessels accounted for 82.4% of all salt glazed stonewares and 27% of all vessels. They were recovered from all farmsteads occupied before 1900 but were absent at sites that postdated 1900. These vessels ranged in frequency from 33.3% of the salt glazed vessels at 41DL192 Old to 100% at many sites initially occupied in the 1870s or 1880s. This pattern indicated that early sites exhibited a greater diversity of salt glazing styles (e.g., 41TR39), but by the 1880 period natural clay interior/salt glazed exterior vessels were the dominant style purchased by residents in the Joe Pool Lake area.

Dry/salt and salt/salt glazed stonewares were more popular prior to 1880, and families that settled in the project area in the 1880s may have brought a few of these vessels with them (e.g., 41DL190), but their new purchases and replacement pieces were natural clay/salt. In addition, this pattern was reflected in the glazing styles available from potteries in Denton County as well as East Texas.

Alkaline Glaze

As mentioned earlier, alkaline glazed stonewares were extremely uncommon at sites in the Joe Pool Lake area. They were recovered from the farmsteads of only two families that settled in the area before 1860 and owned slaves. Both had immigrated to Texas from elsewhere in the Upper or Lower South. In addition, no

Denton potteries produced alkaline glazed wares, and only three potteries in Limestone County and East Texas made alkaline vessels before 1870. Alkaline glazed vessels were more common at pre-1860 or pre-1870 farmsteads located within a relatively short distance of potteries producing these wares (e.g., Rusk Plantation and farmsteads in the Big Sandy area).

Natural Clay Slip

Natural clay slip vessels were produced in this region as early as the 1860s, and were most common between 1875 and 1915. These dates were supported at sites in the Joe Pool Lake area which were initially occupied after 1870, or between 1880 and the turn of the century, where this vessel style represented the initial stoneware purchases associated with each household. For example, the highest frequency of natural clay slip vessels occurred at 41DL268, occupied ca. 1885, and was the first style purchased at sites 41DL196 and 41TR42. Farmsteads such as 41DL190 and 41TR48, which were occupied between ca. 1880 and 1885, contained a higher percentage of natural clay/salt and a smaller number of natural clay slip vessels. By 1885, natural clay slip vessels dominated at sites including 41TR40, 41DL192 New, and 41DL268. This change was rapid and is visible in the shift from a ratio of 2 to 1 for natural clay/salt over natural clay slip vessels at 41DL190 to 1 to .75 at 41TR48, 1 to 2 at 41DL192 New, and 1 to 3 at 41DL268. No other glaze style gained similar popularity so quickly and remained popular for over 40 years.

Site 41DN289 in the Lewisville Lake area contained primarily salt glazed varieties, but natural clay slip vessels were present. They accounted for 33% of the assemblage, indicating that they were available before 1860, and may have become more popular in the Denton area earlier than in other areas of Texas.

Evidence of a rapid change in popularity was also documented in the Richland Creek area (see next section) where natural clay slip vessels were available by 1860 but these wares did not become popular until the 1880s; at about the same time as in the Joe Pool Lake area but later than at Lewisville Lake.

Bristol Glaze

Bristol glazed vessels accounted for less than 30% of the total number of vessels at sites that were occupied for a period during the nineteenth century rather than primarily during the twentieth. For example, site 41TR39 was occupied for 119 years over which time 41 vessels (34% of the assemblage) date before 1900. On the other hand, sites that were occupied primarily during the twentieth century contained a much higher precentage of bristol glazed stonewares, including sites 41DL195, 41TR42, and 41TR45, where they ranged from 45% to 100% of the assemblage.

Natural clay/bristol vessels accounted for a small percentage of the bristol assemblage and were most frequent at sites initially occupied between 1885 - 1900. They were infrequent at sites which had been initially occupied 20 - 35 years earlier and continued to be occupied into the 1900s, indicating that natural clay/bristol as well as bristol/bristol vessels were purchased to replace older, broken vessels. At sites initially occupied between 1885 - 1900, these vessels represented new vessels rather than replacement vessels. Natural clay/bristol vessels were also absent in specialized features that postdated 1915. For example, Feature 2 (root cellar) at 41DL191 and Feature 3 (dense trash pit) at 41DL192 Old contained only later bristol/bristol vessels or intrusive sheet refuse sherds (Feature 2).

Natural clay/bristol vessels were not recovered from several sites occupied during the twentieth century, including 41DL190 and 41DL191. This pattern may reflect personal preference or may indicate that because a large number of vessels were purchased by these households before natural clay/bristol vessels became popular, few needed to be replaced before bristol/bristol vessels were available.

Bristol interior and exterior glazed vessels were most common after 1915 and were recovered from every site except 41DL192 New. Again, this pattern may reflect personal preference, or it may indicate that the Penn family began replacing broken stoneware vessels with glass or metal containers rather than purchasing new stonewares. The low frequency of bristol interior and exterior glazed vessels at 41TR42 reflects the number of short-term tenant occupations at the site. Between 1907 and 1950, this farmstead was owned by several families but was occupied by the landowners for only five years between 1907 and 1912. Vessels recovered from the site which date to this occupation accounted for 87.5% of the stoneware assemblage, while those related to the different tenant families that resided at the site after 1913 accounted for only 12.5%.

RICHLAND CREEK FARMSTEADS

Salt Glaze

Salt glazing occurred as a declining style in the Richland Creek area (Table 22-9). Salt glazed vessels were frequent at sites initially occupied prior to 1880 and were almost completely absent at sites initially occupied at the turn of the century. Only 15 vessels, or 10% of all salt glazed wares, were found at post 1880 sites. The highest frequencies occurred at Visionary Hill (64.2%) and 41NV254E (63.6%), indicating that the peak popularity was during the 1860s or 1870s, five to ten years earlier than in the Joe Pool Lake area.

Dry/salt glazed vessels were extremely uncommon and occurred at only three sites. The Alberry Johnson Pottery in Limestone County (1859-1966) was the closest pottery producing this glaze style. None of the examples recovered were from Denton County potteries, which produced a wider variety of dry/salt vessels over a longer period. Salt/salt glaze vessels were found only at three sites (Visionary Hill, 41NV235, and 41NV145), all of which were occupied before 1860. Thus, while salt glazed vessels were produced in this region until 1900, both dry/salt and salt/salt declined in popularity by the 1870s. Natural clay/salt glaze vessels increased in popularity during the mid-nineteeth century until ca. 1870, after which they slowly declined. By 1900 they were almost absent.

Alkaline Glaze

Alkaline glazed stonewares were extremely uncommon at all Richland Creek farmsteads, being most

frequent at Visionary Hill. This pattern was unexpected considering the number of potteries that produced alkaline vessels between 1839 and 1900 (see Table 22-1), including the Kimick Pottery in Limestone County. Many of these same potteries produced salt and natural clay slip glazed vessels which were purchased by residents in the Richland Creek area after 1870. This information suggested that the paucity of alkaline vessels was due to personal preference for non-alkaline vessels associated with the place of origin of individual families. Site 41NV145 was occupied by members of the Baker family who immigrated from Tennessee to Missouri to Mississippi and, a short time later, to Texas. Site 41NV235 was occupied by the Burleson family from North Carolina and Texas, while 41NV267 and 41NV102 Old were occupied by freed Burleson slaves and their children. Sites 41NV306, 41NV254W, and 41NV254E were also occupied by freed slaves. Alkaline vessels at Visionary Hill, 41NV235, and 41NV145 were purchased by these families, either as they immigrated to the Richland Creek area through East Texas, or shortly after they arrived from Limestone County. The vessels at 41NV267 may have been given to them by their former masters when they became freed blacks.

Natural Clay Slip

Natural clay slip vessels were produced in this region as early as the 1860s and were most common between 1875 and 1915. These dates are supported by several key sites in the Richland Creek area (Visionary Hill, 41NV254E, and 41NV254W). Several natural clay slip vessels were found at Visionary Hill, which was occupied by ca. 1865 indicating that this glaze style was available in the early to mid-1860s. Sites 41NV254E and 41NV254W may have been occupied for as short as five years between 1870 and 1885 and appear as mirror opposites with reversed percentages of natural clay/salt and natural interior and exterior vessels. These figures suggest that 41NV254E was initially occupied slightly earlier than 41NV254W at a time when natural clay/salt vessels were beginning to be replaced in popularity by natural clay interior and exterior vessels.

This glaze style was most popular at sites initially occupied during the 1870s, and it remained popular until after 1900. A number of natural clay slip interior and exterior vessels were found at 41NV102, with the majority located around the 1870s dwelling. Vessels found near the 1905 house were older vessels and probably were associated with the old component (41NV102 Old). Natural clay slip vessels at 41NV289 and 41NV174 were also from older components at those sites.

Bristol Glaze

Britol glazed vessels were absent at Visionary Hill, 41NV254E, and 41NV254W, all of which were abandoned prior to 1890 when bristol glazes were produced in this region of Texas. Bristol vessels accounted for less than 30% of the total number of vessels at sites abandoned near the turn of the century or shortly thereafter (41NV235, 41NV145, 41NV267, 41NV306, and 41NV102 Old) and for 30% to 100% at sites occupied well into the twentieth century. Natural clay/bristol vessels accounted for a small percentage of the bristol assemblage and were most frequent at sites initially occupied during the 1890s. They were infrequent at sites occupied 20 - 35 years earlier and which continued to be occupied into the 1900s. Their low frequency at these sites indicated that natural clay/bristol, as well as bristol/bristol vessels, were purchased to replace older, broken vessels. At sites initially occupied during the 1890s or early twentieth century they represented new vessels rather than replacement vessels.

SUMMARY

Different stoneware glazing styles were available to residents in North Central and East Texas, and these differences are reflected in the assemblages recovered from farmsteads in both areas. The strongest patterning has been identified for the Joe Pool Lake and Richland Creek project areas where a number of farmstead sites have been intensively investigated. Testing data from Lewisville Lake and the Big Sandy area also revealed several trends, but additional information is necessary before making major regional comparisons.

Salt glazed stonewares were recovered from pre-1860 to 1865 sites in the Lewisville Lake, Joe Pool Lake, Richland Creek, and Big Sandy areas and continued to be purchased up to 1900 at Joe Pool Lake and Richland Creek (see Table 22-7). They were absent at post 1890 sites in the Big Sandy area. Their frequency at farmsteads in the Lewisville Lake area is unknown. Alkaline glazed vessels occurred in each area except Lewisville Lake. They were infrequent at Joe Pool Lake and Richland Creek occurring only at pre-1870 sites occupied by families that immigrated from other areas of the South, owned slaves, or were themselves freed slaves. They were most common at sites in the Big Sandy area where they were recovered from pre-1880 farmsteads, indicating they may have continued to be popular until ca. 1880. Alkaline glazed vessels accounted for 23.7% of the assemblage from 41WD121. At the Rusk Plantation in Nacogdoches, alkaline sherds accounted for 33.7% of the assemblage. Natural clay slips were available in the Lewisville Lake and Richland Creek areas before 1860. They may also have been purchased in the Joe Pool Lake area, but it is not possible to tell at this time. No natural clay slip vessels were found at any of the sites initially occupied before 1890 in the Big Sandy area. This information appears to indicate that this glaze style (natural clay interior/exterior) was produced and became popular later in East Texas than in North Central Texas. Natural clay slip/bristol and bristol/bristol vessels exhibited similar patterns in both areas and were popular after 1890 and 1915, respectively.

In summary, different glaze styles were produced in Texas during the nineteeth and early twentieth centuries. Early sites in North Central and East Texas contained locally produced wares, while sites initially occupied after rail service became available exhibited higher frequencies of imported wares from other areas of Texas.

Table 22-10
FREQUENCY OF MAJOR STONEWARE VESSEL FORMS AT PRE-1865 SITES IN NORTHEASTERN TEXAS, AND THE ROARK POTTERY (41DN18)

Vessel Form	Lewisville	Joe Pool Lake			Richland Creek			Rusk	Roark
	DN289	TR39	DL192 Old	V. Hill	NV235	NV145	Plantation	Pottery
Jug	1 (20.0)	1 (25.0)	4 (100.0)	8 (66.7)	4 (80.0)	30 (75.0)	14 (51.9)	17 (18.7)
Churn						1 (2.5)	1 (3.7)	29 (31.9)
Jar	4 (80.0)	2 (50.0)		1 (8.3)		5 (12.5)	8 (29.6)	44 (48.4)
Bowl		1 (25.0)			1 (20.0)			1 (1.1)
Bottle				3 (25.0)		4 (10.0)	4 (14.8)	
Total	5	4	4	12	5	40	27	91

Table 22-11
VESSEL FORMS IDENTIFIED AT PRE-1900 SITES IN THE JOE POOL LAKE AREA[1]

Vessel Form	TR39	DL192 Old	DL267	DL268	DL190	TR48	TR40	DL192 New	DL183	DL181	DL191
JUG:											
rim w/attached strap handle						1	1				
rim no handle present						2					
neck/shape unknown						2					1
shouldered jug no handle present				2			3		1		
shoulder fragment w/ handle			1			2					
shoulder fragment no rim or handle	1	1	1	1	1	1	1	2			
two piece molded shoulder fragment		1	1								
strap handle (jug?)		2								1	1
CHURN:											
rim w/ interior lip; cylindrical								2		2	
lid			1								
JAR:											
rim w/ no interior lip; ovoid	2					1					
rim w/ no interior lip; cylindrical					2	5	1			5	
PITCHER:											
rim w/ handle strap					2	1	1				
BOWL:											
rim w/ squared shape; mixing bowl	1				2					2	
OTHER:											
German mineral water bottle								1			
kitchen ware			1								
unidentifiable	18	24	18	6	26	41	31	9	11	37	24
TOTAL	22	28	23	9	33	56	38	14	12	47	26

[1] Testing and Mitigation data included; sites are order by beginning date and are preceeded by 41 (e.g., 41TR39); flower pots were not included in the total stoneware count for sites in the project area

Table 22-12
VESSEL FORMS IDENTIFIED AT POST 1900 SITES AND SPECIALIZED FEATURES IN THE JOE POOL LAKE AREA[1]

Vessel Form	DL196	TR42	TR45	Fea. 1 DL192	Fea. 1 DL276	Fea. 2 DL191	Fea. 3 DL192Old
JUG:							
rim w/attached strap handle				1			
rim no handle present							1
shoulder fragment w/ handle					1		
shoulder fragment no rim or handle				2	3		1
two piece molded shoulder fragment				1			
strap handle (jug?)		1					
CHURN:							
rim w/ interior lip; cylindrical						1	
lid		1			1		
JAR:							
preserve jar rim w/ lip; cylindrical (?)		1		1			
BOWL:							
rim w/ squared shape; mixing bowl				1			
base						1	
OTHER:							
British ginger beer bottle			1				
kitchen ware	1				1	1	1
unidentifiable	9	26	4	14	9	9	4
TOTAL	10	29	5	20	15	12	7

[1] Testing and Mitigation data included; sites are order by beginning date and are preceeded by 41 (e.g., 41TR39); flower pots were not included in the total stoneware count for sites in the project area

POPULARITY OF MAJOR STONEWARE VESSEL TYPES FOR NORTHEASTERN TEXAS

According to Sweezy (1984:21) a wide variety of utilitarian stonewares were produced for rural areas in the South, including basins for washing,

> "...containers for soap; stewpots and bread pans for open-hearth cooking; and pitchers, mugs, and bowls for the table. Milk was a farm staple, and crocks were needed for cream rising and butter storage and churns for butter making. Meat was salted, vegetables pickled, lard and tallow stored in large jars; cane syrup, vinegar, wine, and liquor were put up in jars; fruits and jams preserved in small jars. The potters also made sieves, water coolers, funnels, measuring cups, baby bottles, animal feeders, chimney flues, spitoons, chamber pots, inkwells, clay pipes, playing marbles called *peedabs*, and grave markers."

However, as mentioned earlier, only a few of these vessel forms were found at farmsteads in the Joe Pool Lake area, these including jugs, churns, jars, pitchers, bowls, and tobacco pipes. Many of the same vessels forms occurred at farmsteads in the Lewisville Lake, Richland Creek, and Big Sandy areas, and many others were entirely absent. Among the vessel forms not identified were sieves, water coolers, funnels, measuring cups, baby bottles, chimney flues, spitoons, chamber pots, and ink wells. Flower pots and tobacco pipes were found in the Joe Pool Lake and Richland Creek areas, while grave markers occurred in the Big Sandy area. A small number of stone and clay marbles were found, and some may have been locally produced.

The most common vessel forms found in each area included jugs, churns, and jars. The low percentage of bowls (including pan forms), bottles, and pitchers, as well as other forms, may indicate that these vessels were not essential, that not as many were necessary to carry out daily household and farm chores, or that they were not available from local potters. Because of the strong interrelationship between the demand for stoneware vessels and the cost of acquiring completed wares, few potters would have produced largely whimsical items (e.g., stoneware piggy banks, face jugs) or vessels that were not in high demand (e.g., tablewares, spitoons, among others). As the need and availability of different vessel forms changed, new forms may have been added and others dropped. Some of these changes were reflected in the popularity of specific vessel forms from sites occupied during different periods.

The frequency of specific vessel forms was recorded for sites initially occupied by the mid-1860s at Joe Pool Lake, Lewisville Lake, Richland Creek, and the Rusk Plantation in Nacogdoches (Table 22-10). Although the

sample size at several sites was extremely low, this information generally indicated that jugs dominated in the Richland Creek and Rusk Plantation assemblages and at 41DL192 Old in the Joe Pool Lake area. On the other hand, jars (wide and narrow mouth crocks) dominated in the Lewisville Lake area and at 41TR39. The assemblage from 41DN289 contained primarily vessels from the Denton potteries, and the high frequency of crocks correlates well with the production data recorded for the Roark Pottery. Pitchers and bowls were uncommon in each area, and bottles were absent in the Lewisville Lake and Joe Pool Lake areas. Differences were also recorded within each project area. For example, bottles were the second most frequent vessel type at Visionary Hill, third most common at 41NV145, and were absent at 41NV235.

JOE POOL LAKE AND RICHLAND CREEK FARMSTEADS

Using the large data sets recovered for farmsteads in the Joe Pool Lake and Richland Creek areas, it was possible to quantify the frequency of major vessel forms within each area and to examine changes in the stoneware assemblage during different periods. Similar vessel forms were found in both areas and included jugs, churns, crocks and jars. Bottles, pitchers, and bowls occurred but were relatively infrequent. Stylistic variability was recorded for rim forms and vessel shape, which provided important temporal information (Tables 22-11 through 22-14). Changes were evident in the frequencies of vessel types, rim forms, vessel shape, and other stylistic variables both over time and between the two areas.

European stonewares and modern kitchenware vessels were very uncommon at farmsteads in the Joe Pool Lake area and were more frequent at Richland Creek. European stonewares were recovered at pre-1900 sites in both areas and were absent at post 1900 Richland farmsteads. Modern kitchenware vessels were found at sites that continued to be occupied past 1930 in the Richland Creek area, and their low frequency at Joe Pool Lake farms may indicate that glass, yellowware, and other vessel forms were adopted earlier than at Richland Creek farmsteads. This pattern may reflect the adoption of popular lifeways by Joe Pool Lake farmers earlier than their counterparts at Richland Creek. The predominance of flowerpots at farmsteads in the Joe Pool Lake area and their relative paucity in the Richland Creek area may also reflect this pattern.

Other vessel forms varied in frequency between the two areas and may reflect differences in farm lifeways. While jugs were the most common vessel form in both areas (Table 22-15, columns 3 and 6), followed by jars, they were more than one and a half times more frequent at Richland Creek farmsteads. With the exception of bottles, all other vessel forms were more common at Joe Pool Lake farmsteads and ranged from 2 to 5 times more frequent than in the Richland Creek area.

The importance of specific vessel forms differed considerably between farms initially occupied before 1900 from those occupied after 1900 (see Tables 22-11 through 22-14). Vessel shape and rim forms also varied between both periods in the Richland Creek and Joe Pool Lake areas. Rim fragments and handles were poorly represented at Joe Pool Lake, and the variety of jugs, crocks, churns, bowls, and bottles was more diverse at Richland farms.

Jugs were equally common during both periods, indicating that they remained stable over time. On the other hand, jars and churns exhibited a reverse relationship with jars decreasing three-fold while churns became three times more frequent at post 1900 farms. Bowls, pitchers, and bottles remained relatively stable. In the Richland Creek area, jugs decreased in popularity from a high of 84.1% at pre-1900 to only 62.5% at post 1900 sites. However, during both periods, jugs were more common at Richland farmsteads than at sites in the Joe Pool Lake area. Churns became seven times more frequent and jars twice as frequent at post 1900 sites. Pitchers, bowls, and bottles remained relatively unchanged.

The vessel forms for farmsteads initially occupied between 1870 and 1890 indicated a greater diversity in vessel forms at Joe Pool farmsteads (Table 22-16). Jugs dominated at all farmsteads in the Richland Creek area, where they ranged in frequency from 81 to 100%. All other vessels forms were poorly represented. On the other hand, jugs were common at some but not all farms in the Joe Pool Lake area, including 41DL190 and 41DL192 New, where jugs accounted for less than 40% of the assemblage. Crocks were the second most common vessel form and were recorded at all but one site. All other forms varied considerably between sites.

Major vessel forms varied between different areas within Texas, and among farmsteads initially occupied before 1900, and those occupied after 1900. In general, jugs were the most common vessel form recovered in the Joe Pool Lake and Richland Creek areas during both time periods, while open crocks appear to have been the most frequent vessel form in the Lewisville Lake area and Rusk Plantation.

SUMMARY

The utilitarian stoneware vessels from farmstead sites in the Joe Pool Lake area provided an empirical data base that yielded considerable information about rural lifeways, stoneware production, marketing, and purchasing patterns. Stoneware vessels were produced in northeastern Texas as early as 1839 and remained an important cottage industry until the Depression. Early vessels in the project area were from Denton County potteries, while wares purchased after rail service reached the area in 1872 were produced in Limestone and Henderson counties or in East Texas. A variety of glaze styles and vessel forms were available from potteries in northeastern Texas, and this variability was expressed in the stoneware assemblages from different Joe Pool Lake farmsteads, as well as at farms in the Lewisville Lake (Cliff and Moir 1985), Richland Creek (Lebo 1987a), and Big Sandy areas (Perttula et al. 1986).

Dry/salt vessels were produced in Denton and Limestone counties and were primarily available before 1870. Salt/salt was uncommon in all areas and reflected pre-1870s purchases. Natural clay/salt vessels were produced throughout northeastern Texas and were recovered from farmsteads in each area. Natural clay slip vessels were most common in Denton County, Limestone and Henderson counties before 1870, and East Texas after 1870. Natural clay/bristol was not common

Table 22-13
VESSEL FORMS IDENTIFIED AT PRE-1900 SITES IN THE RICHLAND CREEK AREA[1]

Vessel Form	Visionary Hill	NV235	NV145	NV254 East	NV254 West	NV267	NV102 Old	NV306	Total
JUG:									
rim w/attached strap handle			4		1	6		3	14
rim w/ non attached strap handle								2	2
rim no handle present					1	2	1	1	5
neck/shape unknown			2			3	1	1	7
shouldered jug w/strap handle		1	2					1	4
shouldered jug no handle present			3			6	1	6	16
shoulder fragment w/ handle					3		2	6	11
shoulder fragment no rim or handle					6		9		15
possible jug shoulder fragment	8	2	19	7	2	24	6	15	83
rim w/two piece molded shoulder								1	1
two piece molded shoulder fragment		1				1	3	2	7
strap handle (jug?)						3	1		4
CHURN:									
rim w/ interior lip; cylindrical; lug					1		1		2
lid			1					1	2
JAR:									
rim w/ no interior lip; ovoid			1						1
rim w/ no interior lip; ovoid; lug			1						1
rim w/ no interior lip; ovoid; strap			1						1
rim w/ no interior lip; cylindrical[2]	1		1			2	2	2	8
lid			1						1
PITCHER:									
rim w/ interior lip						1			1
BOTTLE[3]:									
rim w/ rounded shape			2						2
rim w/ square shape			2					3	5
base	3								3
BOWL:									
rim w/ squared shape; mixing bowl		1			2			1	4
rim w/ rounded shape; ovoid						1			1
OTHER:									
British ale bottle	1		1						2
British ginger beer bottle			1						1
British ink bottle			1					3	4
German mineral water bottle		1				3		1	5
flower pot			1						1
kitchen ware							1		1
unidentifiable	6	38	45	15	5	64	13	46	232
TOTAL	19	44	89	22	21	116	41	95	447

1 Taken from Lebo (1987a:Table 8-7); Testing and Mitigation data included; sites are ordered by beginning date and are preceeded by 41 (e.g., 41NV235)

2 One crock fragment from 41NV267 does not have a rim, and is stamped TEXAS in cobalt blue

3 Rim and neck fragments that could not be distinguished between jug and bottle forms were counted as bottles

Table 22-14
VESSEL FORMS IDENTIFIED AT POST 1900 SITES IN THE RICHLAND CREEK AREA[1,2]

Vessel Form	NV285	FT156	NV102 New	NV316	NV319	FT164	NV289	FT163	NV174	Total
JUG:										
rim w/attached strap handle					1					1
neck/shape unknown						1				1
shouldered jug w/strap handle				1						1
shouldered jug no handle present				3			1		2	6
shoulder fragment no rim or handle									1	1
possible jug shoulder fragment				4		1	1			6
two piece molded shoulder fragment			1					1	2	4
CHURN:										
rim w/ interior lip; cylindrical	1							3		4
lid								1		1
JAR:										
rim w/ no interior lip; cylindrical		1				1	1	1		4
BOTTLE:										
neck						2				2
BOWL:										
rim w/ squared shape; mixing bowl						1				1
OTHER:										
flower pot	2		1						1	4
kitchen ware	17				12	2	3	3		37
unidentifiable	21	9	5	18	10	11	17	9	20	120
TOTAL	40	10	7	26	23	19	23	18	26	193

1 Taken from Lebo (1987a:Table 8-8)

2 Sites are order by beginning date and are preceeded by 41 (e.g., 41NV285); counts include both testing and mitigation data

Table 22-15
FREQUENCY OF MAJOR STONEWARE VESSEL FORMS AT PRE-1900 AND POST 1900 SITES IN THE JOE POOL LAKE AND RICHLAND CREEK AREAS OF NORTHEASTERN TEXAS

	Joe Pool Lake (ca.1859-1970s)						Richland Creek (ca.1850-1970s)					
	Pre-1900		Post 1900		Total		Pre-1900		Post 1900		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Jug	35	50.7	6	54.5	41	51.3	169	84.1	20	62.5	189	81.1
Churn	6	8.7	3	27.3	9	11.3	4	2.0	5	15.6	9	3.9
Jar	18	26.1	1	9.1	19	23.8	12	6.0	4	12.5	16	6.9
Pitcher	2	2.9			2	2.5	1	.5			1	.4
Bowl	8	11.6	1	9.1	9	11.3	5	2.5	1	3.1	6	2.6
Bottle							10	5.0	2	6.3	12	5.2
Total	69		11		80		201		32		233	

Table 22-16
FREQUENCY OF MAJOR STONEWARE VESSEL FORMS AT SITES INITIALLY OCCUPIED BETWEEN 1870 AND 1890 IN THE JOE POOL LAKE AND RICHLAND CREEK AREAS

	Joe Pool Lake												Richland Creek									
	DL267		DL190		TR48		TR40		DL192N		DL268		NV254E		NV254W		NV267		NV306		NV102O	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Jugs	3	60.0	1	14.3	8	53.3	5	71.4	2	33.3	3	100.0	7	100.0	13	81.3	45	91.8	38	844	24	88.9
Churns	1	20.0							2	33.3					1	6.3			1	2.2	1	3.7
Crocks	1	20.0	2	28.6	6	40.0	1	14.3	2	33.3							2	4.0	2	4.4	2	7.4
Pitchers			2	28.6													1	2.0				
Bowls			2	28.6	1	6.7	1	14.3							2	12.5	1	2.0	1	2.2		
Bottles																			3	6.7		
Total	5		7		15		7		6		3		7		16		49		45		27	

and was found at farmsteads in the Joe Pool Lake, Richland Creek, and Big Sandy areas after 1890. Bristol interior and exterior vessels were first produced ca. 1890, but they were uncommon in this region of Texas until ca. 1915, when they replaced natural clay/bristol wares in popularity. Vessels with cobalt blue decoration were found in the Richland Creek and Big Sandy areas and dated after 1920, but they were extremely uncommon at Joe Pool Lake farmsteads.

Jugs, churns, crocks, and jars were the major vessel forms found in the Joe Pool Lake and Richland Creek areas. They varied considerably in frequency both between farmsteads in each area as well as between the two areas. Some of this patterning reflects temporal factors associated with nineteenth versus twentieth century rural lifeways and consumption patterns. Many families in the Joe Pool Lake area appear to have adopted newer products, including rural electrification, telephones, automobiles, and mechanized farm machinery, as well as new refrigeration and food storage containers and technology, earlier than their counterparts in the Richland Creek area. Stoneware vessels on the other hand, were dropped from use as household needs shifted to newer, more convenient, and economical food practices.

Stoneware vessels were an important part of the rural economy of North Central Texas prior to World War II. Often the information preserved in stoneware assemblages has not been studied to its fullest potential. The assemblages from Joe Pool Lake have received intensive analysis and have contributed much to our understanding of the recent past.

LOW FREQUENCY ITEMS FROM FARMSTEADS IN THE JOE POOL LAKE AREA

23

by

Susan A. Lebo

Low frequency items (Table 23-1) recovered from farmsteads in the Joe Pool Lake area generally accounted for less than 2% of each site assemblage, and included personal items, heavy metal remains (e.g., kitchen utensils and appliances, furniture, wagon, machine, and miscellaneous hardware), hand tools and implements, firearms, horse and stable gear, fuel and electrical items, and miscellaneous other remains (e.g., unidentifiable plastic, metal, wood, glass, and ceramic fragments).

Although found in small numbers, low frequency items contain considerable information about family structure, socioeconomic status, and home economics (household and outdoor activities). Historic archaeologists seldom have an opportunity to address these items from a comparative perspective, except on large projects. Consequently, traditional approaches have focused on providing extensive descriptive detail of these items on an item by item or site by site basis.

Broad sampling of farmstead sites in the project area has indicated that low frequency items have similar frequencies and levels of repetitive temporal and spatial behavior for these sites. Comparisons are presented here using low frequency items recovered from 50 x 50 cm units on a 4 or 8 m grid at 13 sites, and from 12 specialized features at nine sites, and indicate that the type and frequency of specific low frequency categories varied between these two samples. Sheet refuse deposits contained a broader range of these items, while specialized features contained highly redundant samples, and a shorter range of different items.

METHODOLOGY

Each site was divided into major yard areas which included: (1) main dwelling and yard, (2) secondary or more recent dwellings and yards, and (3) major outbuildings and yards (Table 23-2). Figure 23-1 illustrates an idealized farmstead and major yard areas. A secondary dwelling and yard area was identified at 41TR39, where a tenant's trailer house was located in the southeast portion of the site. Site 41DL192 was divided into two major yard areas, with the older single room Penn house (ca. 1859) and surrounding yard being designated 41DL192 Old, and the ca. 1876 Penn house at the northeast corner of the site, being designated 41DL192 New. A third dwelling and yard area was defined for the Red House, located just inside the U.S. Army Corps fence, southeast of the 1876 house area. While this house was used for storing crops in recent years, cultural material associated with a domestic occupation was recovered. A single outbuilding area occurred at four sites (41DL183, 41DL192 Old, 41TR39, and 41TR48), two were identified at five sites (41DL181, 41DL190, 41DL191, 41TR40, and 41TR45), and multiple outbuildings were defined at 41DL192 New and 41TR42. No evidence was found indicating an outbuilding associated with 41DL196.

Building status was also recorded for all dwellings and outbuildings, and included: (1) burned, (2) standing/collapsed, and (3) removed. A total of eight burned

Table 23-1
LOW FREQUENCY ARTIFACT CATEGORIES REPRESENTED AT FARMSTEADS IN THE JOE POOL LAKE AREA

PERSONAL ITEMS	
Clothing	buttons, jean buttons, corset stays, hooks and eyes, suspender buckles, garter parts, snaps, safety pins, zippers, shirt stays, shoe and boot parts
Recreation and Leisure	tobacco pipes, cigar parts, cigarette parts, lighters, tobacco pouches, cigaratte case, tobacco tins, records, musical instruments, toys (rubber, plastic, metal, ceramic, glass), slateboards, slate pencils
Hygiene and Grooming	comb, barrette, mirror, bobby pins, curlers, hypodermic needle, toothbrush, cream and lotion tubes and canisters, razor, razor blade, hair clipper, lipstick dispensers, compact cases
Miscellaneous Personall	watch parts, clock parts, jewelry, purse and pocketbooks, coinage, writing implements, eyeglasses
KITCHEN/HOUSEHOLD	
Kitchen Items	flatware, tin enamel vessels, cast iron vessels, kitchen gadgets, refrigerator and stove parts
Household Activities	laundry items (clothespins, washtubs), iron, sewing items (straight pins, scissors)
Household Items	furniture parts, metal lamp parts, electrical remains
OUTDOOR REMAINS	
Hunting and Fishing	metal trap parts, fishhooks, ammunition (firearms)
Miscellaneous Activities	tools (wrenches, axes, pliers wire cutters, files)
Miscellaneous Hardware	nuts, bolts, washers, brackets, chains, chainlinks, hitches, etc.
Farm Maintainence Tools	hoes, shovel, pitch fork, mower points, mower blades, corn shucker, etc.
Horse and Stable Gear	harness and rein buckles, leather straps, leather rivets, hame parts, harness rings, horse shoes, mule shoes, horseshoe nails
Wagon and Machine Parts	springs, spokes, rein and railing parts, wagon hardware (rods, nuts, wood rivets, etc.), pistons, piston rings, starter switches, head and tail light glass and bulbs, battery terminal parts, latches, knobs, and other miscellaneous parts

Table 23-2
LOW FREQUENCY REMAINS IN MAJOR YARD AREAS AT FARMSTEADS[1] IN THE JOE POOL LAKE AREA

	House			Barn			Other OB[2]		
	N Bldg	N U[3]	N LFA[4]	N Bldg	N U	N LFA	N Bldg	N U	N LFA
DL181	1	46	40	2	30	60			
DL183	1	15	4	1	6	33			
DL190	1	38	121	2	22	4			
DL191	1	42	45	1	78	8	1	18	45
DL192 O	1	79	107				1	1	6
DL192 N	1	97	84				4	36	31
red house	1	13	7						
DL196	1	120	148						
TR39	1	154	169	1	6	2			
tenant	1	10	1						
TR40	1	55	116	3	50	42	1	10	4
TR42	1	49	83	2	23	7	4	18	12
TR45	1	32	40	2	24	74	1	4	192
TR48	2	154	222						

1 Sites are ordered alphanumerically

2 Other outbuildings included a workshop at 41DL191; the south granary at 41DL192 Old; the north granary, the 1918 barn and the single and double crib barns a 41DL192 New; windmill and small shed area at 41TR40; the chicken coop, corral, east shed and thresher, and the southeast garage area at 41TR42; the smokehouse is grouped with the barn, and the garage is listed as an outbuilding at 41TR45 (see site descriptions, Chapters 4-16 for maps showing the location of outbuidings)

3 Units

4 LFA: low frequency artifacts

structures were identified in the project area, and included one dwelling that burned while the site was occupied (41DL190), and six dwellings and one barn that burned after site abandonment. A total of six dwellings and 21 outbuildings were identified as standing or collapsed at the time of excavation in 1985 - 1986. Dwellings had been removed from two sites; house at 41TR45, and the tenant's trailer house at 41TR39.

A number of specialized features were identified and a representative sample was intensively investigated during the 1985 - 1986 mitigation season. These features included root cellars at 41DL191, 41TR40, 41TR42, and 41TR48; filled wells at 41TR39, 41TR40, and 41TR48; and trash deposits at 41DL192 Old (Feature 1 and 3), 41TR40, 41TR42, 41TR45, and 41TR48. These features have been categorized based on their intrasite locations. Features located in the main dwelling area included two root cellars at 41DL191, root cellars at 41TR40 and 41TR48, filled wells at 41TR39, 41TR40, and 41TR48, and trash deposits at 41DL192 Old (Feature 1), and 41TR42. Features in outbuilding areas included a root cellar at 41TR42, and trash deposits at 41DL192 Old (Feature 3), 41TR40, 41TR45, and 41TR48.

Low frequency remains were divided into three major categories: (1) personal, (2) kitchen and household, and (3) outdoor and subsistence items, and a series of subcategories (see Table 23-1). Personal items

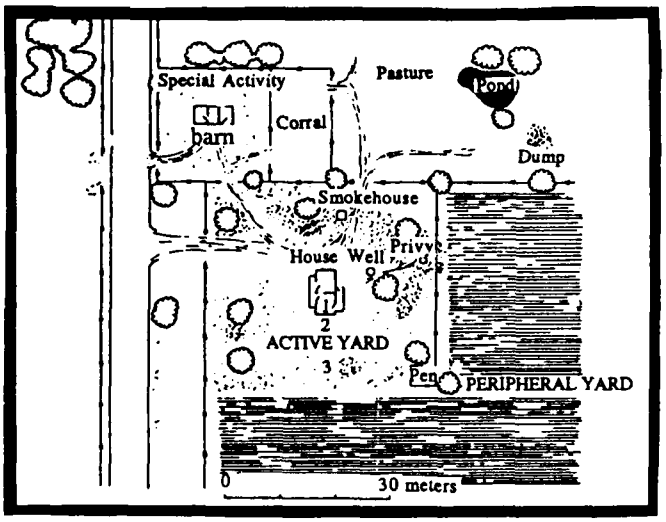


Figure 23-1a. An idealized layout for a small farmstead in North Central Texas (ca. 1890-1910). The house, a two room Cumberland with rear addition is surrounded by an Immediate Active Yard (labeled 2) and an Outer Active Yard (3). The Subactive Yard (1) is covered by the house. All three zones (i.e., Subactive, Immediate, and Outer) form the Active Yard, the area where most outside household activities occur. Major farm outbuildings (e.g., barns, sheds, pens, etc.) are located in the Peripheral Yard (From Moir 1987b:232).

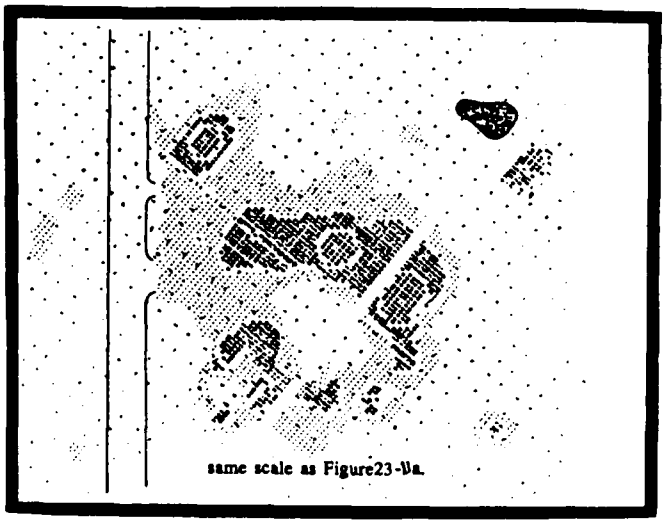


Figure 23-1b. Hypothetical SYMAP of a sheet refuse midden for the model farmstead illustrated in Figure 23-1a. Artifact frequencies clearly show the Outer Activity Yard and Immediate Active Yard. Alignments caused by fences and yard sweeping are also clearly illustrated (From Moir 1987b:232).

included four major subcategories: (1) clothing, (2) recreation, leisure, and entertainment, (3) hygiene and grooming, and (4) miscellaneous personal. Among the clothing remains were an assortment of buttons, metal clothing fasteners, and shoe and boot parts. The few cloth remains recovered were recent, postdating occupation at the sites where they were found. As a result, they were not been included here. The recreation, leisure, and entertainment category included smoking paraphernalia, musical instruments and record fragments, and children's toys and school items. Hygiene and grooming aids were relatively infrequent, while miscellaneous personal remains included an assortment of coins, tokens, watch and clock pieces, jewelry, and writing implements. Kitchen and household items were divided into three subcategories: (1) kitchen, (2) household activities, and (3) household items. Among the kitchen items recovered were an assortment of flatware, cookware vessels, kitchen gadgets, and stove parts. Household activities represented included laundry and sewing, while household items included furniture and lighting remains. Outdoor and subsistence items were subdivided into subcategories which reflected three activities: (1) fishing and hunting, (2) farm maintenance (equipment and machinery, as well as horse and stable gear), and (3) miscellaneous building and maintenance activities (tools and hardware).

LOW FREQUENCY REMAINS IN SHEET REFUSE MIDDENS

The frequency of specific low frequency categories varied within and between major yards, and reflected highly predictable patterns. Several factors accounted for this patterning, including the level of intensive excavations in outbuilding areas relative to dwelling areas, and the presence of specialized features (e.g., filled wells, cisterns, abandoned or trash pits). On sites where intensive excavations were conducted in outbuilding areas, personal items were infrequent. For example, at 41DL191 a total of forty-two 50 × 50 cm units were excavated in the dwelling area, and 96 in outbuilding areas, resulting in a ratio of 1 to 2.3 between the dwelling and outbuilding areas. Personal items acceunted for 9.2% of all low frequency remains, while outdoor items accounted for 55.8%. Specialized features located in dwelling areas contained a high percentage of personal items, while those in outbuilding areas contained a higher percentage of hardware and outdoor items. At 41DL192 Old outdoor items accounted for 49.1% while personal items accounted for 47.4% of the low frequency remains in 50 × 50 cm units in the dwelling area, but when low frequency remains from Feature 1 (cooking ash and trash) were included, personal items accounted for 56.5%, and outdoor items, only 20.6%. These differences are discussed in more detail later in this chapter (see feature discussion).

All low frequency items recovered from farmsteads in the project area were tabulated separately for assemblages recovered from 50 × 50 cm units on a systematic grid. Those recovered in specialized features (Table 23-3) are presented separately by major low frequency artifact categories.

MAIN DWELLING AREA

The sites were ordered based on the percentage of low frequency items recovered from 50 × 50 cm units in

Table 23-3
LOW FREQUENCY ARTIFACTS FROM SHEET REFUSE[1,2] AND SPECIALIZED FEATURES[3] AT FARMSTEADS IN THE JOE POOL LAKE AREA

	DL181 SR	DL183 SR	DL190 SR	DL191 SR	DL191 F2	DL192Old SR	DL192Old F1	DL192Old F3	DL192New SR	DL196 SR
PERSONAL ITEMS										
Clothing Items										
buttons	4	1	12	1		12	21	4	3	9
jean buttons	4			3	2	5	57	14		7
corset stays										
hooks and eyes								1		
suspender parts				2			8	9		
garter parts			1	1		1		1	1	6
snaps	1		6		1		8	1	1	
safety pins	1						6		3	1
zippers						1				
shirt stays						1		1		
belt buckles	1									1
shoe/boot parts	2		2	4		2	128	67	2	2
Total	13	1	21	11	3	22	228	98	10	26
Recreation and Leisure Items										
smoking items	5			1		1				
record fragments	6		2			10		14		14
musical instruments										
children's toys										
rubber										
plastic	1		6							2
metal		2		1				1		3
porcelain dolls/ dishes	1/0		20/0			4/0	11/2		1/0	3/0
marbles	2		1			3		1		4
slateboards			1			7			38	
slate pencils			2							
Total	15	2	32	2	0	25	13	16	39	26
Hygiene and Grooming Items										
Total	2		6	1		1			1	3
Miscellaneous Personal										
Clock/watch parts			3							
purse parts	1					1		7		
jewelry			2			1		1	1	3
coinage										
writing implements	1					2		3		3
Total	2		5			4		11	1	6
KITCHEN AND HOUSEHOLD ITEMS										
Kitchen Items										
flatware	1		3				2			1
tin enamel vessels									1	3
cast iron vessels							2			
misc. gadgets	1				1					
stove parts	1			1			1	1		2
Total	3		3	1	1		5	1	1	6
Household Activities										
Laundry	1		3	1		1			3	4
Sewing						1	1	1		
Total	1		3	1		2	1	1	3	4

Table 23-3 — (*continued*)
LOW FREQUENCY ARTIFACTS FROM SHEET REFUSE[1,2] AND SPECIALIZED FEATURES[3] AT FARMSTEADS IN THE JOE POOL LAKE AREA

	DL181 SR	DL183 SR	DL190 SR	DL191 SR	DL191 F2	DL192Old SR	DL192Old F1	DL192Old F3	DL192New SR	DL196 SR
Household Items										
furniture parts	1		3	3			3	2		7
metal lamp parts										
electrical parts	4		19	3	1	2	11	1	6	15
Total	5		22	6	1	2	14	3	6	22
OUTDOOR ITEMS										
Fishing and Hunting										
fishhooks						1		1	1	
ammunition	16	27	9	4		15	27	9	17	24
Total	16	27	9	4		16	27	10	18	24
Misc. Activities										
tools	2			7				3		2
hardware	34	5	13	61		27	22	2	26	20
Total	36	5	13	68		27	22	5	26	22
Farm Maintainence										
farm tools							1	2	1	1
horse & stable gear	3	2		9		7	11	1	3	2
wagon & machine parts	1/4		1/9	2/6		3/3	6/4	1/11	10/3	2/4
Total	8	2	10	17		13	22	15	17	9

1 Includes systematically recovered mitigation data only
2 Sites are ordered alphanumerically and are preceeded by 41 (e.g., 41DL181)
3 Only features containing low frequency items are listed
4 Key: SR= sheet refuse units, F=feature, Tr=trashpit

the dwelling area (Table 23-4). Sites where the main dwelling had burned during or after occupation contained the lowest percentage of low frequency items, while those with standing or collapsed structures clustered in the middle. The highest percentage of low frequency remains occurred at sites where the house had been removed. These figures indicated a strong correlation between the percentage of low frequency items in the sheet refuse midden in dwelling areas, and building status.

No distinction was made between whether the dwelling burned while the site was occupied or after it was abandoned since in both instances, the architectural debris that was deposited when the house burned served to increase the percentage of architectural items and decrease the percentage of sheet refuse remains. Sites where the house remained standing or was partially collapsed contained a higher percentage of architectural remains that those where the house was removed, but considerably fewer that those where the house had burned to the ground. The lowest percentage of architectural remains in the dwelling area occurred at site 41TR45.

A strong reverse linear relationship was also evident between the mean number of artifacts per unit (artifact total/number of units) and the percentage of low frequency items in the site assemblage (see Table 23-4). Sites that contained low density deposits contained a high percentage of low frequency items, while those with high density deposits contained a lower percentage of these remains. For example, the mean number of artifacts per unit at site 41DL192 Old was 19.87 and the percentage of low frequency remains was 7.7%, while at 41DL190, the mean number of artifacts per unit was 182.13 and the percentage of low frequency items at the site was only 0.9%.

A correlation is visible between the types of low frequency items found in the dwelling area, and the initial date of occupation (Table 23-5). Some dwelling areas contained predominantly personal remains while others contained primarily outdoor items. Still other sites exhibited similar frequencies of personal and outdoor items. Kitchen and household remains were infrequent in the dwelling area at all sites.

Personal items dominated at five sites (41DL190, 41DL192 New, 41DL196, 41TR39, and 41TR40), and exhibited a ratio of 1.1:1 to 2.7:1 between these items and outdoor remains. Personal and outdoor items were equally frequent at three sites (41DL183, 41DL192 Old, and 41TR48), which exhibited a ratio between .96:1 and

Table 23-3 — *(continued)*

LOW FREQUENCY ARTIFACTS FROM SHEET REFUSE[1,2] AND SPECIALIZED FEATURES[3] AT FARMSTEADS IN THE JOE POOL LAKE AREA

	TR39		TR40				TR42		TR45		TR48	
	SR	F6	SR	F1	F5	Tr	SR	Tr	SR	Tr	SR	F1
PERSONAL ITEMS												
Clothing Items												
buttons	14	1	12	10	8	1	2	1		2	13	
jean buttons	8	1	6	2			1	1	3	1	22	3
corset stays	1											
hooks and eyes					1			1				
suspender parts	2				1						8	1
garter parts	2		1								3	
snaps					4		2	2			2	
safety pins				1							2	
zippers			1		1							
shirt stays							1					
belt buckles			1								1	
shoe/boot parts	8	26	30	6	9	25	2	2	12		34	
Total	35	28	51	19	24	26	8	7	15	3	85	4
Recreation and Leisure Items												
smoking items	2		1				1			1	6	
record fragments	12	9	19		3		3	5			8	
musical instruments	1						1					
children's toys												
rubber	2		2		1							
plastic[5]	2			1	2			6				
metal	1		2		2	2	2				1	
porcelain dolls/ dishes	7/3		1/0		1/0			1/0			1/1	
marbles	4	1	3	32	1		1				3	
slateboards	22		4		2		1					
slate pencils	2						1					
Total	58	10	32	33	12	2	10	12	0	1	20	0
Hygiene and Grooming Items												
Total	10	0	1	0	1	0	2	9	0	0	3	0
Miscellaneous Personal												
Clock/watch parts	2				1							
purse parts	1				2							
jewelry	1	1	6	2	1	2				1	4	
coinage	1						1	2	1		2	
writing implements	4	3			1		1	2	1	2	2	2
Total	9	4	6	2	5	2	2	4	2	3	8	2
KITCHEN AND HOUSEHOLD ITEMS												
Kitchen Items												
flatware	2		2	1				1			3	
tin enamel vessels		10										
cast iron vessels	1										1	
misc. gadgets			1		1						2	
stove parts	1				1		1					
Total	4	10	3	1	2	0	1	1	0	0	6	0
Household Activities												
Laundry	5		1	2			2	1			2	
Sewing										1		
Total	5	0	1	2	0	0	2	1	0	1	2	0

Table 23-3 — *(continued)*
LOW FREQUENCY ARTIFACTS FROM SHEET REFUSE[1,2] AND SPECIALIZED FEATURES[3] AT FARMSTEADS IN THE JOE POOL LAKE AREA

	TR39		TR40				TR42		TR45		TR48	
	SR	F6	SR	F1	F5	Tr	SR	Tr	SR	Tr	SR	F1
Household Items												
furniture parts	1	3	2	2	3	5	3	2	4		4	
metal lamp parts											1	1
electrical parts	9	5	17		54	4	4	5	7	3	12	1
Total	10	8	19	2	57	9	7	7	11	3	17	2
OUTDOOR ITEMS												
Fishing and Hunting												
fishhooks					1						5	
ammunition	19	6	11	5	1	1	12	1	72	8	5	1
Total	19	6	11	5	2	1	12	1	72	8	10	1
Misc. Activities												
tools	6	1	3		1	1	8			9	4	
hardware	8	4	26		14		40	7	6	156	37	1
Total	14	5	29	0	15	1	48	7	6	165	41	1
Farm Maintainence												
farm tools	1		1					1	3			
horse & stable gear	2		4	2			8			1	7	1
wagon & machine parts	1/4		1/5	1/1	1/2		1/1		0/5	0/7	2/8	0/1
Total	8	0	11	4	3	0	10	1	8	8	17	2

1 Includes systematically recovered mitigation data only
2 Sites are ordered alphanumerically and are preceeded by 41 (e.g., 41DL181)
3 Only features containing low frequency items are listed
4 Key: SR- sheet refuse units, F-feature, Tr-trashpit
5 Two plaster of paris figurine fragments were recovered from Feature 5

Table 23-4
PERCENTAGE OF LOW FREQUENCY REMAINS, MEAN NUMBER OF ARTIFACTS PER UNIT, AND BUILDING STATUS FOR THE DWELLING AREA AT FARMSTEADS[1] IN THE JOE POOL LAKE AREA

	% Low Freq Remains	Mean # of Artifacts/Unit	Building Status
41TR45	8.2	24.75	removed
41DL192 Old	7.7	19.87	standing
41DL183	3.9	37.60	standing
41TR42	3.6	32.01	standing
41TR40	2.9	47.00	standing
41TR48	1.9	82.59	burned
41TR39	1.7	59.15	standing
41DL192 New	1.7	45.09	burned
41DL196	1.7	72.05	burned
41DL191	1.5	59.95	burned
41DL181	1.4	97.90	burned
41DL190	.9	182.13	burned

1 Sites are ordered according to percentages

1:1 for personal and outdoor items, respectively. With the exception of site 41DL196, these sites were initially occupied by the early 1880s. On the other hand, at sites where outdoor items dominated, initial occupation dated to the turn of the century, or later. The ratio of personal to outdoor items ranged from .17:1 to .53:1 at four sites (41DL181, 41DL191, 41TR42, and 41TR45).

SUMMARY

Several factors correlated with the percentage and types of low frequency remains in the assemblages recovered in dwelling areas of farmsteads in the project area. Low frequency items accounted for a higher percentage of the total assemblage at high density farmsteads, and a lower percentage at low density sites, and those where the structure had burned to the ground. Personal items were more frequent than other categories of low frequency remains in the dwelling area at sites initially occupied before 1900. The highest percentage occurred at 41TR39. Site 41DL196, which was occupied at the turn of the century (ca. 1901) also fell within these earlier sites. This pattern reflects the continuation of a traditional farmstead by a tenant farmer into the twentieth century. Sites initially occupied after 1900, as

Table 23-5
RANKING OF FARMSTEADS IN THE JOE POOL LAKE AREA BASED ON THE PERCENTAGE OF SPECIFIC LOW FREQUENCY REMAINS IN THE DWELLING AREA AND THE INITIAL AGE OF OCCUPATION

	Personal Remains		Outdoor Remains		Kitchen Remains		Initial Occupation
	N	%	N	%	N	%	
Pre-1900							
41TR39	112	66.2	39	23.1	18	10.7	1860/70s
41TR40	74	63.4	32	27.6	10	8.6	1870/1880s
41DL190	64	52.9	29	24.0	28	23.0	1880s
41DL192 New	44	52.4	35	41.7	5	5.9	1870s
41DL196	61	41.2	55	37.2	32	21.6	1900
41TR48	110	45.8	105	43.8	25	10.4	1880s
41DL192 Old	52	48.6	51	47.8	4	3.7	1860s
Post 1900							
41DL181	13	32.5	24	60.0	3	7.5	1900
41TR42	20	24.1	54	65.1	9	10.8	1907/1915
41TR45	5	12.5	26	65.0	9	22.5	1907/1915
41DL191	8	17.8	32	71.1	5	11.1	1900
Sample size too small							
41DL183	2	50.0	2	50.0	0		1890s

Table 23-6
SAMPLING FRACTION, ARTIFACT DENSITY, PERCENTAGE OF UNITS EXCAVATED IN OUTBUILDINGS AND THE PERCENTAGE OF LOW FREQUENCY REMAINS IN THESE AREAS AT FARMSTEADS[1] IN THE JOE POOL LAKE AREA

	Excav Grid m/u	% of Total N of U Excav at Site	Outbldg Artifact Density	% of Total N of LFI[2] at Site
41DL181	8 m	30 39.5	2.0	56.6
41DL183	8 m	9 30.0	5.5	89.2
41DL190	8 m	22 36.7	.2	3.2
41DL191 barn	4 m	78 56.5	.1	8.2
41DL192 Old		(sample too small)		
41DL192 New	8 m	36 24.7	2.0	25.4
41DL196		(no outbuilding)		
41TR39	8 m	6 3.5	.3	1.2
41TR40	8 m	60 52.2	1.2	28.4
41TR42	8 m	41 45.6	2.2	18.6
41TR45 outbuildings	8 m	24 42.9	3.1	64.9
41TR48		(no outbuilding)		

1 Sites are ordered alphanumerically
2 Low Frequency Items

well as those occupied from the nineteenth into the twentieth century contained a lower percentage of personal items than other types of low frequency remains.

OUTBUILDING AREAS

A strong correlation was evident between the relative percentage of units excavated in the dwelling and outbuilding areas at farmsteads in the project area, and the percentage of low frequency items found in outbuildings (Table 23-6). As the sampling fraction increased in an area, the percentage of the total number of low frequency items increased. As such, those sites where a higher percentage of units and/or a small grid interval was excavated in the outbuilding area than in the dwelling area also contained a higher percentage of low frequency items in those areas. For example, the large barn at 41DL183 received a higher level of sampling than the house, and contained 89.2% of all low frequency items at the site.

The next highest range of values occurred for outbuildings that contained mixed deposits which included both domestic and outbuilding components. For example, the barns and sheds at 41DL181 contained 42.5% of the low frequency remains at the site. Mixed deposits were found in many units in both outbuilding areas at this site, and included a higher then expected number of personal items. The lowest values were recorded for those that received minimal excavation (e.g., south granary at 41DL192 Old).

A similar correlation occurred between sheet refuse density, sample size, and the percentage of low frequency items (Table 23-6). As artifact density and sample size increased, the percentage of these items represented the sheet refuse midden also increased. For example, the outbuildings at 41DL181 contained 60 low frequency items in 30 50 x 50 cm units, yielding a value of 2.0 items per unit, and 56.7% of all low frequency remains at the site. On the other hand, only four low frequency remains were recovered from 22 50 x 50 cm units in the two barns at 41DL190, yielding a value of

.18 items per unit in the barn, and 3.2% of all low frequency remains at the site.

Outdoor items dominated at outbuildings in the Joe Pool Lake area, exhibiting a reverse pattern to that identified in dwelling areas, where personal items were generally most frequent. Kitchen and household items which were relatively infrequent in dwelling areas, were also uncommon in outbuildings. A total of 22 outbuildings were recorded in the project area, and included seven types: (1) barns, (2) granaries, (3) sheds, (4) chicken coops and rabbit hutches, (5) garages, (6) smoke or drying houses, (7) root cellars, and (7) workshop areas. Barns were the most common and occurred at nine sites (41DL181 (2), 41DL183, 41DL190, 41DL191, 41DL192 New (3), 41TR39, 41TR40 (2), 41TR42 (2) and 41TR45). The barn at 41DL183 burned between the 1980 and 1985 field seasons, while the barn at 41TR39 was removed while the site was still occupied. All of the other barns remained on their foundations, and were either standing (4) or collapsed (8). Standing granaries were recorded at 41DL192 Old and 41DL192 New. Collapsed sheds occurred at 41TR40, near the windmill on the western most extent of the site, and at 41TR42, east of the dwelling, which was used for storing farm machinery. Multipurpose animal pens, such as chicken coops/rabbit hutches occurred at 41DL191, 41TR39, and 41TR40. The hutch at 41TR39 was associated with the tenant dwelling located in the southeast portion of the site. Standing garages were recorded at 41DL190, 41DL191, and 41TR45, and smoke/drying houses were identified at 41DL192 Old and 41TR45. Root cellars occurred at 41DL190, 41DL191 (2), 41DL192 Old, 41DL192 New, 41TR40, 41TR42, 41TR45, and 41TR48, and a single workshop was recorded at 41DL191. Intensive excavations were conducted at a representative sample of these outbuildings and included 13 barns, two granaries, two sheds, one garage, six root cellars, and one workshop. Each of these outbuilding types will be discussed separately. The garage at 41NV145, and the six root cellars are discussed in the section dealing with features.

BARNS

The percentage of low frequency remains recovered from barn areas at farmsteads in the Joe Pool Lake area varied considerably, and ranged from 1.1% at 41TR39 to 89.2% at 41DL183 (see Table 23-6). However, the mean number of low frequency items per unit for 50 × 50 cm units excavated in barn areas was extremely low at all farmsteads, and ranged from .1 at 41DL191 to 5.5 at 41DL183.

Barns with low values for both indices included the northwest and southwest barns at 41DL190, the standing barn at 41DL191, the single and double pen barns, and the 1918 barn at 41DL192 New, the removed (?) barn at 41TR39, and the northern barn areas at 41TR40 and 41TR42. The mean number of low frequency items from units in these barns ranged from .1 at 41DL191 to .9 at 41DL192 (all barns combined). Outdoor items dominated at all barns except at 41DL191, 41TR40, and the 1918 barn at 41DL192 new, where domestic and outbuilding components were mixed. At 41DL191, a total of eight low frequency items were recovered and included three farm, three personal, and two kitchen/household. This area is still being used for boarding horses and hay storage, and is located next to a domestic, trailer house site. In addition, evidence of material culture remains from an earlier domestic occupation was recovered (see Chapter 7, site descriptions). As such, many of the personal and kitchen/household items found in the barn area may reflect either of these domestic components. Recent trash dumping in several ravines located in the major barn complex at 41TR40 accounted for the high frequency of personal and kitchen/household items recorded in outbuilding areas. The 1918 barn at 41DL192 New contained an earlier log dwelling, and and 1870s schoolhouse, with a small amount of domestic or school-related items (e.g., refined earthenwares, children's slateboard fragments) occurring in the midden excavated both inside and directly around this structure.

The percentage of low frequency items at all of these barns ranged from 1.1 at 41TR39 to 25.4 at 41DL192 New (all barns combined). This pattern indicated that less than 30% of the low frequency items found at farmsteads in the project area occurred in barn areas. Low frequency items that did occur were primarily outdoor remains, rather than kitchen/household or personal items.

A small number of barns contained a higher percentage of low frequency remains than were recovered in the dwelling area. Barns in this category included the north and south barn areas (combined) at 41DL181, the burned barn at 41DL183, and the large barn at 41TR45. Outdoor items predominated at all three barns. A total of 87 low frequency items were recovered from the possible outbuilding area at 41TR48 and included 38 farm, 34 personal, and 15 kitchen. This pattern reflects post 1940 trash dumping along the barbed wire fence that defined the outbuilding area. Similar post occupation disturbance accounted for the high values recorded for 41DL183 and 41TR45. A total of 33 low frequency items were recovered from the barn at 41DL183 which included 27 recent rimfire cartridges. Roadside trash dumping and recent target shooting activity at 41TR45 has severely impacted the outbuilding areas.

GRANARIES

A total of 16 low frequency items were recovered from seven 50 × 50 cm units excavated on an 8 m grid in the north granary area at 41DL192 New, providing an mean value of 2.9 low frequency items per unit. No personal or kitchen/household items were found in this area. Outdoor items included seven wagon parts (two box stake irons, four wood rivets, and one wood staple), seven hardware remains (bolts, nuts, and washers), and two rimfire cartridges. In addition, a collapsed wagon was recorded *in situ* north of the granary between S240 - S248 and E96 - E104.

A single 50 × 50 cm unit was excavated in the west pen of the south granary at 41DL192 Old. Additional units were excavated on a 4 or 8 m grid outside of the barbed wire fence surrounding the dwelling. These units yielded one wagon and three machine parts, one leather rivet, seven hardware remains, 38 firearms (18 cartridges and shells, and 20 clay pigeon fragments), and 14 personal items (five buttons, three records, two marbles, one ring, one zipper, one eyelet, and one mirror). No kitchen/household items were recovered, and all but one personal item was recovered from units directly outside the fence. A single mirror fragment was recovered in the

50 x 50 cm unit located within the granary. Other items from inside the granary included four hardware remains (two bolts, two nuts, and one washer). Based on these data, outdoor items predominated in the yard around the south granary.

SHEDS

The function of the shed structures included in this category were ambiguous. Both sheds were located over 30 m from the dwelling and were closely associated with the storage of farm machinery. The artifact density was low at these structures, as well as the percentage of low frequency remains. Both structures dated to the early twentieth century, and were of lightweight frame construction with wire nails. The shed at 41TR40 was located west of a high voltage power line that bisected the western extent of the site. A windmill and several pieces of farm machinery were located south of the shed which was a 1.5 story single pen structure of lightweight frame construction with wire nails. A loft door was evident on the north (?) side of the shed for hay or corn storage. A total of ten 50 x 50 cm units were excavated in this area, and yielded four low frequency items in a single unit south of the windmill (S224 E112; two nuts, one bolt, one metal *fleur-de-lis*).

The single shed investigated at 41TR42 was located east of the dwelling, between S184 - S220 and E256 - E264. A large ca. 1930s or 1940s thresher was recorded associated with this structure. Eight 50 x 50 cm units were excavated in this area, and yielded eight outdoor items, which included two nuts, two tarp grommets, three rimfire cartridges, and one spark plug.

WORKSHOPS

The workshop at 41DL191 yielded the highest percentage of low frequency remains of all outbuilding structures investigated in the project area. A total of 18 50 x 50 cm units were excavated in this area of the site and yielded a mean value of 2.5 items per unit, which accounted for 45.9% of the low frequency remains recovered at 41DL191. Outdoor items far outnumbered personal or kitchen items and included, 21 pieces of miscellaneous hardware, three machine parts, six harness fragments and one harness buckle, two wagon parts, three barrel hoop bands, one bastard file, and five hack saw blade fragments. Two shoe fragments and a piece of electrical wire were also recovered.

SUMMARY

In summary, outdoor items predominated in the assemblage recovered from 50 x 50 cm units in outbuilding areas. This pattern held for barns, granaries, sheds, and the workshop area at 41DL191. A relatively small percentage of low frequency items, and a low artifact density per 50 x 50 cm unit was recorded for sheds in the project area. These structures were small, frame buildings of lightweight construction that were probably used for storing tools, equipment, and machinery. The majority of the barns in the study area contained low density deposits and a considerably smaller percentage of low frequency items than dwelling areas. However, barns that contained mixed or disturbed deposits, or received a higher level of investigation than the dwelling, contained a higher percentage of the total number of low frequency items recovered at the site. The granaries at 41DL192 Old and 41DL192 New exhibited a similar pattern as barns, which reflected a traditional use pattern for these structures. No evidence was found that the function of these structures had changed over time. Instead, they continued to be used for grain and corn storage until the Penn family sold the property in the 1970s. Also, no evidence was found of post 1940s or post-occupational dumping activity at either of these granaries. The workshop area at 41DL191 provided an excellent example of a high activity outbuilding area, which contained a high percentage of low frequency remains and artifact density per 50 x 50 cm unit. Miscellaneous building and machinery hardware dominated the assemblage, followed by machine parts, horse and stable gear, and tools. Personal and household items were extremely infrequent. No evidence was recorded for post-occupational reuse or dumping in this area.

In summary, these structures indicated a traditional pattern of low values for both the percentage of low frequency items recovered, and artifact density per unit. Outdoor items dominated in all outbuilding areas, and the artifact densities recorded for granaries, sheds, and barns ranged from .1 to .9 items per unit. A reverse pattern was recorded for outbuildings where recent trash dumping activities masked the sheet refuse midden associated with site occupation.

LOW FREQUENCY REMAINS IN LOCALIZED FEATURES

Specialized features were intensively investigated in dwelling areas at 41D191, 41DL192 Old, 41TR39, 41TR40, 41TR42, and 41TR48, and in outbuilding areas at 41DL181, 41DL192 Old, 41TR40, 41TR42, 41TR45 and 41TR48. Features were separated based on their location at farmsteads in the project area; dwelling area or outbuilding area. Based on this division, wells and root cellars were generally located in dwelling areas.

DWELLING AREAS

Midden accumulations were identified for three root cellars (Feature 1 and Feature 2 at 41DL191 and Feature 2 at 41TR48), and the collapsed well at 41TR48 (Feature 1). Backhoe and hand excavated trenches through these cellars recovered few artifacts, and only Feature 2 at 41DL191 and Feature 1 at 41TR48 contained low frequency items. Fruit jar inset and rubber seal fragments, bottle glass fragments, and architectural remains accounted for 90 - 100% of all items found in these cellars. The remaining features reflected short term of "quick time" trash dumping activity. The remains recovered from the trash pit at 41DL192 Old (Feature 1) were deposited over several years near the turn of the century. The trash accumulation in the depression formed after the root cellar at 41DL192 Old (Feature 3) collapsed, and was deposited within a span of several years during the 1930s. Wells at 41TR39 (Feature 6) and 41TR40 (Feature 5) were filled in quickly after they were no longer used as a water source. A similar pattern was indicated for the root cellar (Feature 1) at 41TR40, where a depression left after the roof collapsed was used for

Table 23-7
COMPARISON OF THE PERCENTAGE AND TYPES OF LOW FREQUENCY ITEMS FROM SHEET REFUSE AND FEATURES AT FARMSTEADS[1] IN THE JOE POOL LAKE AREA

	% Low Freq	Personal	Outdoor	Kitchen
41DL192 Old	6.7	30.2	56.6	8.5
Feature 1	3.9	77.2	16.3	6.4
Feature 3	4.8	78.1	18.9	3.1
41TR39	1.7	65.1	23.8	11.0
Feature 6	.9	66.7	16.7	10.0
41TR40	2.1	54.3	31.5	14.2
Feature 1	1.6	66.9	22.0	12.1
Feature 5	5.4	34.7	16.5	48.8
Trashpits	2.1	73.2	4.9	21.9
41TR42	18.6	21.6	68.6	9.8
Trashpits	1.0	64.0	18.0	18.0
41TR45	64.9	15.3	9.6	75.4
Recent Trash	20.4	38.9	38.9	22.2
41TR48	1.1	43.7	45.0	11.3
Feature 1	1.6	50.0	33.3	16.7

[1] Sites are ordered alphanumerically

trash dumping after 1940. A ravine west of the dwelling at 41TR42, located between the chicken coop and corral areas, was used for trash dumping near the end of occupation at that site.

FEATURE CONTENTS

Personal items predominated in trash features located within dwelling areas at farmsteads in the project area. Outdoor items were second most frequent, and household items were least frequent. Features located in dwelling areas generally yielded a lower percentage of low frequency items (Table 23-7) than the assemblage from 50 x 50 cm units in the dwelling midden. This pattern indicated that while similar low frequency items were found in both features and middens (see Table 23-3) features provided a smaller, less representative sample of these items for dwelling areas. Exceptions included Feature 1 at 41TR48 which contained sheet refuse deposits in the upper 30 cm (see Chapter 16, feature discussion), and Feature 5 at 41TR40. This feature included 54 battery fragments which accounted for approximately 45% of the low frequency remains recovered, and appear to reflect recent intrusive remains.

Low frequency remains recovered from the midden represented single buttons, snaps, hooks, pipe fragments, comb fragments, and the like. Occasionally two identical buttons were found in the same unit, but overall, these remains reflected unique items, and the total number of fragments from personal items recovered in the midden closely approximated the minimum number of personal items. For example, a total of 51 personal items were found in the 80 50 x 50 cm units in the dwelling area at 41DL192 Old (see Table 23-3). Ten or 12.5% of the units contained two or more personal items, and only four of these units (5.0%) contained two or more fragments from the same item. Multiple record fragments were found at S316 E120 (4), S328 E116 (2), and S328 E120 (4). Two slate fragments were recovered from S328 E108, along with two doll fragments. Based on these counts, 51 fragments in the midden at 41DL192 Old represented about 42 different personal items.

In features, the ratio between the number of fragments recovered and the number of different items that they represented was variable. Some items exhibited a 1:1 ratio, while others exhibited a ratio of 1:5, 1:10, 1:25, and so on. For example, Feature 1 (trash pit) located in the dwelling area at 41DL192 Old contained 241 personal remains. Many of these represented unique items, while others represented multiple fragments from a single item (highly redundant data). A total of 21 buttons, 57 jean rivets, and 128 shoe parts were recovered (see Table 23-3). The highest level of redundant data occurred among the shoe parts, where less than 5 shoes were identified. The 57 jean rivets were identified into twelve types, while the 21 buttons represented 19 unique, and 2 matching buttons.

When the low frequency assemblages from 50 x 50 cm units on a systematic 4 or 8 m grid are compared with the assemblages from specialized features, it is evident that the sheet refuse midden contains a higher ratio of specific low frequency categories than features. Personal items exhibit a ratio of 1.22 to 1 between the sheet refuse midden and features, followed by household (1.42 to 1), while the ratio is 2.49 to 1 for outdoor items. Personal items were best represented in features, while outdoor items were almost 2.5 times more frequent in the sheet refuse than in features. Significant differences were also evident among specific categories of personal, household, and outdoor items.

PERSONAL ITEMS

The ratio of clothing items from 50 x 50 cm units and features was 1 to 1.36, while the reverse pattern was visible for recreation and leisure items (3.63 to 1), and hygiene and miscellaneous items (1.62 to 1).

A total of 288 clothing items were recovered from 50 x 50 cm units at farmsteads in the project area, while 391 items were found in features. These figures suggest that clothing items were less frequent in 50 x 50 cm units than features (1 to 1.36), while actually the reverse was true (see Table 23-3). Items that were poorly represented in 50 x 50 cm units (corset stays, hooks and eyes, zippers, shirt stays, and belt buckles) were also infrequent in features. Variability was evident among the more frequent categories, with features containing a similar percentage of suspender buckles (4.2/5.4; 50 x 50 cm units/feature), snaps (4.2/4.1), and safety pins (2.4/1.8), only half as many buttons, (28.5/12.5) and one fourth as many jean rivets (20.1/5.9). On the other hand, shoe and boot parts were highly inflated in features where they accounted for 68.8% of the clothing remains compared to 32.6% in 50 x 50 cm units.

A higher proportion (3.63 to 1) of recreation and leisure items were recovered in 50 x 50 cm units than features, and reflected strong temporal patterning. Records (28.4/43.1), and plastic (4.2/12.5) and metal (4.6/6.9) toys were more frequent in short term, post 1930s and 1940s features than in the sheet refuse midden. Porcelain toys (16.1/20.8) were less frequent in features, except Feature 1 at 41DL192 Old, where they

accounted for 84.6% of the recreation items compared with only 16.0% in the sheet refuse. Similar temporal patterning was evident for slateboard and slate pencil fragments which accounted for 5.6% of the recreation assemblage in post 1900 features, and 29.9% in general sheet refuse. At 41DL192 these items were highly clustered near the original location of the 1870s schoolhouse at 41DL192 New, and accounted for 97.4% of the recreation items recovered from all 50 × 50 cm units.

Hygiene items (38.4/26.7), coins (6.8/4.4),and jewelry (24.7/17.8) were less frequent in features, while purse fragments (4.1/20.0), and writing implements (19.2/28.9) were more frequent.

HOUSEHOLD ITEMS

A total of 178 kitchen and household items was recovered from 50 × 50 cm units at sites in the project area, while 125 were found in features, at a ratio of 1.42 to 1. All items found in 50 × 50 cm units were also represented in features, with disparate percentages occurring for flatware (6.7/3.2), laundry items (12.9/2.4), and electrical (55.1/68.0). When the number of matches (i.e., items found in both sheet refuse and features) and non-matches were recorded for each site, several patterns were visible. The percentage of matches at 41TR40, 41TR45 and 41TR48 were 11.1%, and 22.2% at 41DL191, 41DL192 Old, and 41TR39. Non-matches ranged from 11.1% at 41TR40 and 41TR45 to 55.5% at 41DL192 Old, 41TR39, 41TR40, and 41TR48. This index indicated that a high percentage of kitchen and household items recovered in 50 × 50 cm units, were absent in features, and that features did not provide a representative sample of the range of kitchen and household items used at farmsteads in the project area.

OUTDOOR ITEMS

The ratio of outdoor items in 50 × 50 cm units to features was 2.49 to 1, and indicated that outdoor items were better represented in general sheet refuse deposits. The number and percentage of matches and non-matches for all farm categories were tabulated (i.e., items present in both 50 × 50 cm units and features, and those present in one but not the other), and revealed a higher percentage of matches than was evident for kitchen and household items. Non-matches occurred primarily among rare or infrequent categories, which included fishing items, and farm tools. In addition, a high percentage of non-matches were recorded for horse and stable gear and wagon parts, and reflected strong temporal patterning. These items were recovered predominantly from nineteenth and early twentieth century components, while the majority of the features contained post 1940 items. Features with early (41DL192 Feature 1) or mixed deposits (i.e., 41TR39 Feature 6, and 41TR40 Feature 5) contained both horse and stable gear, and wagon parts. Outdoor items were absent in Feature 2 (root cellar) at 41DL191, which contained only ceramic and glass vessels, and architectural items from the structure itself.

SUMMARY

Features related to household activities such as root cellars, wells, and cisterns were primarily located within dwelling areas. In general, these features yielded a limited number of different items, and a high level of redundant data, while the low frequency remains recovered in 50 × 50s provided a more representative sample of the range and number of items which occurred at these sites. Extremely high levels of redundant data were evident for medium to high frequency items in features, not present in the systematic grid coverage of midden areas. In addition, these features provided a limited temporal sample which reflected only several years of deposition at sites that had been occupied for more than 40, 50, or even 100 years.

OUTBUILDING AREAS

Features were uncommon in outbuilding areas, and were identified at only five sites. Root cellars in outbuilding areas occurred at 41DL192 Old and 41TR42. Both of these cellars were located over 24 m from the dwelling. Trash features occurred at 41TR40, 41TR42, 41TR45, 41TR48, and in the depression left after the roof collapsed to the cellar at 41DL192 Old. The trash deposit at 41TR42 was recorded in the field, and no artifacts were collected. All of these features represented short term or "quick time" accumulation of several years or less.

These trash deposits were located in ravines or other low elevations, such as natural or cultural depressions (collapsed cellars), and along fencelines. As mentioned earlier, with the exception of the workshop area at 41DL191, low frequency items were uncommon in outbuilding areas. However, trash features yielded a higher percentage of these items than 50 × 50 cm units in outbuilding midden areas (see Table 23-3). Based on these data, if low frequency items were recovered in outbuilding areas, they were generally found in trash features. In addition, while these features were located outside the dwelling yard, they largely reflected activities associated with the dwelling rather than the activities conducted in the outbuildings. As such, no statistically significant difference was evident in the range and frequency of these items in trash features found in dwelling areas and those found in outbuilding areas. Personal items predominated, followed by farm and household items. A high level of redundant data was also recorded for these features.

The trash feature at 41TR45 extended over the major outbuilding area, and included the garage, smokehouse, and the ravine situated north of both of these structures. Recent roadside dumping has resulted in the accumulation of a wide variety of miscellaneous hardware, automotive and machine parts, broken furniture and appliances, tires, and so on. This activity accounted for over 40% of the cultural material recovered from 41TR45. Personal and household items were poorly represented in both the dwelling and outbuilding areas, and accounted for only 8% of the low frequency remains recovered. This type of dumping activity was not recorded at other sites in the project area.

SUMMARY

Features were less common in outbuilding than dwelling areas. Those identified in outbuilding areas occurred primarily as "quick time" trash accumulations which predominantly contained items related to

household rather than outbuilding activities. Personal items accounted for 70% of the low frequency remains in these features. Trash features yielded a higher percentage of low frequency remains than 50 x 50 cm units in outbuilding areas, while a reverse pattern occurred in dwelling areas. In both areas, features produced non-representative, highly redundant data associated with only several years of occupation. An unique trash deposit was recorded at 41TR45 which reflected recent roadside dumping.

TEMPORAL PATTERNING OF LOW FREQUENCY REMAINS IN THE JOE POOL LAKE AREA

Strong temporal trends were evident for many personal, household, and farm remains, which reflected several changes related to rural economy, electrification, as well as access to mass produced products and urban markets. In addition, many recent, post occupation remains were recovered from sites in the project area.

PERSONAL ITEMS

Several temporal trends were apparent among the four categories of personal items recovered from these sites: clothing remains, recreation and leisure, hygiene, and miscellaneous other. Clothing items were most frequent at 41DL191 (79%), 41TR40 (56%), 41TR45 (88%), and 41TR48 (72%), and were second most frequent, behind recreation items, at all other sites. Hygiene and miscellaneous other items (watches, purses, jewelry, coins, and writing implements) were very infrequent at all dwelling areas.

Clothing Items

Buttons, jean rivets, and shoe parts were the primary clothing items found at farmsteads in the Joe Pool Lake area. Buttons included porcelain, shell, metal, glass, plastic, and wood/bone varieties. Porcelain and shell buttons were the most common, and included 2- and 4-hole shirt and dress buttons. The majority were undecorated, and ranged in size from 9 mm to 18 mm. Metal and glass button were generally shank, although 2-hole and 4-hole examples occurred, including 4-hole underwear buttons. Plastic and wood/bone buttons were the least common. Jean rivets (jean buttons) occurred at eight sites, and were absent at 41DL183, 41DL190, and 41DL192 New. At 41DL183 this pattern reflects the extremely small sample size recovered from the dwelling area. Generally buttons were more common than jean rivets, occurring at a ratio between 1 to 1 and 2.4 to 1. At 41DL191, 41TR45, and 41TR48, jean rivets were more common than buttons, with ratios between 1.75 to 1 and 3 to 1. At 41DL192 Old 12 buttons and 5 jean rivets were recovered in the sheet refuse midden, and an additional 21 buttons and 57 rivets were recovered from Feature 1, located 12 m from the dwelling. Based on these data, rivets occurred at a ratio of 3 to 1 with buttons in the dwelling area at 41DL192 Old. Rivets were more common at sites initially occupied by the early 1870s. Shoe and boot parts occurred at all sites, except 41DL183, and included eyelets, lace hooks, leather uppers and soles, and rubber heels and soles. Eyelets were the most common, followed by leather fragments, and rubber heel fragments. Corset stays, hooks and eyes, zippers, shirt stays, and belt buckles were extremely uncommon at all sites. Suspender buckles were poorly represented, while garter parts, snaps, and safety pins each occurred at about half of the sites.

Features yielded several divergent patterns among the clothing remains. Buttons, jean rivets, and shoe parts occurred in similar proportions in several features located in dwelling areas (41DL191 Feature 2; 41TR39 Feature 6; 41TR40 Feature 1, Feature 5; and 41TR48 Feature 1), but were very different at several others (41DL192 Old Feature 1, Feature 3). These data suggested that jean rivets were more common at older sites, based on their absence or low occurrence at post 1900 deposits (41TR40 Feature 1, Feature 5; 41TR42 trash feature). Suspender buckles, and shoe parts were more common in Feature 1 and Feature 3 than in the sheet refuse midden at 41DL192 Old. Personal items were under-represented in post 1940 trash features (41TR40, 41TR42, 41TR45, and 41TR48) when compared with the assemblage recovered from the sheet refuse midden at these sites.

Recreation Items

Three stoneware tobacco pipe fragments from two different pipes were recovered from the dwelling area at 41TR48, and a ribbed pipe fragment was found 4 m north of Feature 1 at 41DL192 Old. These pipes were recovered from pre 1880 deposits, while the remaining smoking items included cigarette filters, bakelite or plastic pipe stems, and several cigarette lighter pieces recovered from post 1940s deposits.

Records at all sites represented highly redundant data where a number of fragments were recovered from a single record, in a small number of units, and were primarily recovered from post 1950 deposits. Children's toys were recovered from all sites, except 41TR45. Three categories predominated, and included porcelain doll and toy dish fragments, marbles, and slateboards and slate pencils. These remains indicated several interesting temporal patterns. Marbles occurred at seven sites, with ceramic marbles represented in earlier components and glass in more recent. Porcelain doll and toy dish fragments exhibited strong socioeconomic and temporal patterning, occurring most frequently at three early landowner sites; 41DL190, 41DL192 Old (midden and Feature 1), and 41TR39. Slateboards and slate pencils occurred primarily in pre 1900 deposits, and as mentioned early, exhibited strong patterning related to building status at several sites (41DL192 New and 41TR39).

In summary, all recreation and leisure items exhibited strong temporal patterning. At sites where these items predominated, these remains reflected largely post 1940s cigarette, cigar, and pipe remains, double sided 75 RPM records, and metal and plastic toys.

Hygiene and Miscellaneous Other Items

Hygiene items were extremely uncommon at all sites, and were recovered only from post 1930s deposits, with the majority found in recent deposits. This pattern was also identified for the hygiene remains

recovered from features. All miscellaneous items recovered in the project area also were from post 1900, and primarily recent deposits. Jewelry and writing implements were the most common, and occurred in over half of all sites, and features. These items included primarily costume jewelry and lead pencil fragments, respectively.

KITCHEN AND HOUSEHOLD ITEMS

Kitchen and household items used by families in the project area during the late nineteenth century were poorly represented, while post 1930 items predominated. For example, electrical remains including battery cores and casings, insulators, light bulb glass, and wire fragments associated with rural electrification accounted for the highest percentage of household items at all sites (see Table 23-5). Glass fragments from kerosene or oil lamps, as well as metal lamp parts were uncommon. Cast iron wood burning stoves were used well into the twentieth century, and were represented in the assemblage from about half of the farmsteads. Burner fragments from gas or electric stoves, as well as refrigerator or stove shelves were found in several recent deposits.

Tin enamel kitchenware, cutlery, cast-iron vessels, miscellaneous household gadgets (e.g., bottle opener), and sewing items were poorly represented at all sites. Earlier flatware included 3-prong forks, and wooden or bone handled knives, forks, and spoons. Later examples were primarily silver or nickel plated, and included 4-prong forks, butter knives, table knives, long handled spoons, and serving utensils. Tin enamel kitchenware and cast iron vessels undoubtedly were more common than indicated at these site, and probably included an assortment of tin enamel tableware, coffee pot, basins, and tin and cast iron pots and pans. The household gadgets recovered date to the twentieth century and included several bottle openers, clock keys, a coffee pot strainer, and a paint brush fragment. Several scissors handle fragments were also found, and are grouped under sewing items. Laundry items included a small number of wooden clothespin springs and coat hanger fragments.

Furniture remains included an assortment of furniture parts as well as household gadgets and parts. Among these items were furniture handles, casters, and escutcheons, trunk and chest lock plates and decorative attachments, skeleton door keys, window fixtures including shade brackets, latches, and pulleys, as well as built-in cabinet hinges and handles. Relatively few older furniture parts were represented, and included decorative iron handles and trunk plates. Skeleton keys continued to be used into the 1950s and 1960s on older houses, and many of the fixtures (window and cabinet) appear to date to the 1930s - 1950s, and probably reflect new additions such as bathrooms and large indoor kitchens.

OUTDOOR ITEMS

A general trend from human or horse drawn plows to mechanized farm equipment was evident in the project area. Horse and stable gear, and metal wagon parts were recovered from nine sites, horse and stable gear only from one site (41DL183), wagon parts only from one site (41DL190), and neither from one site (41TR45). Mechanized farm equipment was recovered from all sites, and dated primarily from the 1940s to the present. These remains included a wide assortment of automotive parts including pistons, piston rings, grease caps, spark plugs, valve stems, glass fragments from headlights or tail lights, condenser parts, and so on. Farm machinery remains included broken clevises, mower blades, and other metal parts from tractors, seeders, mowers, combines, and threshers. Extant farm equipment was recorded at 41TR40, 41TR42, and 41DL148 (Cobb Pool). Horse and stable gear, wagon parts, and machine parts were recovered from specialized features at 41DL192 Old (Features 1 and 3), 41TR40 (Features 1 and 5), and post 1940 trash dumps at 41TR42, 41TR45, and 41TR48 (see Table 23-6). Horse and stable gear, and wagon parts dominated at Feature 1 located within the dwelling yard at 41DL192 Old, and the filled well at 41TR40 (Feature 1). These remains were poorly represented or absent in post 1940s features (see Table 23-6). Miscellaneous hardware occurred at all sites and included an assortment of building hardware (e.g., plumbing fixtures such as pipes) and vehicle parts that could not be distinguished between wagon, machine, or automotive (e.g., nuts, bolts, washers, chains,etc.).

Several temporal trends were evident among the mechanic, wood working, and blacksmithing tools recovered in the project area. Hand forged tools and parts were most common during the late nineteenth and early twentieth century. Blacksmithing was reported as a home occupation at 41TR45, 41DL181, and 41DL190 during the early twentieth century. Major tools found at sites in the project area included bastard files, triangular files, wagon wrenches, specialized wrenches, pliers, hack saws, drills, and garden hoes.

Fishing items were uncommon, and primarily postdated occupation at sites where they were recovered. For example, four fish hooks were found at 41TR48 and reflect recent fishing activity along Walnut Creek. No trapping items were found. A total of 281 pieces of ammunition and clay pigeon fragments were found in sheet refuse deposits, and an additional 17, in specialized features. These remains included lead shot, bullets, cartridges, and shotgun shells, as well as a small number of clay pigeon fragments. Because most of the sites investigated were occupied continuously or serially for between 60 and 110 years, and because many of the ammunition types are still being produced, it was not readily feasible to distinguish between ammunition deposited at these sites while they were occupied, from those deposited after they were abandoned. Lead shot were extremely uncommon. Bullets included older varieties, but were primarily recent specimens that had been dropped on the ground, and had not been fired. Cartridges were more common than shotgun shells, and included a wide assortment of rimfire maker's marks, and a smaller variety of centerfire specimens. Large number of recent cartridges were clearly evident at several sites where a large number of identical rimfire cartridges (e.g., all stamped *C* or all stamped *F*) were recovered from a single 50 x 50 cm unit. This pattern was identified in the large barn at 41DL183, and at 41TR45 and 41TR48.

SUMMARY

An examination of the low frequency remains recovered from farmsteads in the project area has revealed that these items exhibit predictable patterning. Based on the data presented in this chapter it is possible

to provide a model of low frequency remains at nineteenth and early twentieth century farmsteads in North Central Texas:

(1) Low frequency remains generally account for less than 2% of the total artifact assemblage recovered from farmsteads occupied primarily or entirely during the nineteenth century. Many items that occurred as low frequency remains at nineteenth century sites, where they were found on an average of one per unit, occur as moderate to high frequency remains at twentieth century farmsteads. As such, when the same "low frequency artifact categories" defined for nineteenth century farmsteads are carried over and used to describe twentieth century farmsteads, they do not measure the same phenomena. For example, the adoption of heavy farm machinery during the early to mid twentieth century is visible in the significant increase in miscellaneous hardware, heavy metal, and machinery parts for twentieth century farmsteads. As a result, it appears that a general trend towards an increase in the percentage of low frequency items occurs in the twentieth century (Lebo 1987b), when in fact this is not the case.

(2) Personal items account for the highest percentage of low frequency remains at nineteenth century farmsteads. In addition, many of these remains represent strong temporal and socioeconomic markers. Buttons are the most common clothing remains recovered, and wood, bone, and shell buttons occur at many early farmsteads. Many of these were probably produced on the farm. Corset stays, suspender buckles, suspender buttons, and jean buttons are well represented at nineteenth century farmsteads, and are less common at twentieth century sites, particularly sites occupied after 1940. Children's toys, as well as musical instruments, slateboards and slate pencils, and hygiene items exhibited very different patterns between nineteenth and twentieth century farmsteads.

(3) Farm layout, size, initial occupation, length of occupation, occurrence of specialized features, and building status all affect the frequency and type of low frequency items deposited at farmsteads. During the nineteenth century both large landowner and tenant occupied sites exhibited similar low frequency remains based on 24 farmsteads examined in the Richland Creek area (Lebo 1987b). This pattern was also visible at farmsteads occupied primarily during the nineteenth century in the Joe Pool area (e.g., 41DL192 Old). After 1900, a disparity is visible in the low frequency assemblages at landowner versus tenant farmer sites. The pattern reflected at nineteenth century farmsteads continues at tenant sites in the twentieth century (e.g., 41DL196), which is no longer visible at landowner sites.

(4) Specialized features including filled wells, privies, root cellars, and dense trash deposits were extremely uncommon at nineteenth century farmsteads. A single trash feature was identified at 41DL192 Old which dated to the 1890s. All other dense trash deposits dated after 1930, and contained a more limited range of low frequency remains. These items did not reflect the types and frequencies recorded for different low frequency categories in the sheet refuse. As such, they can not be used to model low frequency remains at farmsteads. In addition, they represented a very different type of disposal. While single buttons are found scattered across the farmstead in the sheet refuse midden, disposal of a single garment or shoe can yield hundreds of fragments in one dense trash deposit.

(5) Any model for predicting low frequency remains at farmsteads must address the correlation between artifact density, mean number of artifacts per unit, and the percentage of low frequency remains. Sites that contain low density deposits contain a higher percentage of low frequency remains, while the reverse occurs at sites containing high density deposits. This pattern suggests that a threshold value exists where sites with a density value below that point contain a high percentage of low frequency remains, and those above, a low percentage.

In summary, low frequency items exhibit highly predictable patterning which reflects a number of factors including site age, length of occupation, socioeconomic status, building status, sampling fraction, artifact density, among others.

CUT AND WIRE NAILS: FUNCTIONAL AND TEMPORAL INTERPRETATIONS

24

by

David H. Jurney

Nails were frequently used in the construction of dwellings, barns, outbuildings, and fences, and were a common constituent of yard middens at Joe Pool Lake historic sites. The Mountain Creek area, which encompasses Joe Pool Lake, was settled primarily by Midwesterners and well-to-do agriculturalists in the "late frontier" of Texas (1850s - 1870s). After the railroads entered this area in the early 1870s, the local population had direct access to national markets and industries. Although settlers used the available local resources, subsequent agriculturalists after the Civil War had access to cheaper lumber from East Texas forests.

Builders in North Central Texas, adapted to prairie ecozones, used several building techniques, ranging from "timber" or "braced frame" (hewn and sawn) buildings to horizontal log. This perspective runs contrary to popular legends, where most original structures were thought to be horizontal log. The old dwelling and the 1849 ruin of the T. M. Ellis house, for instance, were both built by the braced (timber) frame method, indicating a strong emphasis on this technology using local bur oak, and red cedar beams and imported pine siding. The relative importance of braced frame buildings (about 50 to 60% of all building types) provides strong patterning in nail sizes used for the construction of dwellings and outbuildings in the Joe Pool Lake area. This pattern was not evident on most buildings in the Richland Creek Project, another large study conducted in North Central Texas, and its divergent pattern will be discussed in detail later in this chapter.

One archaeological property at Joe Pool Lake exhibits a nearly complete representation of most types of farm buildings (i.e., 41DL192 - Penn Farm) for this area, while others have suffered the destruction (burning, decay, or robbing) of certain buildings crucial to the ongoing functioning of the farm (i.e., 41DL190, 41DL191, 41TR48). Sites where major dwellings once stood and have been burned to the ground since 1976 include Penn (41DL192 main dwelling ca. 1875); Pool (41DL191 main dwelling ca. 1900); Marrs Tenant (41TR48 dwelling ca. 1880 and kitchen ca. 1910); Holveck (41DL183 barn ca. 1890); Hintze (41DL191 ca. 1898); and Hintze Tenant (41DL196 main house ca. 1900). Sites with some architectural remains still standing include Bowman (41TR41 ca. 1910); Loyd (41TR39 ca. 1859 to 1880); Lowe (41TR40 ca. 1880 house fallen in place); and Anderson (41DL190 collapsed barn ca. 1910 and tenant house ca. 1940). Sites with burned or removed architecture that was removed prior to 1976 include 41DL267 and 41DL268 and Anderson (main dwelling ca. 1882).

Nails enter the archaeological record through several mechanisms and are not simply the products of intentional discard. A few may be lost, bent, or simply discarded during initial construction. A substantial number fall on the ground as a result of yearly occupation. Wooden structures endure daily and seasonal temperature and moisture fluctuations that play on the wood (shrinking and swelling wood tissue and metal) to loosen nails, gradually working them out of their holes after several years (Jensen 1971; Sloane 1982). In other

situations, nails are discarded when buildings are torn down, or moved to new locations and incorporated into new buildings. Other buildings are partially scavenged for structurally sound or ornamental parts and still other old buildings burn or collapse in place, leaving behind dense concentrations of a broad range of architectural items.

Two phrases describe the analytical perspectives necessary to interpret archaeological nail assemblages: (1) a house or farmstead is never complete, and is constantly changed and repaired by its occupants, and (2) nail assemblages naturally dispersed over time by soil mechanics once they have been in the ground for several decades. These phrases indicate the complex evolution of a dwelling due to serial occupancy and family growth patterns. Also, in Texas many houses became barns after domestic abandonment, which protected the structure from vandals and rapid deterioration. Other houses were dismantled, and their site surfaces cleared of architectural debris. These factors contribute to synchronic diversity and diachronic change, and exemplify some of the complex variables that contribute to the development of the historical landscape of a rural area, located on an urban fringe.

SITE AREAS

The distribution of nail assemblages retrieved from excavations at several sites were examined using SYMAP and also mechanically sorting nails within site components. Three sites (41DL190, 41DL192, and 41TR48) were intensively examined, due to (1) their complexity of layout, (2) long occupancy, (3) intact archaeological deposits, and (4) extant or well marked dwelling and outbuilding locations. Their intrasite assemblages were examined for temporal and functional variability. Sites were compared examining farmstead diversity through time and space, and the results compared to other architectural projects in North Central Texas (i.e., Richland/Chambers and Ray Roberts). Two additional sites (41DL267 and 41DL268) were also intensely examined because of their shorter occupations and comparatively pristine architectural deposits defining former building locations. In contrast to the other three sites, these two sites were abandoned around World War II. Therefore, these latter sites provide some types of distributional information not present in the other sites.

THE USE OF NAILS IN ARCHITECTURAL DESIGN

Investigations of relatively intact buildings (Jurney 1987a) have provided a data base which indicates the selection of certain nail sizes for specific construction purposes (Figure 24-1). The estimated total nails found for several specific types of buildings is also illustrated. These data, in combination with the Joe Pool Lake architectural studies are used to define the most likely functional association for certain nail sizes. Thus, an archaeological nail assemblage can be analyzed and, by using the models derived from standing architecture, certain building type(s) can, therefore, be hypothetically recreated.

The following discussions presents the information derived for sites 41DL190, 41DL192, and 41TR48.

41DL190

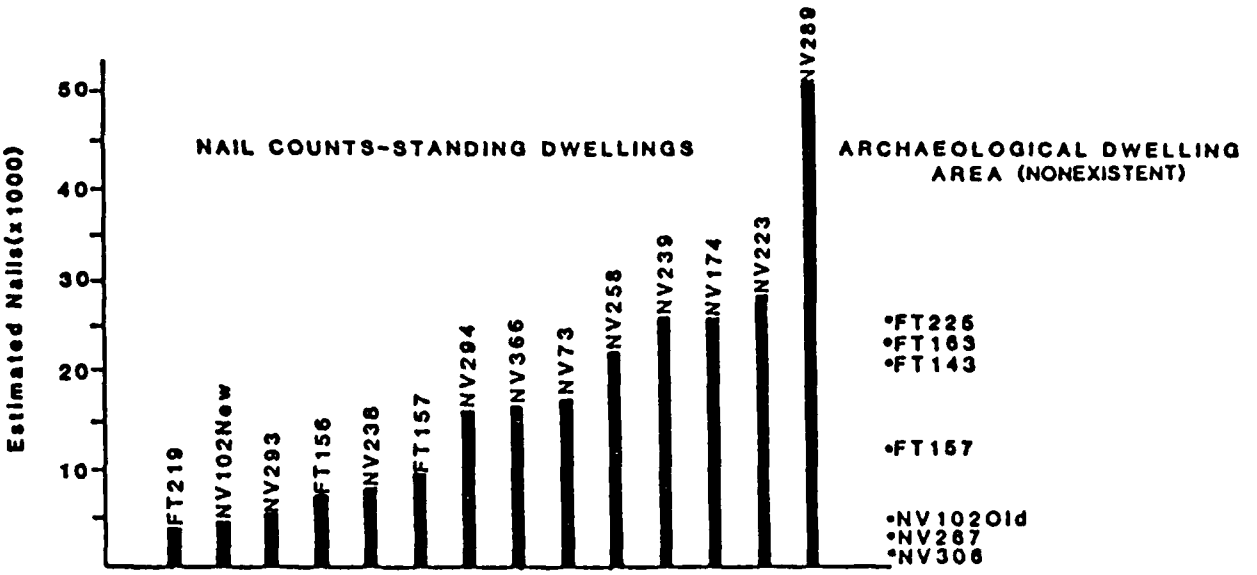
Seven zones were distinguishable at this complex landowner site based on the distributions of nails and features. Two partially collapsed barns were included in the excavations, but were quite removed from the main dwelling. Within the proximity of the dwelling, five important areas were distinguished; (1) the far rear yard and the cellar, (2) a nail concentration related to a former outbuilding, (3 and 4) two concentrations within the main dwelling location, and (5) the active yard immediately surrounding the dwelling.

The ratios of cut to wire nails within those zones provide a general chronological ordering of the various components. Apparently, portions of the main dwelling were remodeled during the early twentieth century, prior to its destruction by fire in the 1940s. Based on this index, and the 1% sample of the site, the house extension dates around 1880 or earlier (Figure 24-2), while the house yard contains the second most pristine deposit of the initial occupation. The outbuilding and main house (Figure 24-3) area contained substantial quantities of cut nails, but the relative dominance of wire nails (60% and 55% respectively) indicates that significant twentieth century remodeling was performed to these structures. The two barns consisted entirely of wire nails, and wire nails dominated the far rear yard. Consequently, many structures were greatly remodeled, and the farmstead substantially enlarged during the past century.

The nail size brackets (in centimeters) provide not only information as to the types of buildings, but also indicate technological trends. In terms of the design elements for which the particular nails were used, the percentages indicated in Table 24-1 reveal distinct patterns. The primary nail sizes used for large beams and wall members in dwellings 5.1, 5.7, 6.3 dominate in the dwelling locations. Also, the abundant roofing nails (wooden shake roofs) dominate. A shift in roofing nails is evident, with size 3.2 cut dominating in the nineteenth century, while size 3.8 wire nails dominate in the the twentieth century. Main structural elements show the same relative abundance in nail sizes, whether cut or wire. A similar pattern is also present in the yard. Outbuildings contained larger nail sizes, with fewer nail sizes present.

41DL192

This large site combines standing architecture, *in situ* burned buildings, and recycled buildings which have weathered or collapsed in place. Five major site areas were defined by above ground architectural remains (Figure 24-4). The main house, constructed in the 1870s, was burned by vandals in 1979, leaving a rain of the original nails used in its construction. One area with extremely high counts was separated within the burned house area. The old house, constructed ca. 1859, was enlarged in 1911, and is still standing today. A wide range of nails have become part of the archaeological deposit, due to *in situ* weathering, remodeling, and construction activities.



COMMON NAIL SIZES[1] USED FOR VARIOUS DESIGN ELEMENTS AMONG RICHLAND CREEK BUILDINGS[2]

Building Type	Wood Roof	Tin Roof	Raf-ters	Ceil-ing	Floor-ing	Wall Board	Wain-scot	Joists	Sills
Log	3.2	5.1	6.3	5.1				10.2	
Cumberland	3.8	5.1	6.3	6.3	4.4	6.3	5.1	8.3	8.9
					5.1			6.3	9.5
					6.3				12.7
Double pen	3.1	5.1	6.3		5.1	5.1		8.3	13.9
Hip roof	3.1		6.3	5.1	6.3	4.4	4.4	6.3	6.3
bungalow	3.8					5.1		8.3	8.3
									12.4
Central hall[3]	3.8	5.1	6.3		5.1	5.1	5.1	6.3	8.3
					6.3				
Gable bungalow	5.1	10.5	6.3			5.1	5.1	6.3	8.9
							8.9		

[1] Nail sizes recorded in centimeters
[2] Buildings listed in Table 6-1 and Appendix A, Volume V
[3] Braced/transitional frame

Nail Size Bracket to Pennyweight Conversion	
1.9	
2.5	2d
3.2	
3.8	4d
4.4	
5.1	6d
5.7	
6.3	8d
7.0	
7.6	10d
8.3	12d
8.9	16d
9.5	
10.2	20d
10.8	
11.4	30d
12.1	
12.7	40d
13.3	
13.9	50d
14.5	

Note: Brackets designed to intersect midpoint of pennyweight scale

Figure 24-1. An example of comparative nail data compiled from the Richland Creek Archaeological Project, North Central Texas. Nail sizes are given in centimeters since penny weight definitions for some sizes changed several times in the nineteenth century. The conversion scale given above provides the penny weight equivalences for common nails, since the penny weight system is unsuitable for accurate description.

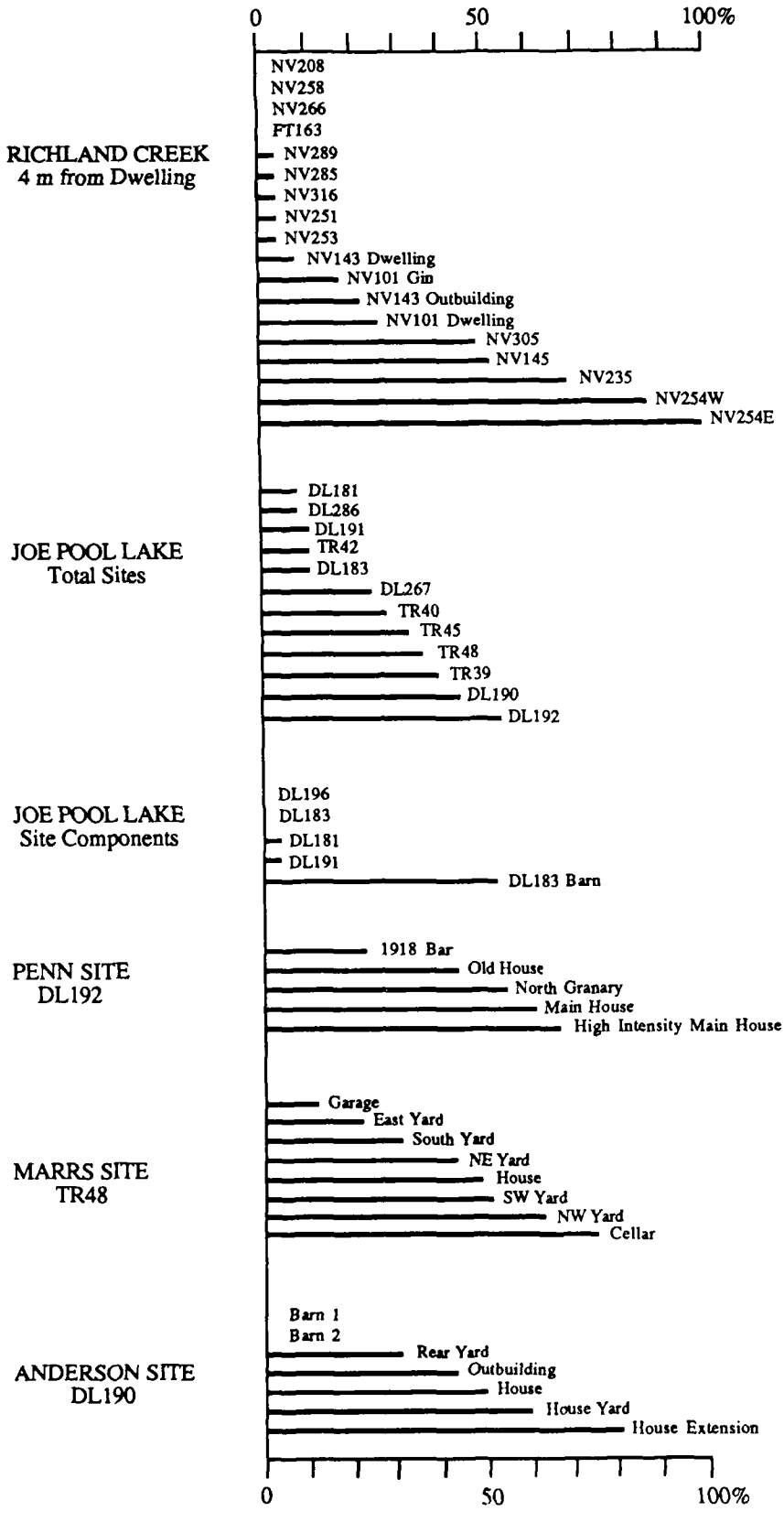


Figure 24-2. Percentages of cut nails in assemblages from Richland Creek and Joe Pool Lake. Note: Based on manufacturing data, 80% of nails made before 1888 were cut, whereas after 1895, 75% of all nails were wire.

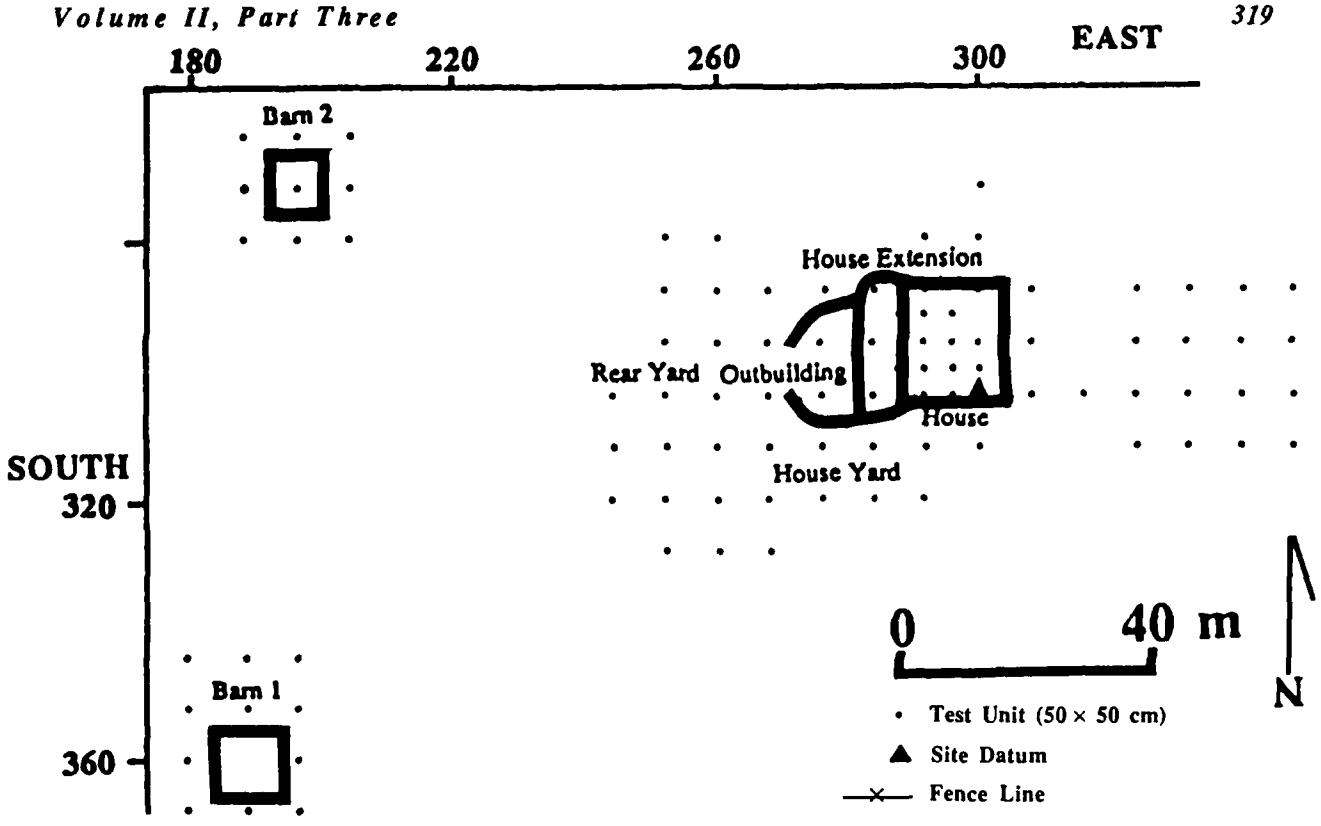


Figure 24-3. Major architectural features/buildings at the Anderson site based on the distribution of nails.

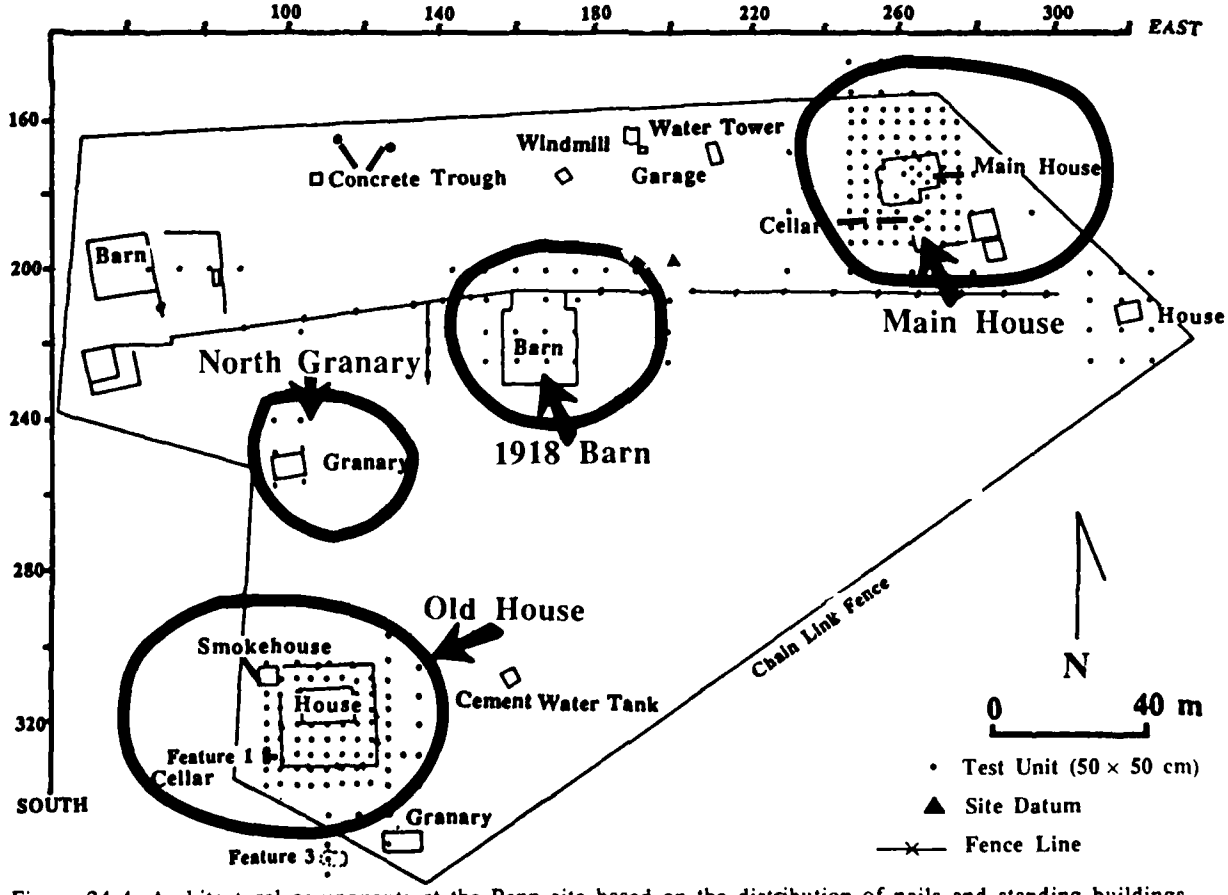


Figure 24-4. Architectural components at the Penn site based on the distribution of nails and standing buildings.

Table 24-1
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF THE ANDERSON SITE (41DL190)

	Nail Size Bracket													
	1.3		3.2		3.8		4.4		5.1		5.7		6.3	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w
Barn 1						22		18				2		42
Barn 2			1	3		8		33				3		26
Far Rear Yard			27	5		25	18	2	5	14			32	39
Outbuilding			9	2		23	23	7	23	13		9	26	42
House Extension[1]		23	22		7	31		4	15	20	19	16	17	4
House[2]		4	24	3	5	23		2	15	23	1		42	29
House Yard			31	10		17	8	3	14	23			20	40
Percent		4	23	3	4	22	4	7	15	15	7	3	30	31

[1] The House Extension also includes 2 wire 11.4 cm nails at .2 percent
[2] The House also includes 1 wire 1.9 cm nail at .2 percent

KEY: c = Cut nail w = Wire nail
Note: Percentage of cut and percentage of wire calculated separately by rows

Table 24-2
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF THE PENN SITE (41DL192)

	Nail Size Bracket													
	2.5		3.2		3.8		4.4		5.1		5.7		6.3	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w
Main House		3	27	14	14	26		6	21	19	2	2	21	26
High Intensity[1]			8	8	.01	15	4	6	16	12	4		62	52
Old House[2]	.6	1	22	28	24	18	6	8	13	21	3	2	24	15
1918 Barn		.4	17	45	12	3	2	.4	14	20		5	35	16
North Granary			10	35	30		13		3	15			40	46
Percent	.2		17	26	12	16	4	6	16	19	3	2	39	23

[1] High Intensity also includes 2 cut 11.4 cm nails at .8 percent and .2 cut 13.3 cm nails at .1 percent
[2] The Old House also includes 3 wire 1.3 cm nails at .1 percent and 1 wire nail at 12.7 cm at 1 percent
KEY: c = Cut nail w = Wire nail
Note: Percentage of cut and percentage of wire calculated separately by rows

The 1918 barn encompasses two smaller recycled buildings, and has weathered in place. The north granary has been remodeled and moved to its present site, where it has weathered for several decades. Based on the seriation of cut and wire nails, the main house has percentages that accurately reflect its actual construction. Since the old house is still standing, most cut nails are still contained in the building. Wire nails dominate in the archaeological deposit. The north granary was initially constructed in the late nineteenth century and then recycled in the early twentieth century. A relatively greater number of cut nails were recovered in the excavations. This is strongly indicative that this building was initially constructed late in the nineteenth century. The nail rain from the 1918 barn is dominated by wire nails, with only a few cut nails derived from the recycled buildings, since these were of horizontal log and simple box and strip framing.

The technology trend in roofing nails is reflected in the assemblage, where cut nails are size 3.2 cm and wire 3.8 cm (Table 24-2). Within components; however, this trend is not so evident. The 1918 barn was roofed with size 3.2 cm wire nails and the granary and old house have equal numbers of cut and wire nails. In the main house, the technology trend is most clearly revealed.

Table 24-1 — (*continued*)
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF THE ANDERSON SITE (41DL190)

	Nail Size Bracket																	
	7.0		7.6		8.3		8.9		9.5		10.2		10.8		Number		Percent	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w
Barn 1		2		9			1	4		2					1	55	2	98
Barn 2				10				15				3				39		100
Far Rear Yard	14	5		2			5	3		2				3	22	59	27	73
Outbuilding	3	11					17	2		6		2		2	35	53	40	60
House Extension	3		25				2				5		2		151	49	80	20
House		2	3		1	5		2	2	1	6	7	1		150	182	45	55
House Yard	2		6		10						8				49	30	62	38
Percent	2	3	5	2	2	2	3	3	.7	1	5	4	1	.6	408	467		

KEY: c = Cut nail w = Wire nail
Note: Percentage of cut and percentage of wire calculated separately by rows

Table 24-2 — (*continued*)
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF THE PENN SITE (41DL192)

	Nail Size Bracket																	
	7.9		7.6		8.3		8.5		9.5		10.2		10.8		Number		Percent	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w
Main House	3	1	10	.5	.4			3	1		.7			.5	277	183	60	40
High Intensity	.5		1	4			.9	5							432	199	69	31
Old House	3	.1	8	3	1	.4		2	.8	.4				.8	350	675	34	66
1918 Barn	5	2	3	4	2	.9		.9	9	.4		2	2		58	227	20	80
North Granary			3					4							30	26	54	46
Percent	2	.6	3	30	.6	.4	.3	3	1	.3	.2	.4	.01	.5	1147	1310		

Key: c = Cut nail w = Wire nail
Note: Percentage of cut and percentage of wire calculated separately by rows

The rain of nails also reflects the dominance of the braced frame technology, in both the main house and the old house. Outbuilding locations produce larger framing nails.

41TR48

This site was a two story, mortise and tenon, braced frame dwelling with an adjacent kitchen (Figure 24-5). Both structures were burned after the 1978 reconnaissance. The site last used to corral cattle. Eight components were differentiated at the site; the house, kitchen, cellar, and five general divisions of the yard (Table 24-3).

Based on the ratios of cut to wire nails, all components date after 1880. The cellar was apparently constructed along with the original dwelling. The dwelling, itself, was substantially remodeled in the twentieth century. The kitchen was probably built in the early twentieth century. The northwest yard contained the greatest amount of older architectural items, while the east and south yards contained remnants of the twentieth century cattle corrals, fences, and a possible twentieth century outbuilding.

The dominant nail size brackets were 6.3 and 7.6 cm cut framing nails and 3.8 cm cut roofing nails. Wire nails did not reflect similar structural trends. Thus, the initial structure was built, and subsequently remodeled to a lesser degree than noted at the previously mentioned sites. Only slight repairs were performed to the dwelling during the twentieth century. The kitchen, built almost entirely of wire nails, may have also included recycled mortise and tenon materials, due to the close parallels of the nail size brackets (6.3, 5.1, and 3.7 cm).

The technology trend in the shift from 3.2 cm cut roofing nails to 3.8 wire roofing nails is not present in

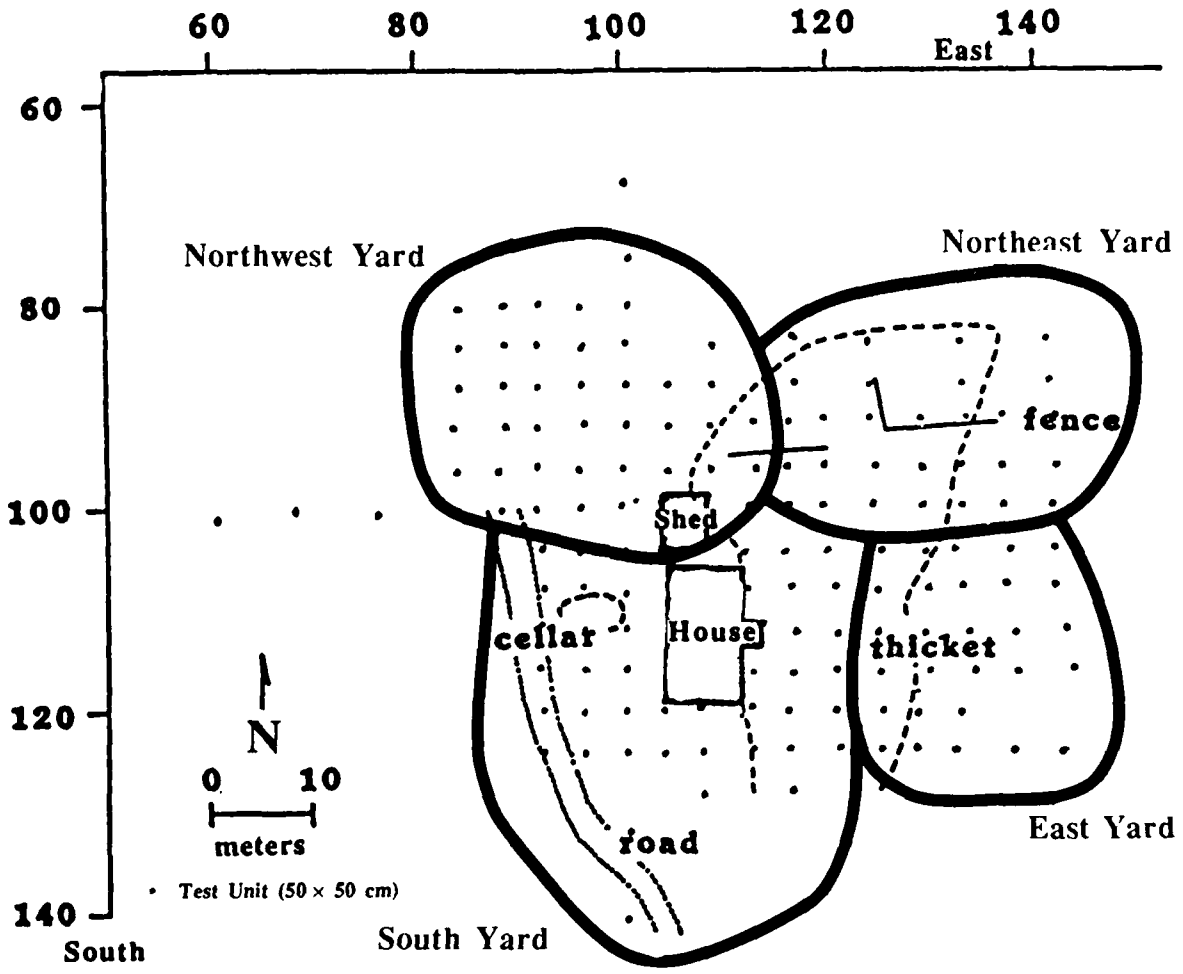


Figure 24-5. Major yard areas and intrasite components at site 41TR48 based on the distribution of nails and archaeologcial features.

Table 24-3
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF 41TR48

	Nail Size Bracket													
	1.3		2.5		3.2		3.8		4.4		5.1		5.7	
	c	w	c	w	c	w	c	w	c	w	c	w	c	w
House[1]		.6				3	51	28	3		19	14	3	
Kitchen							31	60			6		24	.7
Southwest Yard[2]		1			1	2	21	31	14	15	9	2	12	11
Northwest Yard		3			3	3	21	45	10	11	4	13	15	2
Northeast Yard[3]						2	48	46	2	5	12	11	6	4
South Yard							34	36	5	7	26			
East Yard[4]		.3			.3	4	27	47	2		22		9	3
Cellar						5		63		11	33		33	
Percent	.6		.5		3	35	38	4	5	16	9	9	2	1

[1] The House also includes 3 wire 10.8 cm nails

[2] The Southwest Yard also includes 1 wire 10.8 cm nail

[3] The Northeast Yard also includes 2 cut 11.4 cm nails at .1 percent and 1 wire 14.6 cm nail at .1 percent

[4] The East Yard also includes 6 wire 1.9 cm nails at .2 percent

KEY: c = Cut nail w = Wire nail

Note: Percentages of cut and wire percentages calculated separately by rows

Table 24-3 — (*continued*)
PERCENTAGES OF CUT AND WIRE NAILS WITHIN NAIL SIZE BRACKETS (cm) AMONG THE ARCHAEOLOGICAL COMPONENTS OF 41TR48

	Nail Size Bracket														Number		Percent	
	6.3		7.0		7.6		8.3		8.9		9.5		10.2					
	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w	c	w
House	28	20	3	.9	19	.6	2	2	3			.3			264	341	44	56
Garage	33	34				2			7	1		1			15	140	10	90
Southwest Yard	34	26	6	3		1		4		5					65	76	46	54
Northwest Yard	19	26	1	3	6	6			.8	1					160	118	58	42
Northeast Yard	23	19		2	2	4	5		6						56	84	40	60
South Yard	29	20				4	29	3		3				1	28	76	27	73
East Yard	41	32				3	3	.3		2	3	2	1		79	337	19	81
Cellar	21	33													19	6	76	24
Percent	28	26	2	.9	9	3	3	.9	1	2	.6	.8	.1	.1	686	1178		

Key: c = Cut nail w = Wire nail
Note: Percentage of cut and percentage of wire calculated separately by rows

the 41TR48 assemblage. In fact, the reverse trend is noted. Apparently, smaller roofing shakes were used during the initial construction then were used on the other sites. The use of 3.8 wire nails indicates an asphalt or composite roof on the twentieth century remodeled dwelling.

CONCLUSIONS

The analysis of nails provides both temporal ordering and functional interpretations of buildings. Standing buildings produce nail rains that reflect their basic construction. Burned buildings frequently indicate the full range of their architectural design. Even though some buildings may be removed from a site, nails used in construction and nails that weather and fall from the building often remain behind in substantial numbers in the archaeological deposit. Buildings constructed with cut nails and braced frame technology often were recycled. When these building rotted or burned, this mix of nails produces a quite confusing interpretation of the former architecture.

Many variables influence the nail assemblages present on Joe Pool Lake archaeological sites. The intensive use of large beams (hewn and sawn) and braced frame buildings (dwellings and outbuildings) produced nail rains with certain dominant size classes. In contrast, many Richland Creek sites, with log and frame buildings produced nail assemblages with continuous curves of nail size brackets. The braced frame technology apparently requires specific nail categories, whereas simpler frame (box and strip, balloon) can be built with a greater range of nail sizes.

HISTORIC FAUNAL REMAINS

25

by

David H. Jurney

Bone fragments can provide substantial information on historic dietary patterns, once differential disposal behaviors and archaeological preservation factors are taken into account. The systematic excavations employed on the Joe Pool Lake historic sites capture much of on site refuse deposits and indicate that bones are not uniformly distributed across sites. In addition, the features examined at two sites, 41DL192 and 41TR39, provide "quick time" analogs for some of the occupations at these sites. Thus, the recovered samples of bone refuse provide a general reflection of some of the meat consumed as foods on these sites.

Many meats and meat cuts, however, do not leave osteological evidence. Beef, bison, or venison jerky (killed and processed offsite); bacon and lard; and cartilaginous fish such as eels and the paddlefish, all may have been consumed, but by their nature leave no evidence. Certain organs and body parts such as the heart, lungs, and tongue also have no associated bones. The production of head cheese and souse, and extraction of brains, however, leave broken cranial fragments and teeth. On the other hand, the occurrence of cattle foot bones often does not necessarily indicate consumption, but may relate to the production of neatsfoot oil used for treating leather products, chapped hands, and shoes.

Beyond these problems of dietary interpretation, soil preservation affects which bones may remain intact and be recovered. In addition, the natural fauna of the soil affect bones (i.e., rodent gnawing) and scavengers, such as opossums, armadillos, dogs, and raccoons may remove certain tasty items. At the same time, these latter animals may die naturally and thereby contribute their own remains to the site. Rodents and barnyard pests may also contribute to the faunal remains of a site. For example, raptors such as the barn owl, live in abandoned dwellings and leave the fur and bone remains of regurgitated meals in balls (scats).

Faunal analysis is not a simple listing and recapitulation of identified species. Food consumption should be viewed from the systemic perspective when using osteological residues from archaeological deposits. This chapter presents the analytical methods employed in the study of historic faunal remains, an analysis of the types of refuse deposits present on each site, and a listing of the identified species. Age and sex data are discussed, as they relate to husbandry practices. The limited seasonality data are briefly discussed. In the concluding section, the Joe Pool Lake faunal remains are interpreted in light of historic dietary patterns and the subsistence economy of the Mountain Creek region.

IDENTIFICATION METHODS

Every provenience unit from all thirteen historic sites were examined by the author for bone fragments and faunal remains. The osteological and floral remains were bagged separately and the osteological remains were tabulated on a unit by unit and level by level basis. When no obvious stratigraphic separation was noted, adjacent levels were combined. During this process, it became obvious that bones or related elements

Table 25-1
EXCAVATION UNIT INFORMATION FOR JOE POOL LAKE HISTORIC SITES

Site	Total Number of Units	Units with Bone	Total Bone	Number of Species	Site[1] Density	Midden[2] Density	Species[3] Diversity
41DL181	76	22	59	7	.8	2.7	8.4
41DL183	25	6	10	7	.4	1.7	1.4
41DL190	60	51	274	14	4.6	5.4	19.6
41DL191	138	25	35	10	.3	1.4	3.5
41DL192 new	146	33	98	7	.7	2.9	14.0
41DL192 old	80	36	226	14	2.8	6.3	16
41DL196	120	42	50	9	.4	1.2	5.5
41TR39	115	95	330	15	2.8	3.5	22.0
41TR40	119	42	155	17	1.3	3.7	9.1
41TR42	90	21	65	13	.7	3.1	5.0
41TR45	56	28	51	12	.9	1.8	4.3
41TR48	154	89	288	16	1.9	3.2	18.0

1 Number of bones / total number of units
2 Number of bones / number of units with bone
3 Number of bones / number of species; a low species diversity index = high species diversity (i.e., many species contributing few bones)

occasionally crossmatched over 30 cm in depth. This indicates that bones in some units were derived from the same individual. On this evidence, the bioturbation of deposits has mixed both initial and subsequent occupations.

All cattle, swine, chicken, turkey, and mussel remains were tabulated and left in their original proveniences. All other species, were then separated on a site-by-site basis and divided into various family subdivisions (i.e., fish, turtle, avian, small mammal). When all elements were sorted according to size and morphological information, each group of remains were compared to elements of known species. Once an item was identified to genus or species, it was labeled and bagged individually for future examinations.

Upon completion of this task, the author and the prehistoric faunal analyst, Bonnie C. Yates, conferred on problem specimens and interpretations for both historic and prehistoric sites. All excavated historic bone received equal consideration, and all species identifications were related to known faunal distributions and human exploitation and butchering practices. Domestic species dominated, and provide evidence on the barnyard fauna of the Joe Pool Lake farmsteads.

DISTRIBUTION AND DENSITY OF BONE REFUSE IN SHEET MIDDENS

Bone remains were not evenly distributed across sites. Only four sites 41DL190, 41TR39, 41TR45, and 41TR48 contained bones in more than half of their total number of excavated units (Table 25-1). Two refuse ratios, one related to the overall site density of bone refuse, and one to the relative density of bones within site midden areas were computed. These ratios were calculated by dividing (1) the total number of bones by the total units, and (2) total number of bones by the number of units which actually produced bones. These ratios provide a measure of the relative intensity of bone disposal/preservation at each site. Sites 41DL190, 41DL192 (Old), 41TR39, 41TR48, and 41TR40 contained the densest bone ratios when compared to total site area.

The density figures change radically when only the bone midden areas of each site are compared. Sites 41DL192 (Old) and 41DL190 contained the densest sheet refuse (6.3 and 5.4 bones per midden unit) and also had the most subsurface features which contained bone. Sites 41TR40, 41TR39, 41TR48, 41TR42, 41DL191, 41DL192 (New), and 41DL181 contained relatively less dense bone midden areas with a range of 3.7 to 2.7 bones. Only traces of bone, relative to site area, were recovered from sites 41DL183, 41DL196, and 41TR45.

When viewed from the perspective of the number of species or familial divisions, another interpretation concerning bone content in sheet refuse is revealed. Those sites with thin deposits of bone (i.e., 41DL182, 41DL191, 41TR45, 41TR42 and 41DL196) have relatively more species represented, per total bone recovered. The butchering of domestic animals and subsequent rendering and consumption of their remains produced a greater number of elements and bone scrap on the densest sites. Conversely, less dense sites contained few bones that were contributed by a relatively wider range of species. The most fragmented remains and and fewest species were recovered from sites 41TR39, 41DL190, 41TR48, 41DL192 (Old), and 41DL192 (New) in order of increasing species diversity. This essentially indicates consumption of more carcass portions of fewer species. The high index also reveals the increased purchase of commercial beef and pork cuts during the twentieth century occupations of these sites.

SPECIES IDENTIFICATIONS

Twenty-eight faunal groupings were identified to the familial or specific level (Table 25-2). An additional six groupings were used to sort the remaining bone fragments into broader categories such as unidentified fish, aves, rodent; and large, medium, and small

Table 25-2
FAUNAL SPECIES IDENTIFIED FROM JOE POOL LAKE HISTORIC SITES[1]

Species[2]	Site DL181	DL183	DL190	DL192 old[3]	DL192 new	DL196	TR39[3]	TR40
Unidentified Mussel	3/2/2	1/1/1	1/1/1	1/1/1		7/1/4	1/1/1	5/2/3
Leptodea fragilis			1/1/1				1/1/1	7/2/4
Catfish								5/3/2
Box Turtle	1/1/1			1/1/1			1/1/1	1/1/1
Sliders/Snapper							2/1/2	2/1/1
Mallard/Duck				1/1/1		1/1/1		
Passenger Pigeon			1/1/1		1/1/1		1/1/1	1/1/1
Chicken	7/3/2	3/3/1	11/7/4	6/9/11	17/4/4	6/6/3		15/6/4
Turkey	3/1/1			3/2/2	3/2/3			1/1/1
Aves		3/1/1	4/4/4			7/5/7		
Opossum				1/1/1	1/1/1	1/1/1	1/1/1	2/2/1
Armadillo				1/1/1		3/1/1		1/1/1
Jackrabbit							1/1/1	
Cottontail	1/1/1		1/1/1	3/3/1	1/1/1	3/3/1	3/2/2	5/4/2
Cotton Rat			26/4/5[4]	1/1/1				2/1/2
Wood Rat			1/1/1	1/1/1				
Unidentified Rodent			5/4/4	4/1/4			1/1/1	3/3/2
Squirrel			1/1/1	5/5/1			1/1/1	
Raccoon							2/1/2	
Dog							1/1/1	
Cattle	11/6/3		6/4/1	23/5/2	4/4/1	4/4/1	127/14/4	20/7/2
Swine	18/7/3		81/16/3	69/11/5	60/10/3	7/5/2	93/14/5	31/7/4
Sheep/Goat			1/1/1					1/1/1
Large Mammal	14	2	99	52	10	13	86	44
Medium Mammal			16	1			2	2
Small Mammal	1	1	1	2	1	1	4	5

[1] For each the cell values are # of bones/ # of elements/ MNI; MNI calculated by element comparisons (i.e., right-left) and size and age characteristics

[2] Also some species occurred at only one site:

Shortnose gar	TR48	1/1/1	Mouse	DL190	18/5/7[4]
Unidentified fish	TR40	1/1/1	Skunk	TR40	1/1/1
Bullfrog	TR39	2/1/2	Cat	TR45	1/1/1
Greater Prairie Chicken	TR45	5/5/1			

[3] Related sties with intensive disposal of faunal refuse

[4] These dense concentrations of rodents are probably due to the deposition of owl scats (regurgitated fur and bone after digestion)

mammals. Among the specifically identified remains, twenty-two wild and seven domestic species were noted. Aquatic species included small (*Leptodea fragilis*) and large freshwater mussel, catfish, shortnose gar, bullfrog, sliders and snapping turtles, and mallard-sized ducks. Land-dwelling fowl included greater prairie chicken and passenger pigeon (both wild), and domestic chickens and turkeys. Small mammals included opossum, armadillo, jackrabbit, cottontail, squirrel, raccoon, skunk, cotton rat, wood rat, deer mouse, and domestic dog and cat. Cattle and swine produced more than 50% of all assemblages. Sheep/goat remains were present, but relatively rare. Notably absent from the historic faunal record is whitetail deer. The majority of the archaeological deposits post-date the Civil War (actually most date to the twentieth century). This period marks the decline and extirpation of large herbivores such as bison, elk, and deer due primarily to overhunting during the frontier period and increased population and agricultural expansion during the Reconstruction Period.

Prairie fowl such as the greater prairie chicken resisted the first onslaughts of civilization, but occurred only in Joe Pool Lake sites that were located on or near prairie areas. The passenger pigeon was mentioned in late nineteenth century accounts in large flocks, and nesting areas were reported in the post oak forest of Henderson County (Roberts 1881). Based on comparison to the avifauna recovered from prehistoric sites however, passenger pigeons were not present or were rare migrants in this area of Texas earlier than the historic period. Apparently, the heavy market hunting in the upper Midwest had forced a dramatic shift in the distribution of the remaining flocks in the 1880s and 1890s (Schorger 1955). Thus the passenger pigeon remains from Joe Pool Lake represent the last remnants of this extirpated (now extinct) species.

Among the wild mammals, only the opossum, raccoon, jackrabbit, cottontail, and squirrel were food items. Cotton rat and wood rat were primarily the remains of raptoral meals. The armadillo was a nuisance

Table 25-2 — (*continued*)
FAUNAL SPECIES IDENTIFIED FROM JOE POOL LAKE HISTORIC SITES[1]

Species[2]	TR42	DL191	TR45	TR48
Unidentified Mussel	5/2/3		4/2/2	6/2/3
Leptodea fragilis	1/1/1	1/1/1/		1/1/1
Catfish			1/1/1	
Box Turtle	3/3/1			
Sliders/Snapper	1/1/1			
Mallard/Duck				
Passenger Pigeon	1/1/1			1/1/1
Chicken	4/4/3	3/3/1	1/1/1	48/15/9
Turkey	1/1/1	1/1/1		3/2/2
Aves	9/ /		4/ /	2/ /
Opossum		1/1/1		2/2/1
Armadillo		3/2/1		
Jackrabbit				1/1/1
Cottontail	1/1/1	1/1/1	2/1/2	5/4/2
Cotton Rat				
Wood Rat			1/1/1	
Unidentified Rodent	2/2/2		1/1/1	2/2/2
Squirrel				1/1/1
Raccoon		1/1/1	1/1/1	1/1/1
Dog	1/1/1	1/1/1		1/1/1
Cattle	9/4/2	6/4/1	8/2/2	36/7/3
Swine	7/4/2	7/4/1	8/4/2	81/10/6
Sheep/Goat				
Large Mammal	15	6	14	96
Medium Mammal	3	1		5
Small Mammal	2	3		5

on farms due to the danger caused to buildings and livestock by their tunnels, and was frequently destroyed. Skunks and wood rats, also frequent pests on farmsteads, complete the non-food wild fauna.

Domestic food species included chickens and turkeys, cattle, swine and sheep/goat. As stated previously, cattle and swine provided the most available meat, and served as dietary staples. Chickens were the next most frequent domestic food, followed by turkey. Husbandry and consumption practices relating to these domestic species will be discussed in the following sections.

The count data presented in Table 25-2 indicate three levels of comparison among the fauna. The first number in each site's column indicates the number of bones, the second the number of elements, and the third the minimum number of individuals (MNI) based on skeletal position and age and sex characteristics. Due to the relatively low sample sizes for each species, refined interpretations about procurement and butchering practices were not possible for the wild species. Relatively few elements were represented for most wild species, with the exception of those rodents consumed by owls. This affects the actual number of bones present, and the resultant MNI estimate. This is not the case for chickens, cattle, and swine, due to their greater relative consumption. Sites with the most abundant chicken remains were 41DL192 (Old), with 11 individuals, and 41TR48 (nine individuals). Apparently substantial flocks were kept and frequently eaten at these sites. Egg shells were also present among the remains occurring most frequently in ash deposits and cellar fill (i.e., 41TR42 and 41DL192).

Due to the butchering techniques used on cattle and swine, estimates of the MNI do not always reflect their relative contributions to the diet. Cattle and swine were evenly distributed among all sites, and usually contributed an equal amount of bone. Seasonal consumption and butchering of these two dietary staples will be discussed below.

A broad range of wild and domestic fauna were recovered from the Joe Pool Lake sites. Aquatic and prairie related species were exploited, but hunting appears to have played a minor role in subsistence. The procurement of these species is interpreted to be primarily recreational in nature. This trend is especially evident in the presence of fowls such as the greater prairie chicken and passenger pigeon, which were the favorites of late nineteenth century sport shooters. Cattle and swine provided the dietary staple, with a slightly greater consumption of pork on several sites (e.g., 41TR48 and 41DL192 Old).

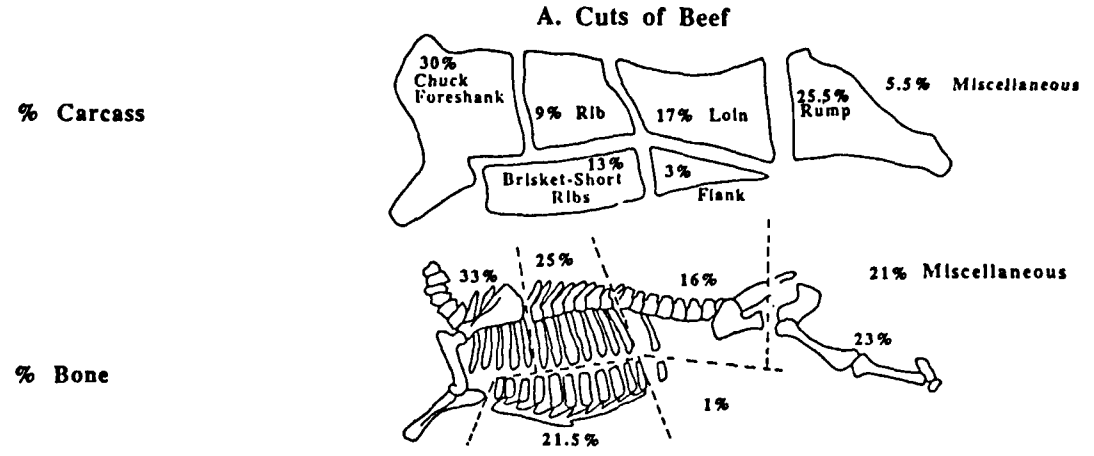
BUTCHERING TECHNIQUES

A major problem confronting the interpretation of diet from archaeological faunal remains is the effects of butchering, particularly the domestic animals. Cut marks are left on bones only when the knife, axe, cleaver, or saw is used to force a joint or when the meat cut includes a section of bone. Figure 25-1 illustrates the standard butcher cuts of beef and pork. Certain portions of the carcass contribute a greater amount of meat relative to bone. The shoulders and rump comprise over 50% of a carcass, yet have the least relative bone content. These prime cuts are frequently divided into smaller portions by hand or mechanized saws. The type of saw marks, speed of the saw, and accessory knife/clever cut marks provide evidence for the intent of the butcher. Small, high speed steak or roast cuts indicate a completely commercialized butcher with access to refrigeration. Larger roast cuts with hand sawn, knife/cleaver marks, or simply midshaft breaks, indicate a butcher who was producing meat more rapidly for family or commercial consumption.

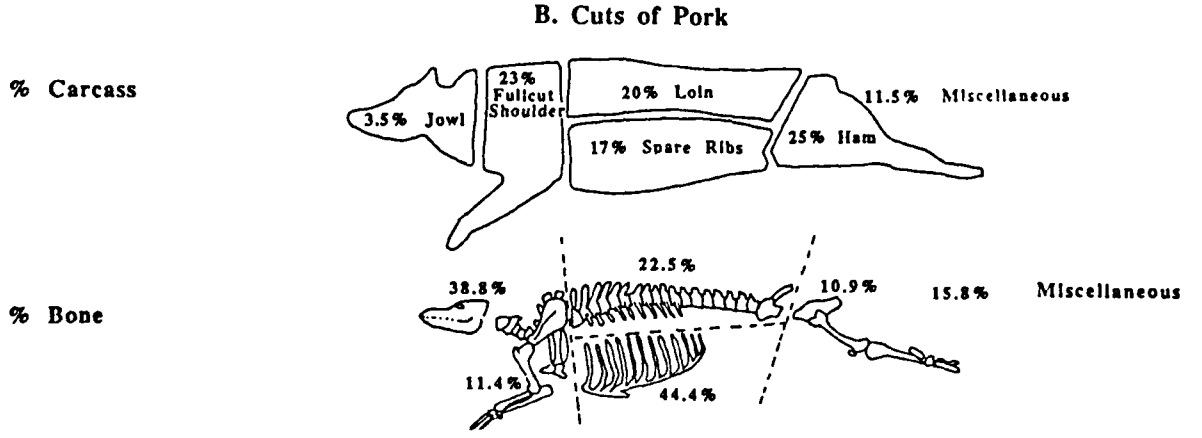
Due to the late occupations of the mitigation properties, all have large quantities of commercial meat cuts. These remains dominate at 41DL191, 41DL192 (New), 41TR39, 41TR42 and 41TR45. Of the remaining sites, most have a few commercial cuts but the majority of the remains are knife cleaver cut or broken. The cellar fill at 41DL192 (Old) consists of totally knife/cleaver cut and broken bones, similar to the surrounding sheet refuse. The assemblage recovered from 41TR40 also consists of only knife/cleaver cut and broken bones.

AGING AND SEASONALITY

Table 25-3 presents the sex and age information for domestic species: chicken, turkey, swine, cattle, and sheep/goat. Two male and three female turkeys were present (n=7) of which only two were immature. The range of chicken remains did not provide much sexual dimorphism and apparently, all were hens or poults in



Butcher cut percentage of carcass weight and percentage of bone in each butcher cut, for beef



Butcher cut percentage of carcass weight and percentage of bone in each butcher cut, for pork

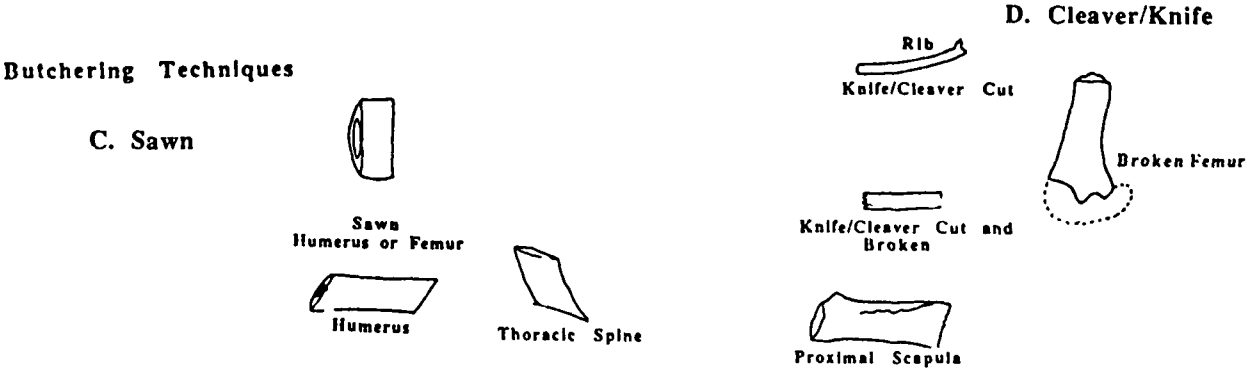


Figure 25-1. Illustration of the amount of bone to meat and percentage of carcass weight for beef (a) and pork (b). The lower portion illustrates several common cuts using a bone saw (c) or more traditional cleavers or knives (d) to butcher specific bones.

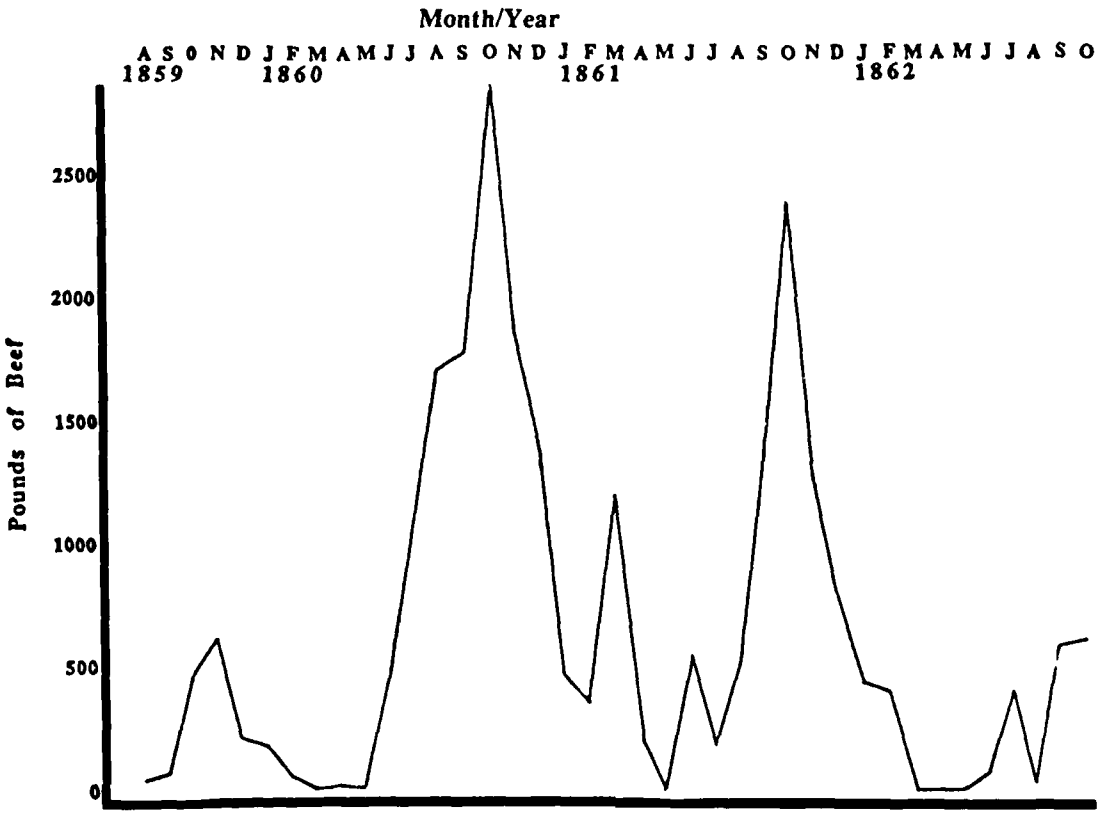


Figure 25-2. An example of seasonal beef purchase taken from the daybook of butcher William Thomas, Fayetteville Arkansas. The mid-autumn purchase of beef is highly regular, predictable, and outweighs all other months.

Table 25-3
AGE AND SEX INFORMATION FOR JOE POOL LAKE
HISTORIC FAUNA[1]

	Species	Age	Sex		Species	Age	Sex
DL181	Swine	1-1yr, 1-2 yrs, 1-3 yrs		DL196	Swine	1-1 to 2 yrs, 1-mature	
	Chicken	2-immature, 1 mature			Chicken	1-immature, 2-mature	
	Turkey	1-mature			Cattle	1-mature	
	Cattle	3-mature		TR39	Chicken	1-hatchling, 2-immature, 2-mature	
DL190	Swine	1-2 to 3 yrs, 1 3 yrs			Cattle	4-mature	
	Chicken	2-immature, 2-mature		TR40	Chicken	1-immature, 2 mature	1 f
	Sheep/Goat	1-3+ yrs	1-3+ yrs	TR42	Chicken	2-immature, 1-mature	
DL192 N	Chicken	3-immature, 1-mature			Turkey	1-immature	
	Turkey	1-immature, 2-mature	2 f, 1 m	TR48	Swine	3-3+ yrs	1 m, 1 f
DL192 O	Swine	1-1 to 2 yrs, 4 mature			Chicken	3-immature, 6-mature	
	Chicken	8-immature, 3-mature			Turkey	2-mature	1 m, 1 f
					Cattle	3-mature	

[1] Based on those few remains which contain age and sexual dimorphism evidence

the assemblage. Over half of the chickens were immature poults, indicating production for the table rather than laying.

Of the swine remains (n=15), the majority were over 3 years old. Less than 25% were immature individuals, probably produced for commercial purposes in hog lots. The assemblage indicates that swine were grown past sexual reproductivity, thus maintaining the yields and providing continuing generations.

Among the cattle remains (n=11), all were mature individuals. A graphic illustration (Figure 25-2) of a beef butcher's daybook, kept in Fayetteville, Arkansas (1859-1862) reveals a strong seasonal trend in the use of beef. Due to the seasonal preservation factors, beef needed to be produced during cool months, to ensure temporary preservation prior to modern refrigeration techniques. Often, a beef was butchered, and then shared among related families or neighboring households.

A single sheep/goat was over 3 yrs old. The relative lack of this species corresponds to the reported disdain that this species received from Texas ranchers.

SUMMARY AND CONCLUSION

By far, the greatest meat contribution on the Joe Pool Lake farmsteads was from beef. This trend is atypical for the South (Hillard 1972), which depended on pork. In the Joe Pool Lake, pork does not play a great dietary role in over all subsistence, but equals beef consumption. This appears to be a North Central Texas trend, due to the emphasis on cattle ranging. Pork was a staple that could be preserved and last through off-seasons. Beef was readily available, through home production, for feasts, special occasions, or immediate market delivery. Chickens were more frequently home produced as evidenced by the occurrence of chicken coops. One unique aspect of the faunal assemblage is the relative absence of chicken or turkey gastroliths. In the Richland Creek area, broken ceramics were frequently eaten by fowl, then were discarded when the birds were butchered and the gizzards emptied. The lack of these ceramic gastroliths at Joe Pool Lake suggests a different husbandry for fowl than at Richland Creek.

EARLY HISTORIC VEGETATION ZONES

26

by

David H. Jurney

Prehistoric and historic plant communities have played an integral role in human ecology, settlement, and subsistence strategies. Environmental studies today are often limited to a few relict patches of prairie or preserved stands of virgin timber to reconstruct older habitats. Our landscape has been totally altered from its pristine condition, and so we need firm evidence to recreate the original plant composition. A major thrust of the Joe Pool Lake historical archival research has been a close examination of the original land surveys. These records provide empirical and spatially patterned data on undisturbed mid-nineteenth century forests. Trees observed at each land tract corner by the first surveyors provided legal points of reference for each subsequent surveyor. Also, land corner mounds of rock, soil, and posts, were constructed in prairie areas. Occasionally corner trees were used to mark tracts of forested areas. Some surveyors, apparently trained under the U.S. General Land Office (GLO) procedures, marked line trees, and prairie/forest boundaries in their notes. Both field notes and fields sketches are valuable documents concerning past plant communities.

Tharp (1941, 1948) laid out the legal parameters needed for identifying "witness" trees in a disputed land tract corner. He discusses methods for counting tree-rings and collecting permanent specimens. From a botanical perspective, his methods were adequate, but today's methods of dendrochronological collection and dating have been substantially improved. The GLO records themselves provide spatially distributed observation points. The date of the survey, tree species, tree diameter, and distance from corner to tree are variables which can be used to recreate a sample of the virgin (or only slightly disturbed) nineteenth century landscape. The application of tree-ring dating to Joe Pool Lake historic properties has also provided samples of a number of trees, cut from the landscape observed by the surveyors 100 - 150 years ago. By combining all sources of information, we can describe original forest densities, compositions, ages, and sizes.

The General Land Office Records have been only recently used to any great extent in Texas to recreate the native vegetation of specified areas. One study recreated the original prairie, forest, and pine-hardwood communities of the Big Thicket, Hardin County (Schafale and Harcombe 1983). In a related study Jordan (1973) compiled a detailed geographical analysis of place names integrating historic accounts to present a balanced model of prairie/forest boundaries and historic settlement. In the most extensive use of the GLO records Weniger (1984) has provided a statewide inventory of major plant associations using the original surveys as source material in combination with historic accounts.

The author has employed the GLO records to map the presettlement landscape for a four county area abutting Joe Pool Lake (Jurney 1987b). In combination, we now have a detailed vegetational reconstruction ranging from the sweetgum-pine forest of the Neches River, to the upland oak forests of Freestone County, to the mesquite and grand prairies and crosstimbers of

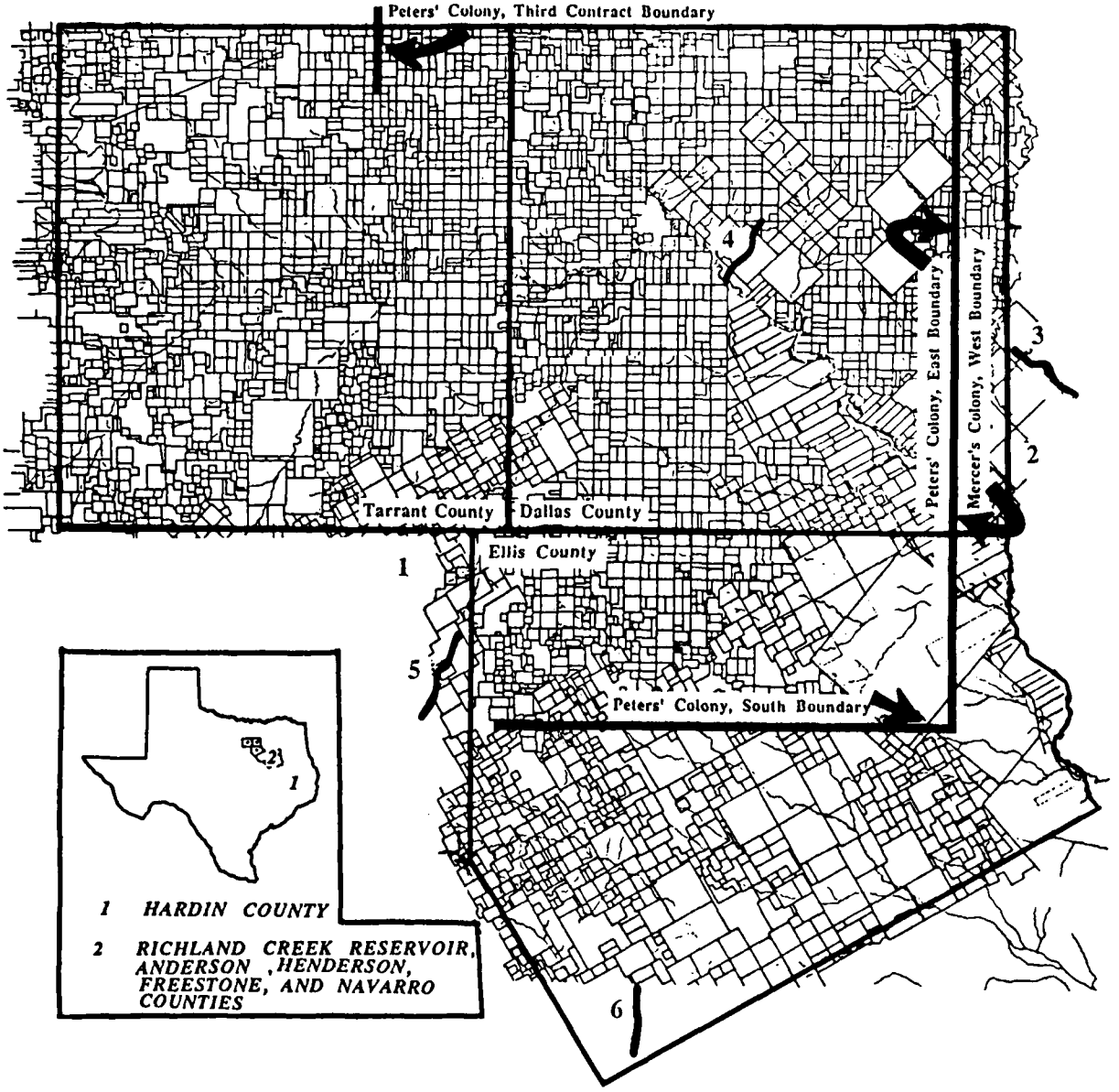


Figure 26-1. Location of major GLO study areas discussed in text.

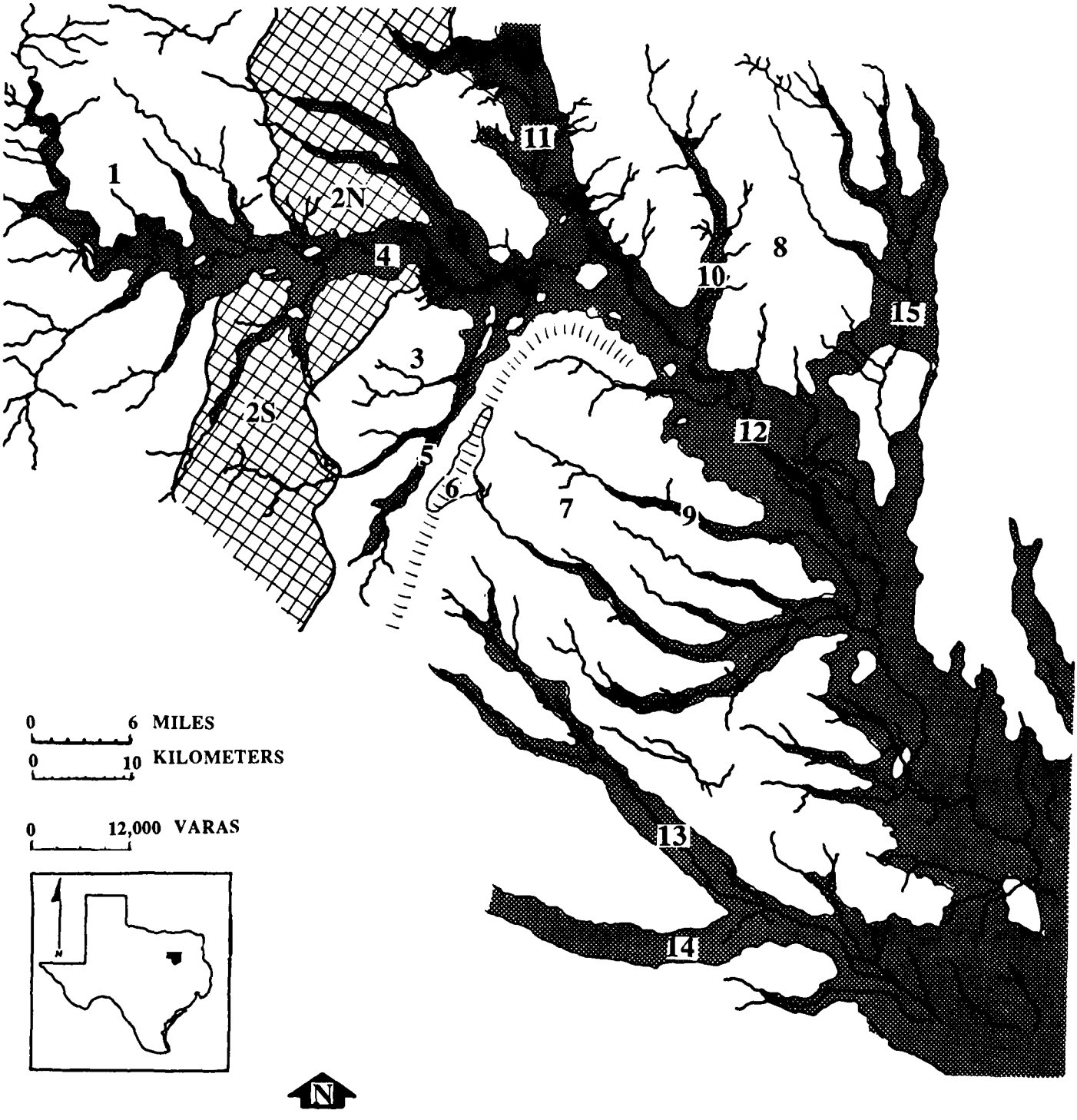


Figure 26-2. Major drainages, environmental zones and plant communities along the Trinity River in the vicinity of the Joe Pool lake region.

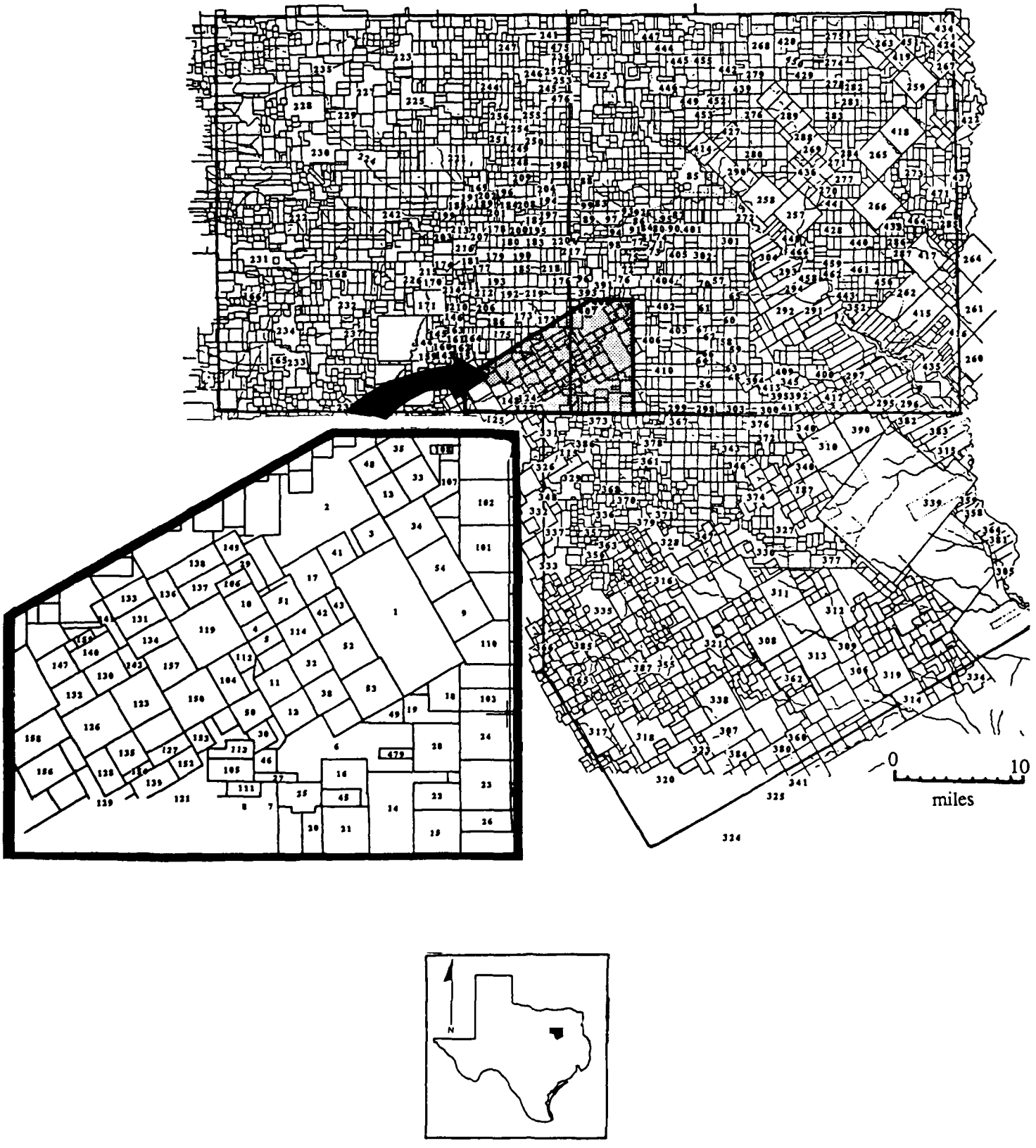


Figure 26-3. Locational key to index listing GLO plat numbers.

Table 26-1
LISTING OF SURVEYORS AND DATES OF SURVEYS FOR A SAMPLING OF DALLAS, ELLIS, AND TARRANT GLO TRACTS

Surveyor	Survey Dates	Surveyor	Survey Dates
Barnes, W. W.	1857	Lively, W. L.	1854, 1858-60
Beall, R.	1851	Lunday, R. W.	1853
Browning, W. L.	1850	McGinnis, W. W.	1863
Chambers, B. J.	1836, 1838, 1840-2	Meyers, M.	1850
Clark, J. G.		Mitchell, D. R.	1840-1, 1846
Coats, S.	1859	Murphey, R. B.	1871
Cole, J. H.	1850-2, 1854-8	Parks, G. C.	1874
Cook, S. A.	1845	Patton, J. E.	1847, 1850-4
Cooke, R. M.	1877	Philpott, J. P	1849
Cordan, C. H.	1857	Pierce, G. W.	1837, 1855
Cunningham, G. H.	1850, 1852-3	Pryor, S.	1859
Cunningham, C. W.	1852	Richardson, J. J.	1860
Darter, W. A.	1876, 1877, 1873, 1875	Rolfe, C. H.	1849
Davis, R. A.	1857-9	Sams, C. A.	1871
Duncan, S. W. S.	1874	Smith, D. W. C.	1857
Eakins, E. G.	1850-52	Smith, J. H.	1842
Eliot, J. M.	1862	Smith, J. P.	1857-8, 1867
Ewin, R.	1859	Storey, J. W.	1881
Fairly, H. J.	1854	Spillman, E. B.	1870
Farley, J. H.	1855	Tacker, W. B.	1867
Ferris, W. A.	1840-2	Taylor, C. C.	1844
Goodwyn, C. K.	1870, 1872	Thomas, J. W.	1860
Hollingsworth, B. P.	1853-4	Thomas, J. W. H.	1836
Hooker, J. T.	1857	Thomas, W. H.	1859-63, 1866
Houge, J. P.	1857	Tinnin, J. E. C.	1849
Huffer, S.	1851, 1857	Walker, A. G.	1846-7, 1849-54, 1867-8
Keen, A. M.	1847, 1850, 1852-4, 1857	Walker, I. A.	1857
Keene, N. A.	1873	Walker, J. W.	1868
Kerr, A. J.	1852	Walter J. A. G., Jr.	1868
Kerr, W. A.	1873	Webb, D. K.	1842
Knight, W. M.	1869	Wilcox,J. F.	1851
Lacy, C. E.	1856-8	Wilcox, R.	1867
Lee, A. J.	1850-1, 1854, 1856, 1858	Wright, M.	1857
Lively, J. W.	1860	Wyatt, R. M.	1863, 1868-9

Tarrant County. In all, a seven county area now has a detailed reconstruction of the original landscape (Figure 26-1). Tree-ring collections have added temporal sampling for prairie, post oak, and red cedar stands and upland post oak forests. These provide estimated forest germination dates and age at the time of cutting.

The following chapter presents the methods employed and results derived for our GLO research. A total of 15 microhabitats (Figure 26-2) was reconstructed, using the archival sources, geological and soils maps, and field transverses of the remaining landscape.

METHODOLOGY

The land survey records for each tract surrounding the immediate project area were examined at the GLO, Archives Section in Austin. The certificate sequence, grantee, assignee or heir, surveyor date, and all pertinent environmental data were recorded (Appendix B).

The GLO records are filed according to the original land District, by County, and in order of the type of certificate (i.e., First, Second, and Third Class Certificate; Bounty and Donation Warrant; Land Script, Pre-Exemption Certificate). Original documents dating to the grant, the actual survey, and corrections of court disputes are included in each file. The actual bounds, angles and distances and witness trees were extracted from these records, tract-by-tract, and these data were then coded and placed on the GLO plats (Figure 26-3). The GLO plats were then photo-reduced to the scale of the 7.5 minute USGS quadrangles for the region. Major soil groups were also plotted on the map. Finally, all trees were plotted on this composite map, and individual species plotted on mylar overlays. The angles from each corner to each tree were scaled, thus accurately placing each tree on the landscape. The resulting maps and environmental zones will be discussed in detail below.

The Direct Gradient method (Warren 1984) was used to stratify the region into major geographical areas. Stream drainage classification and topographic positions

were the determining factors for defining a circumscribed area (see Figure 26-1). Soil associations and the tree density information in the GLO records were used also to define environmental zones along the prairie fringe, in the upland forest, and in bottomland prairie pockets.

The mapped patents were then sorted by environmental zones and the species present, their diameters, and distances involved were recorded. These data provide the basis for calculating species diversity, dominance, and density information for each zone. The sample matrix consists of 460 mapped tracts with complete field notes. A total of 2,584 corner trees were marked at 871 observation points. A total of 494 corners fell in prairie areas, yet at least one witness tree was recorded at some distance. A total of 1,221 corners fell in forested areas. A total of 2,308 trees were recorded at land tract corners in this three county matrix of GLO surveys. Prior to a discussion of the environmental zones, a brief analysis of the surveyors and surveying history will be presented.

FIELD SURVEYORS

A total of 64 surveyors performed the surveys recorded in this matrix (Table 26-1). The surveys include several tracts in southeastern Ellis County established during the Mexican Period (1833 - 1836), and initial Republic of Texas (1836 - 1842) surveys originating for the Robertson (west of Trinity) and Nacogdoches (east of Elm Fork) Land Districts. Subsequently, Texas changed its land policies, granting full settlement rights to corporations (colonies) who advertised, promoted, and contracted with settlers to fill Public Domain. The Peters' and Mercer's colonies, controlled the settlement of North Central Texas, much to the chagrin of the settlers and land holders already occupying surveys in the area. Public outcry and political entrepreneurship led to the so-called "Hedgecoxe War" and the eventual relinquishing of Peters Colony rights (see Connor 1959; McKitrick 1918).

Only two surveyors, B. J. Chambers and J. W. H. Thomas laid out tracts in 1836 and prior to the first major wave of Republic Surveys (1838 - 1840). A major wave of surveying occurred in the period from 1840 to 1842 (Figure 26-4), originating from the Robertson and Nacogdoches Land Districts. Surveyors in this period included B. J. Chambers (1840 - 1842), W. A. Ferris (1840 - 1842), J. A. Smith (1842), D. K. Webb (1842), D. R. Mitchell (1840 - 1841) and J. G. Clark (1842). D. R. Mitchell is mentioned as one Land District Surveyor who continued to survey illegally in the Peters Colony (Connor 1959) and we recorded at least one patent dating to 1846 in our study area which was illegal but apparently was not rejected.

Peters' and Mercer's surveys began after 1842, however, due to bureaucratic and logistical delays, many colony grants were not actually laid in until the state had changed land systems, revoked the Colonies' rights, and appointed county based land offices in the 1850s. Surveyors for the Colonies included S. A. Cook (1845), J. E. Patton (1847), A. M. Keen (1847), J. P. Philpott (1849), C. H. Rolfe (1849), R. A. Terrell (1844, 1847), J. E. C. Tinnin (1849), and A. G. Walker (1846 - 1847, 1849). These surveyors continued their earlier work. Patton, Kern, and Walker surveyed until 1854. With the shift to the county system other surveyors entered the list during this period of maximum grant location (Figure 26-4). J. H. Cole (1850 - 1858), W. C. Browning (1850), R. Beall (1851), C. W. Cunningham (1850 - 1853), F. G. Eaking (1850 - 1852), S. Huffer (1851 - 1857), A. J. Lee (1850 - 1859), J. F. Wilcox (1851), and M. Meyers (1850) complete the list of surveyors during this period.

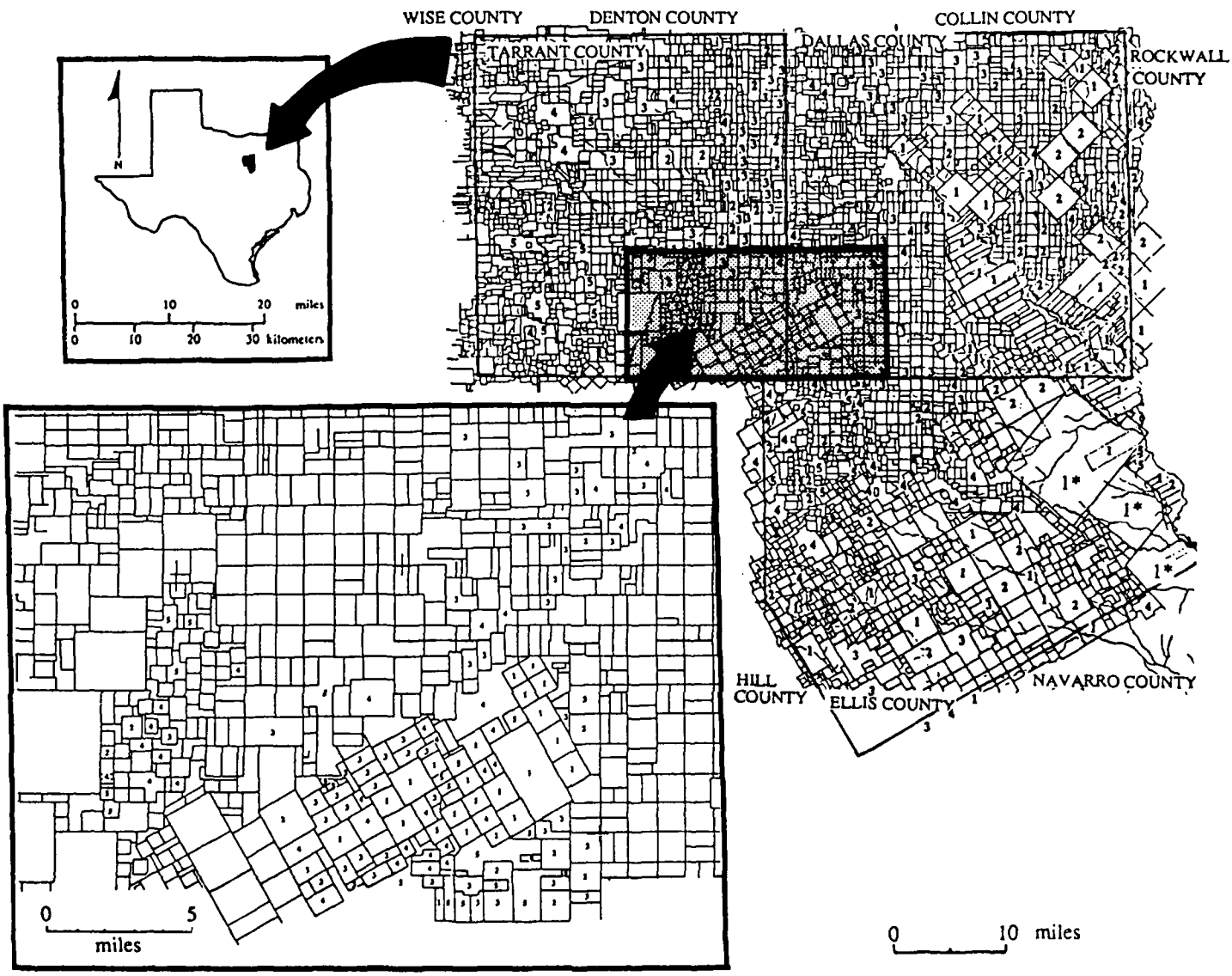
Just prior to the Civil War, the county land office did a steady business in the sale of the public domain. Surveyors included H. J. (or J. H.) Farley (1854 - 1855), A. J. Kerr (1852), W. L. Lively (1854 - 1860), G. W. Pierce (1855 - 1857), B. P. Hollingsworth (1853 - 1854), R. W. Lindsay (1853), and R. M. Wyatt (1853) complete this list. Also B. J. Chambers, now freed of the colony restrictions returned to survey a tract in 1851. A. G. Walker also continued to survey Peters Colony Grants from 1850 - 1854.

Around 1857, a group of new surveyors joined those already working the area. These included W. W. Barnes (1857), R. A. Davis (1857 - 1859), J. T. Hooler (1857), C. C. Lacy (1856 - 1858), J. P. Houge (1857), D. W. C. Smith (1857), I. Walker (1857), M. Wright (1857), and J. P Smith (1857 - 1858). Prior to the turn of the decade several newcomers were added, including S. Pryor (1859), R. Ewin (1859), W. H. Thomas (1859 - 1863), J. W. Lively 1860, and J. W. Thomas (1860). Only two other surveyors, J. M. Eliot (1862) and W. W. McGinnis (1863), worked the region prior to Reconstruction. During and immediately after the war years, no land was surveyed. In 1867, a number of the older surveyors returned and new ones began. Returnees included A. G. Walker (1867 - 1868) and R. M. Wyatt (1868 - 1869). Newcomers included W. M. Knight (1869), W. B. Tacker (1867), J. W. Walker (1868), R. Wilcox (1867), and J. A. G. Walter, Jr. (1868).

A slow, but even trickle of surveys continued during Reconstruction and through the decade following 1870. For this period, a new corps of surveyors entered and, including R. M. Cooke (1877), W. A. Darter (1873 - 1877), S. W. S. Duncan (1874), W. A. Kerr (1873), N. A. Keene (1873), G. K. Goodwin (1870 and 1872), R. B. Murphey (1870 - 1871), C. A. Sams (1871), G. C. Parks (1874), J. W. Smith (1871 - 1872), and E. B. Spillman (1870). The latest original patent was an unclaimed tracted granted to Holveck (Pre-Exemption Certificate P-1490) and surveyed by J. W. Story in 1881.

Thus, an intricate history of land surveying is evident for the Joe Pool Lake area. The majority of surveys conducted prior to the Civil War were for unsettled and unaltered (i.e., virgin) areas. After the War, the pace of settlement increased, and many more houses and roads were mentioned in GLO field notes. However, due to the extreme dispersion of farmsteads, the vegetation patterns were probably not substantially altered until after the 1880s.

An analysis of the recorded months during which these surveys were performed indicates that more than half of the 460 tracts were laid out in the field in only a few months of the year. April, November, March, February, and January were the most preferred months during which the surveyors operated in the field. August and December were the least preferred months.



Waves of Surveys

1* Mexican
1. 1836-1841 Pre-Colony
2. 1842-1850 Peters' and Mercer's Colonies
3. 1851-1855
4. 1856-1865
5. 1866+

Figure 26-4. Distribution of original land grants in the Mountain Creek area (bottom) and of selected grants in the greater region (top). The diagonally skewed surveys are land grants laid out before 1856 associated with either early Republic of Texas grants or Peters Colony grants (after Jurney 1987a).

Table 26-2
LISTING OF TREES OBSERVED BY GLO SURVEYORS BY PERCENTAGE AND ENVIRONMENTAL ZONE IN DALLAS, ELLIS, AND TARRANT COUNTIES

Latin	Common	1	2 N		2 S		3	
			A	B	A	B	A	B
Quercus stellata Wangh.	Post Oak	15.4	65.1	75.0	69.8	83.7	4.2	
Quercus marilandica Muenchh.	Blackjack Oak		18.0	15.0	29.3	16.3		
Quercus macrocarpa Michx.	Bur Oak							
Quercus lyrata Walt.	Overcup Oak		.6					
Quercus nigra L.	Water Oak							
Quercus falcata Michx.	Spanish Oak		4.8		4.5		8.3	
Quercus falcata Michx.	Red Oak							
Ulmus americana L.	Elm	19.2	3.5				4.2	33.3
Celtis spp.	Hackberry	27.0	.6					
Fraxinus spp.	Ash		1.1				4.2	
Prosopis glandulosa Torr.	Mesquite	11.5					41.7	33.3
Juniperus virginiana L.	Cedar							
Maclura pomifera Raf. & Schneid	Bois d'arc							
Alnus serrulata Ait.	Box Alder							
Plantanus occidentalis L.	Sycamore							
Populus deltoides Marsh	Cottonwood	7.7		5.0	4.5		24.8	33.3
Salix nigra Marsh	Willow						4.2	
Robinia pseudo-acacia L.	Black/Honey Locust		2.3	5.0			4.2	
Bumelia lanuginosa Michx.	Gum Bumelia	3.8	1.1					
Morus rubra L.	Mulberry							
Prunus spp.	Plum		.6					
Crataegus mollis Torr. & Gray	Red Haw							
Diospyros virginiana L.	Persimmon							
Sapindus saponaria L. var.	Wild China/ Soapberry							
Cercis canadensis L.	Redbud							
Juglans spp.	Walnut	15.4						
Carya illinoensis Wangh.	Pecan		.6				4.2	
Carya spp.	Hickory		1.1					
Aralia spinosa L.	Prickly Ash							
Ulnus rubra Muhl.	Slippery Elm							
Zanthoxylum clava-heralis L. / *Chionanyhus virginicus* L.	Pepperwood							
Number of Trees Subtotal			172	20	232	49	24	15
Number of Trees Totals		26	192		281		39	

Key:

1. High Prairie western Tarrant County
2N. Crosstimbers North of Trinity River
   A. Forest
   B. Barrens
2S. Crosstimbers South of Trinity River
   A. Forest
   B. Barrens
3. Grand Prairie
   A. Open Prairie
   B. Closed Prairie
4. Trinity River — West Fork, west of Elm Fork
   A. Forest
   B. Bottom Prairie
5. Mountain Creek Valley
   A. Riparian Forest
   B. Bottom Prairie
6. Cedar Ridge — Chalk Rock Escarpment
   A. Forest
   B. Prairie Fringe
7. Brushy Prairie, South Dallas and Ellis Counties
8. Brushy Prairie, North Eastern Dallas County
9. Streams, South Dallas County
   A. Riparian Forest
   B. Bottom Prairie
10. White Rock Creek
   A. Riparian Forest
   B. Bottom Prairie and Chalk Rock Prairie
11. Elm Fork Trinity River, North of West Fork
   A. Forest
   B. Bottom Prairie
12. Trinity River Mainstem — South of West Fork and Elm Fork Junction
   A. Forest
   B. Bottom Prairie
13. Waxahachie Creek
   A. Riparian Forest
   B. Bottom Prairie
14. Chambers Creek
   A. Riparian Forest
   B. Bottom Prairie
15. East Fork Trinity River
   A. Forest
   B. Bottom Prairie

Table 26-2 — *(continued)*
LISTING OF TREES OBSERVED BY GLO SURVEYORS BY PERCENTAGES AND ENVIRONMENTAL ZONE IN DALLAS, ELLIS, AND TARRANT COUNTIES

		4		5		6		7
		A	B	A	B	A	B	
Quercus stellata Wangh.	Post Oak	28.0	41.5	10.6	6.2	5.9	12.5	1.8
Quercus marilandica Muenchh.	Blackjack Oak	1.8			2.3			.3
Quercus macrocarpa Michx.	Bur Oak	.9		4.0		1.9		
Quercus lyrata Walt.	Overcup Oak							
Quercus nigra L.	Water Oak							
Quercus falcata Michx.	Spanish Oak	10.8	2.4	4.9		17.6	12.5	3.0
Quercus falcata Michx.	Red Oak	1.8		4.0		10.1		.9
Ulmus americana L.	Elm	28.0	29.5	36.1	21.1	17.6	12.5	27.3
Celtis spp.	Hackberry	9.3	2.4	12.3	16.5			16.8
Fraxinus spp.	Ash	6.5	4.8		.8	5.9	12.5	
Prosopis glandulosa Torr.	Mesquite	.9		12.3	35.1		50.0	23.4
Juniperus virginiana L.	Cedar					33.3		1.2
Maclura pomifera Raf. & Schneid	Bois d'arc							
Alnus serrulata Ait.	Box Alder			.8				.3
Plantanus occidentalis L.	Sycamore	1.8						
Populus deltoides Marsh	Cottonwood	.9	7.3	13.4	8.6			11.2
Salix nigra Marsh	Willow	.9		.8	7.0			2.7
Robinia pseudo-acacia L.	Black/Honey Locust	2.8			.8	3.9		2.4
Bumelia lanuginosa Michx.	Gum Bumelia	.9	7.3	2.6		1.9		1.2
Morus rubra L.	Mulberry	.9						.3
Prunus spp.	Plum							.3
Crataegus mollis Torr. & Gray	Red Haw	.9		.8				.3
Diospyros virginiana L.	Persimmon							.3
Sapindus saponaria L. var.	Wild China/ Soapberry			.8			1.9	
Cercis canadensis L.	Redbud							.6
Juglans spp.	Walnut			1.6				
Carya illinoensis Wangh.	Pecan	.9	4.8		1.6			4.8
Carya spp.	Hickory							
Aralia spinosa L.	Prickly Ash							
Ulnus rubra Muhl.	Slippery Elm							
Zanthoxylum clava-heralis L. / *Chionanyhus virginicus* L.	Pepperwood						.9	
Subtotals		107	41	122	128	51	8	277
Totals		148		250		59		333

Key:

1. High Prairie western Tarrant County
2N. Crosstimbers North of Trinity River
   A. Forest
   B. Barrens
2S. Crosstimbers South of Trinity River
   A. Forest
   B. Barrens
3. Grand Prairie
   A. Open Prairie
   B. Closed Prairie
4. Trinity River — West Fork, west of Elm Fork
   A. Forest
   B. Bottom Prairie
5. Mountain Creek Valley
   A. Riparian Forest
   B. Bottom Prairie
6. Cedar Ridge — Chalk Rock Escarpment
   A. Forest
   B. Prairie Fringe
7. Brushy Prairie, South Dallas and Ellis Counties
8. Brushy Prairie, North Eastern Dallas County
9. Streams, South Dallas County
   A. Riparian Forest
   B. Bottom Prairie
10. White Rock Creek
   A. Riparian Forest
   B. Bottom Prairie and Chalk Rock Prairie
11. Elm Fork Trinity River, North of West Fork
   A. Forest
   B. Bottom Prairie
12. Trinity River Mainstem — South of West Fork and Elm Fork Junction
   A. Forest
   B. Bottom Prairie
13. Waxahachie Creek
   A. Riparian Forest
   B. Bottom Prairie
14. Chambers Creek
   A. Riparian Forest
   B. Bottom Prairie
15. East Fork Trinity River
   A. Forest
   B. Bottom Prairie

Table 26-2 — *(continued)*
LISTING OF TREES OBSERVED BY GLO SURVEYORS BY PERCENTAGE AND ENVIRONMENTAL ZONE IN DALLAS, ELLIS, AND TARRANT COUNTIES

Latin	Common	8	9		10		11	
			A	B	A	B	A	B
Quercus stellata Wangh.	Post Oak	4.6			12.5	14.3	22.2	3.6
Quercus marilandica Muenchh.	Blackjack Oak	1.2					2.8	3.6
Quercus macrocarpa Michx.	Bur Oak		1.1				1.4	
Quercus lyrata Walt.	Overcup Oak		1.1					
Quercus nigra L.	Water Oak					5.7		
Quercus falcata Michx.	Spanish Oak	2.3	12.5	10.7	6.3		4.2	3.6
Quercus Falcata Michx.	Red Oak		5.7		4.2	5.7	3.6	
Ulmus americana L.	Elm	48.8	25.5	21.5	18.5	22.8	23.6	25.0
Celtis spp.	Hackberry	13.3	18.8	46.4	25.0	5.7	13.8	7.1
Fraxinus spp.	Ash	5.8	3.4		14.6	5.7	11.1	7.1
Prosopis glandulosa Torr.	Mesquite	1.2	2.2	7.1	2.1			14.3
Juniperus virginiana L.	Cedar					5.7		
Maclura pomifera Raf. & Schneid	Bois d'arc							
Alnus serrulata Ait.	Box Alder		2.2	3.6				
Plantanus occidentalis Marsh	Sycamore							
Populus deltoides Marsh	Cottonwood	5.8	3.4	7.1	2.1	8.6	9.7	7.1
Salix nigra Marsh	Willow	4.6	1.1		2.1	5.7	2.8	
Robinia pseudo-acacia L.	Black/Honey Locust		1.2	2.2				1.4 10.7
Bumelia lanuginosa Michx.	Gum Bumelia	1.2			2.1	2.8	4.2	
Morus rubra L.	Mulberry						1.4	3.6
Prunus spp.	Plum	1.2						
Crataegus mollis Torr. & Gray	Red Haw	4.6	2.2					
Diospyrus virginiana L.	Persimmon	2.3		4.2	11.6		3.6	
Sapindus saponaria L. var.	Wild China/ Soapberry	1.2	1.1					
Cercis canadensis L.	Redbud		2.2					
Juglans spp.	Walnut		3.4		2.1			
Carya illinoenis Wangh.	Pecan	1.2	10.2	3.6	4.2	5.7	1.4	7.1
Carya spp.	Hickory		2.2					
Aralia spinosa L.	Prickly Ash							
Ulnus rubra Muhl.	Slippery Elm							
Zanthoxylum clava-heralis L. / *Chionanyhus virginicus* L.	Pepperwood							
Subtotals			88	28	48	35	72	28
Totals		86	116		83		100	

Key:

1. High Prairie western Tarrant County
2N. Crosstimbers North of Trinity River
   - A. Forest
   - B. Barrens
2S. Crosstimbers South of Trinity River
   - A. Forest
   - B. Barrens
3. Grand Prairie
   - A. Open Prairie
   - B. Closed Prairie
4. Trinity River — West Fork, west of Elm Fork
   - A. Forest
   - B. Bottom Prairie
5. Mountain Creek Valley
   - A. Riparian Forest
   - B. Bottom Prairie
6. Cedar Ridge — Chalk Rock Escarpment
   - A. Forest
   - B. Prairie Fringe
7. Brushy Prairie, South Dallas and Ellis Counties
8. Brushy Prairie, North Eastern Dallas County
9. Streams, South Dallas County
   - A. Riparian Forest
   - B. Bottom Prairie
10. White Rock Creek
   - A. Riparian Forest
   - B. Bottom Prairie and Chalk Rock Prairie
11. Elm Fork Trinity River, North of West Fork
   - A. Forest
   - B. Bottom Prairie
12. Trinity River Mainstem — South of West Fork and Elm Fork Junction
   - A. Forest
   - B. Bottom Prairie
13. Waxahachie Creek
   - A. Riparian Forest
   - B. Bottom Prairie
14. Chambers Creek
   - A. Riparian Forest
   - B. Bottom Prairie
15. East Fork Trinity River
   - A. Forest
   - B. Bottom Prairie

Table 26-2 — *(continued)*
LISTING OF TREES OBSERVED BY GLO SURVEYORS BY PERCENTAGE AND ENVIRONMENTAL ZONE IN DALLAS, ELLIS, AND TARRANT COUNTIES

Latin	Common	12		13		14		15	
		A	B	A	B	A	B	A	B
Quercus stellata Wangh.	Post Oak	20.4						21.7	1.6
Quercus marilandica Muenchh.	Blackjack Oak	1.2						2.1	4.9
Quercus macrocarpa Michx.	Bur Oak					7.1		2.1	
Quercus lyrata Walt.	Overcup Oak	8.9		3.2		14.3		.5	
Quercus nigra L.	Water Oak							3.2	
Quercus falcata Michx.	Spanish Oak	1.7		3.2	1.3	7.1	11.1	3.7	4.9
Quercus Falcata Michx.	Red Oak	4.1		1.6				3.2	1.6
Ulmus americana L.	Elm	9.5	25.1	34.9	26.8	28.6	33.3	13.2	26.2
Celtis spp.	Hackberry	16.0	58.3	23.7	15.4	14.3	11.1	9.0	9.8
Fraxinus spp.	Ash	14.8	8.3	7.9	3.8		22.3	12.6	8.2
Prosopis glandulosa Torr.	Mesquite					14.3	11.1	1.0	8.2
Juniperus virginiana L.	Cedar								
Maclura pomifera Raf. & Schneid	Bois d'arc							13.2	1.6
Alnus serrulata Ait.	Box Alder	1.7		3.2				1.0	
Plantanus occidentalis Marsh	Sycamore								
Populus deltoides Marsh	Cottonwood	8.3		3.2	28.2		11.1	.5	11.5
Salix nigra Marsh	Willow	.6		1.6	1.3				
Robinia pseudo-acacia L.	Black/Honey Locust	3.6		1.6	5.1			2.6	6.6
Bumelia lanuginosa Michx.	Gum Bumelia	1.7	8.3		9.0				
Morus rubra L.	Mulberry	1.2			2.6			.5	1.6
Prunus spp.	Plum				1.3				
Crataegus mollis Torr. & Gray	Red Haw	1.7		1.6		7.1			
Diospyrus virginiana L.	Persimmon								
Sapindus saponaria L. var.	Wild China/ Soapberry	1.7						1.0	
Cercis canadensis L.	Redbud			1.6					
Juglans spp.	Walnut	1.2		1.6				.5	1.6
Carya illinoenis Wangh.	Pecan	1.7		7.9	2.6	7.1		5.8	11.7
Carya spp.	Hickory			1.6				2.1	
Aralia spinosa L.	Prickly Ash				1.3				
Ulnus rubra Muhl.	Slippery Elm							1.0	
Zanthoxylum clava-heralis L. / *Chionanyhus virginicus* L.				1.6	1.3				
Subtotal		169	12	63	78	14		9	189 61
Total		181		141		23		250	

Key:

1. High Prairie western Tarrant County
2N. Crosstimbers North of Trinity River
   A. Forest
   B. Barrens
2S. Crosstimbers South of Trinity River
   A. Forest
   B. Barrens
3. Grand Prairie
   A. Open Prairie
   B. Closed Prairie
4. Trinity River — West Fork, west of Elm Fork
   A. Forest
   B. Bottom Prairie
5. Mountain Creek Valley
   A. Riparian Forest
   B. Bottom Prairie
6. Cedar Ridge — Chalk Rock Escarpment
   A. Forest
   B. Prairie Fringe
7. Brushy Prairie, South Dallas and Ellis Counties
8. Brushy Prairie, North Eastern Dallas County
9. Streams, South Dallas County
   A. Riparian Forest
   B. Bottom Prairie
10. White Rock Creek
   A. Riparian Forest
   B. Bottom Prairie and Chalk Rock Prairie
11. Elm Fork Trinity River, North of West Fork
   A. Forest
   B. Bottom Prairie
12. Trinity River Mainstem — South of West Fork and Elm Fork Junction
   A. Forest
   B. Bottom Prairie
13. Waxahachie Creek
   A. Riparian Forest
   B. Bottom Prairie
14. Chambers Creek
   A. Riparian Forest
   B. Bottom Prairie
15. East Fork Trinity River
   A. Forest
   B. Bottom Prairie

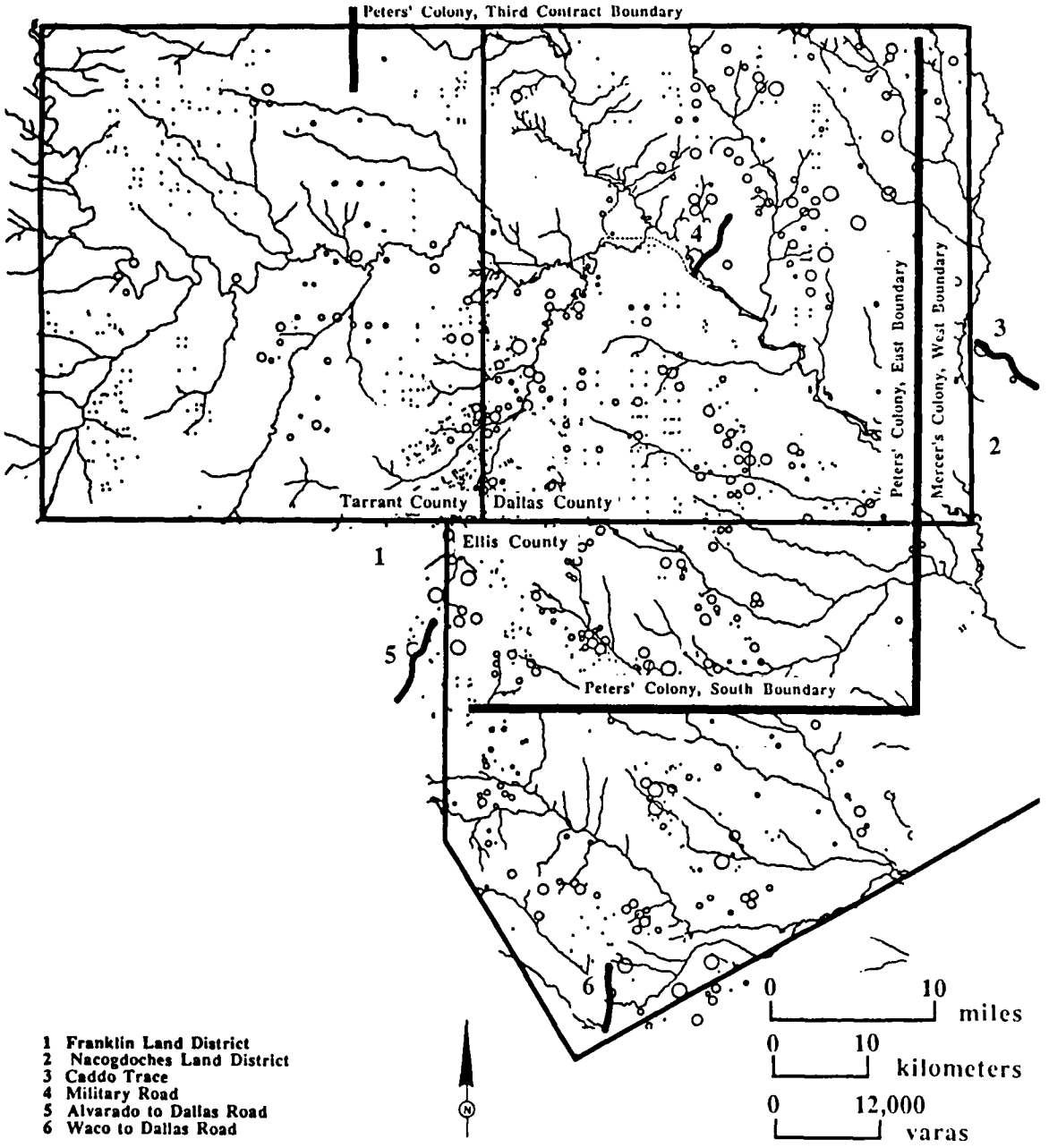


Figure 26-5. The distribution of prairie areas based upon General Land Office records and surveyors' notes regarding the spacing between selected trees and specific observations.

RESULTS

Fifteen major environmental zones were established for the three county area surrounding Joe Pool Lake (see Figure 26-1). In addition, microenvironmental zonation was present in most, including upland barrens and bottomland prairies (Table 26-2). Substantial variability existed between the zones in terms of species composition and forest density. Each of the 15 zones and their microenvironmental subsets will be discussed in detail in the following sections. Overall resource availability and plant distributions will then be summarized in the concluding section.

1. HIGH PRAIRIES OF WESTERN TARRANT COUNTY

This zone is characterized by the highest elevations of the entire study area. Any trees were limited to streams, with few trees at all in what appears to have been pure grasslands, Only seven tree species were recorded: post oak, elm, hackberry, mesquite, cottonwood, gum bumelia, and walnut. Hackberry and elm were dominant, followed by post oak and walnut. Walnut trees occurred in a single concentrated area of the Clear Fork in Tarrant County. Mesquite trees were scattered isolates. Cottonwood and gum bumelia saplings occurred in stream heads on the high prairies.

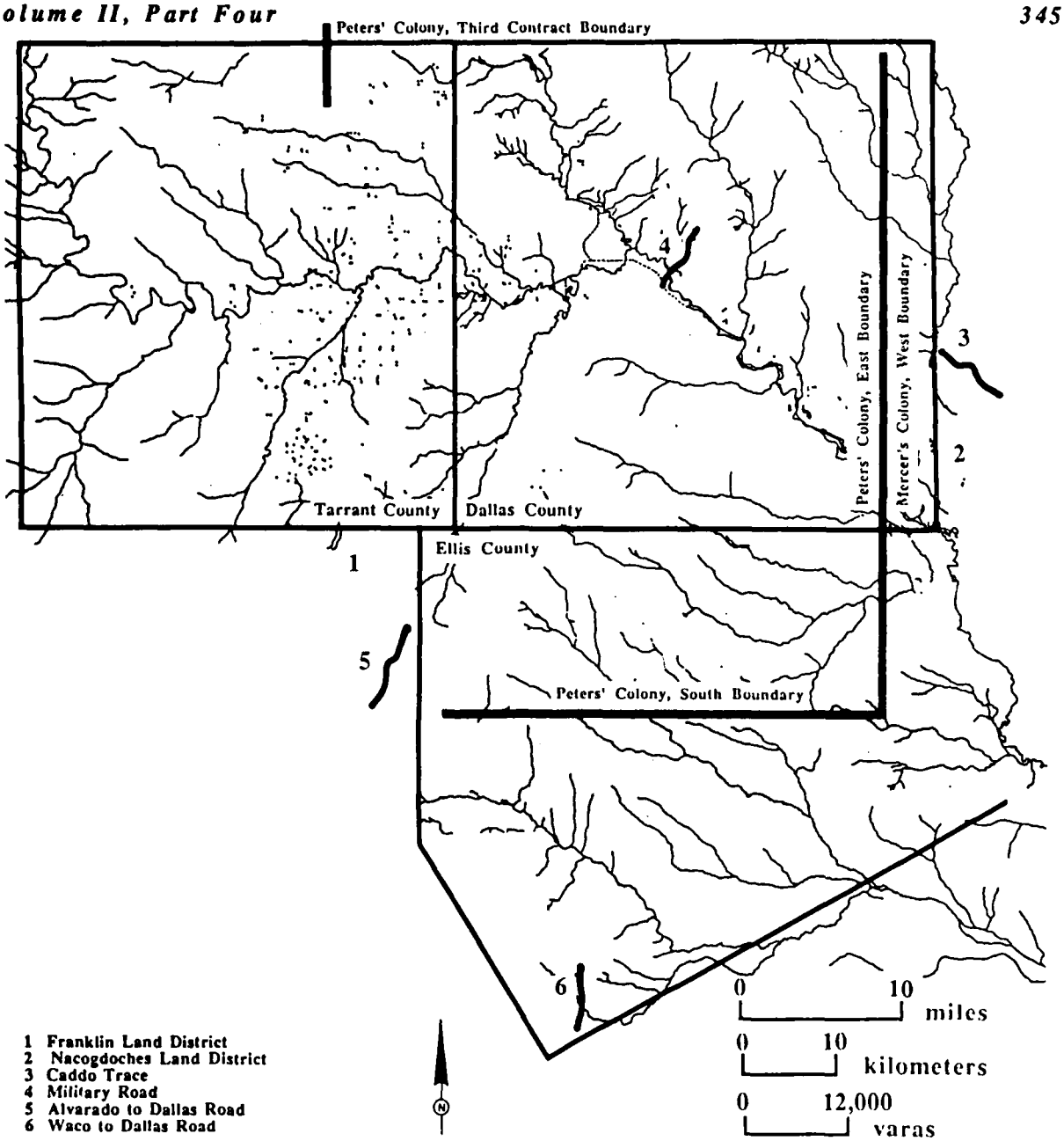


Figure 26-6. GLO records indicating that the distribution of post oaks clustered in the Eastern Crosstimbers along Walnut Creek on some parts of the Cedar Ridge Escarpment, and along some sections of the Trinity River.

2. CROSSTIMBERS

The Eastern Crosstimbers was a distinctive wall of forests, which transected the Grand Prairie. In the process of analyzing GLO notes, differences in species composition and densities were noted between the Crosstimbers north of the Trinity and the Crosstimbers south of the Trinity (Table 26-2). Barren areas were more evident and the species composition restricted to post oak and blackjack oak south of the Trinity.

NORTH OF THE TRINITY

This portion of the Crosstimbers, sandwiched between the high prairie of western Tarrant County and the Grand Prairie is also cut by the rich bottoms of Big and Little Bear Creeks. Twelve tree species were recorded. Post oak and blackjack oak comprised over 80% of all trees, with some red oaks, elms, and fruit or nut bearing species such as locust, gum bumelia, elms, and fruit or nut bearing species such as locust, gum bumelia, plum, pecan, and hickory occurring as incidentals. Barren areas were restricted to interfluvial upland areas (Figure 26-5). In these areas post oak and blackjack oak dominated with some brushy thickets of cottonwoods and locusts.

SOUTH OF THE TRINITY

A more limited range of tree species were observed in the Crosstimbers south of the Trinity River. Post oak

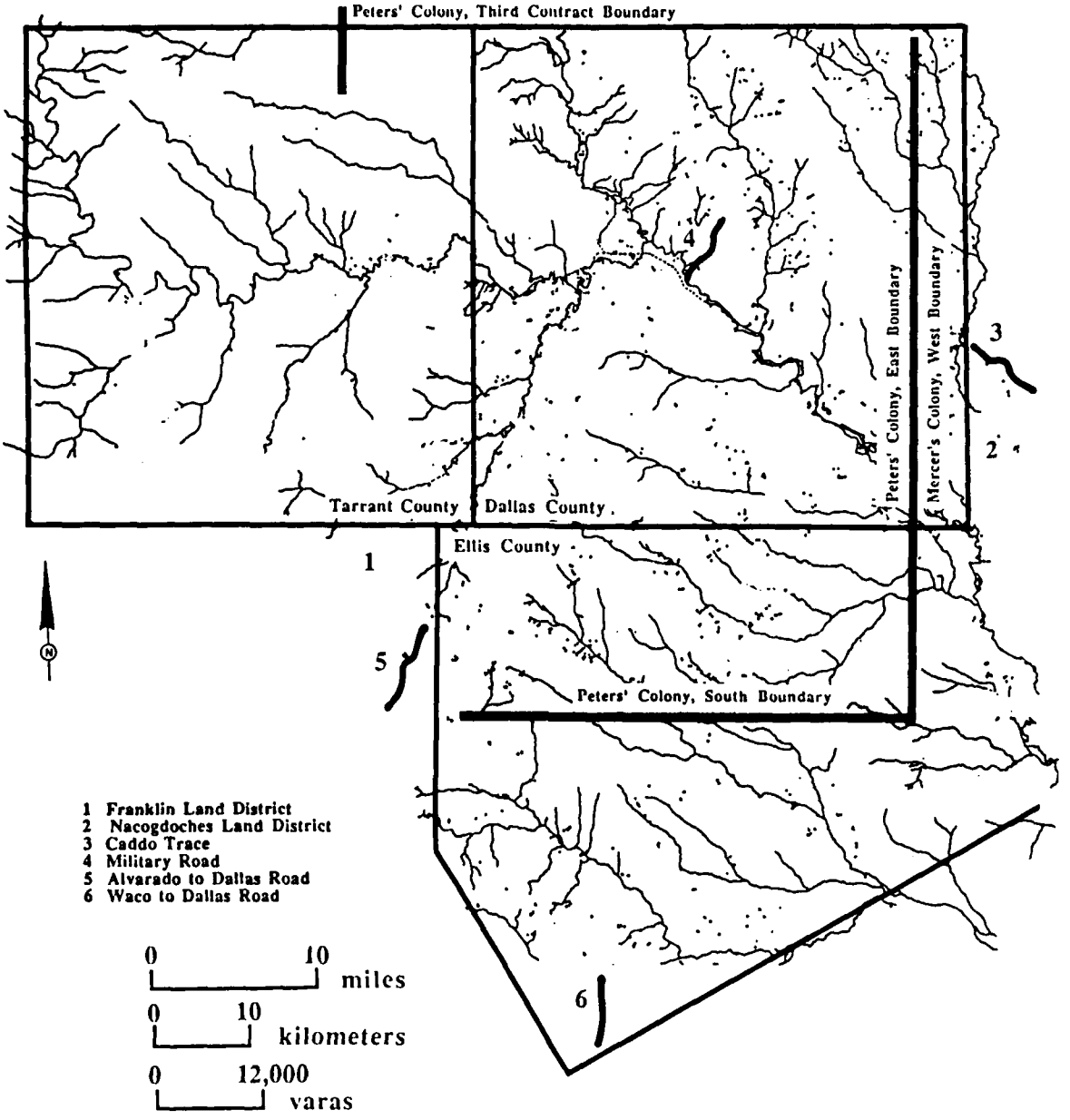


Figure 26-7. GLO records indicating that the distribution of elm, hackberry and ash clustered along floodplain zones.

and blackjack oak were co-dominant, with incidental red oaks and cottonwoods. Barrens were also more common, with only post oak and blackjack oak present. The distribution of post oak in the study area (Figure 26-6) clearly defines the location of the crosstimbers, with a lobe extending eastward down the Walnut Creek valley.

3. THE GRAND PRAIRIE

This zone consists of pure prairie, with scattered trees present on high prairies, and brushy prairies located along the eastern periphery fronting Walnut and Fish Creeks (see Figure 26-5). In the open prairie areas only three species were present; elm, mesquite, and cottonwood. Along the brushier margins (see column 3a, Table 26-2) however, a more diverse range of trees were mapped; post oak, Spanish oak, elm, ash, mesquite, cottonwood, willow, locust, and pecan. Mesquite was the dominant tree, comprising nearly half of all trees, followed by cottonwoods dispersed along stream heads and water-saturated areas of the closed prairie.

4. UPPER TRINITY FLOODPLAIN, WEST OF THE ELM FORK

Two major communities were presented in this zone, the floodplain forest, and bottomland prairies. The bottom prairies often were noted as containing lakes, and appear to have been areas subject to seasonal overflow and backwater where surface water was retained.

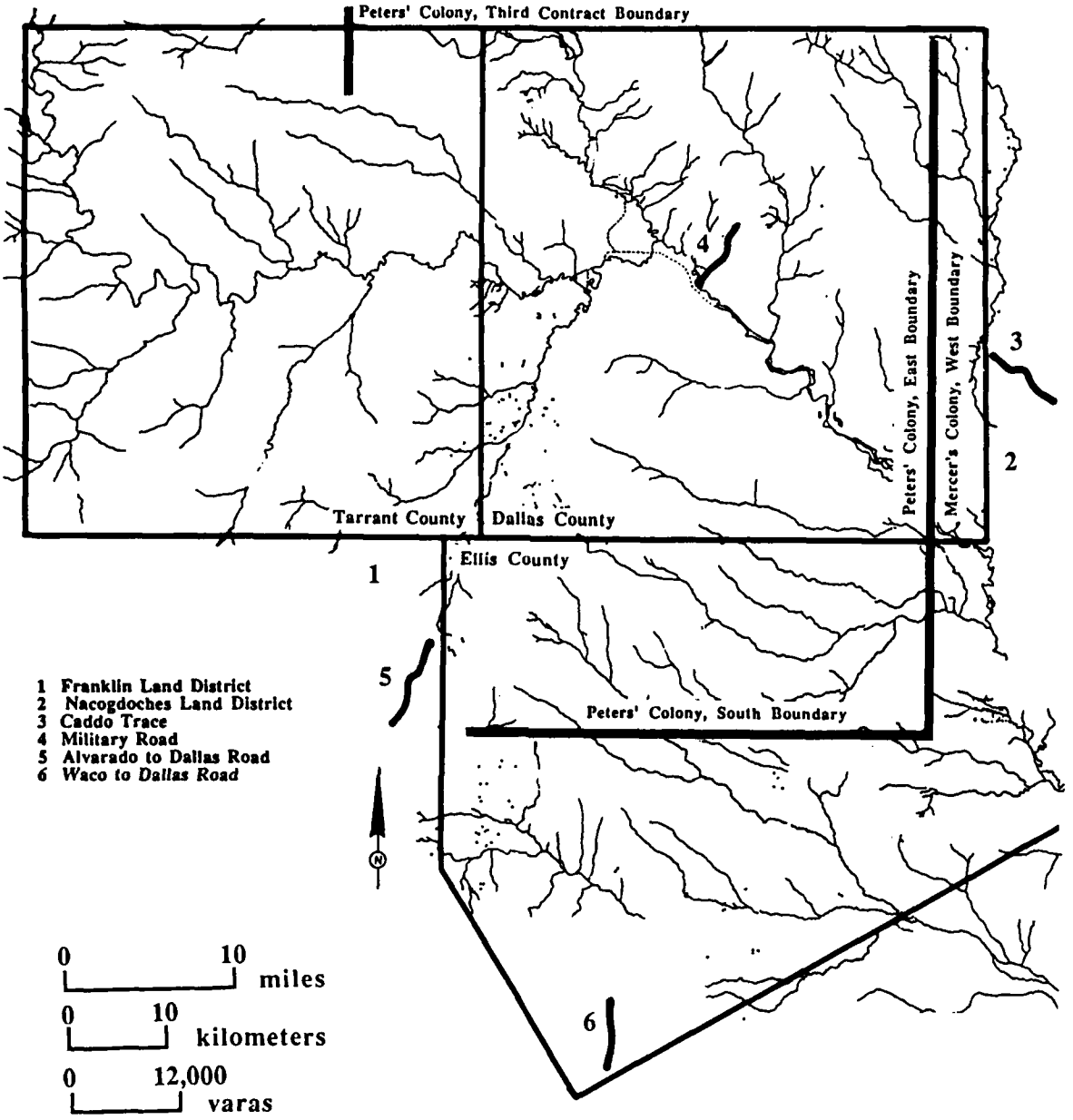


Figure 26-8 GLO records indicating that the distribution of mesquite clusted in the High Prairies of western Ellis County, the Mountain Creek Valley, and the East Fork of the Trinity River Valley.

These areas are shown as open areas in the floodplain forest shown in Figure 26-1.

FLOODPLAIN FOREST

This portion of the Trinity floodplain is located in a zone where the crosstimbers transects the floodplain. The dominance of post oak reflects a greater incidence of this species than in surrounding areas. The zone also contained a diverse range of tree species, with 17 species recorded in the GLO notes. Elm and post oak were co-dominant, followed by Spanish oak, hackberry, and ash. Incidental species included locust, blackjack oak, red oak, sycamore, bur oak, mesquite, cottonwood, willow, gum bumelia, mulberry, red haw, and pecan.

UPPER TRINITY BOTTOM PRAIRIES

These circumscribed pockets of prairies were located in overflow areas adjacent to main stream channels. Although primarily grasses, a range of trees were observed. Post oaks comprised over 40% of all trees, along with 30% incidental species included Spanish oak, hackberry, ash, cottonwood, gum bumelia, and pecan.

5. MOUNTAIN CREEK VALLEY

This riparian forest formed a gallery along upper Mountain Creek. Undulating "hogwallow" prairies were in the bottom, near the mouth of the Trinity floodplain forest, where there were several large bottom prairies.

GALLERY FOREST

This linear zone is clearly associated with drainage lows near stream heads and the main channel of Mountain Creek (Figure 26-7). Fourteen species were recorded. Elm was the clear dominant (36%), followed by cottonwood (13.4%), hackberry and mesquite (both 12.3%) and post oak (10.6%). Incidental species included bur oak, red oaks, box alder, willow, gum bumelia, wild china or western soapberry, and walnut. Although bur oak was an incidental, the Mountain Creek Valley contained relatively higher percentage of this superb species than any other environmental zone.

MOUNTAIN CREEK BOTTOM PRAIRIES

This microenvironmental zone contained as many trees as were observed in the gallery forest but was predominantly lowlying, seasonally inundated, brushy, "hogwallow" prairies. Mesquite was the clear dominant (Figure 26-8). Based on its distribution mesquite was located in the interfluvial area of the Chalk Rock Escarpment and blacklands of Ellis County. A relatively dense mesquite forest occupied the Mountain Creek Valley. Although some mesquite outliers were recorded in the East Fork Valley, the Mountain Creek Valley was the northern-most extension of a major environmental zone dominated by this species. Mesquite comprised 35% of all trees, elm (21%), hackberry (16.5%), and oak (10.1%). Incidental species in these bottom prairies included post oak, ash, locust, gum bumelia, and pecan.

6. CEDAR RIDGE ESCARPMENT

This zone is located along the most prominent topographic feature of the entire study area, the north-east-to-southwest fault line of the Austin chalk. Two microenvironments were present, the forest itself, and open areas fringing upland prairies and prairie pockets located on the bench below the crest of the escarpment.

CEDAR RIDGE

This zone was (and still is) dominated by red cedar (33%), the only evergreen present in this portion of Texas. Although GLO notes only specify cedar, the majority were probably red cedars. After severe logging of the native red cedars, today one mostly finds the Mexican or white cedar (*Juniperus asheii*) located in this forest zone. Unfortunately the presettlement occurrence of this species was not documented. After cedar, the Spanish oak (17.6%), elm (17.6%) and red oak dominated. Incidental species included post oak, bur oak, ash, locust, gum bumelia, and wild china. All these species indicate that this was a mesic zone, well watered despite the steep slopes.

OPEN ESCARPMENT

Relatively fewer species were located in the open areas of the crest of the escarpment. Only eight trees were recorded in this zone, due to its relatively small area in relation to the cedar forest. Mesquite was the dominant species, with single occurrences of post oak, Spanish oak, elm, and ash.

7. BRUSHY PRAIRIES OF SOUTHERN DALLAS AND ELLIS COUNTIES

Although these are relatively open tracts of grasslands, a wide range of trees were dispersed in this environmental zone. This zone also was the most extensive of all zones. Due to these factors, more species are present in this cell of the GLO matrix than other cells. Based on the distribution of mesquite (see Figure 26-8), the Ellis County area contained a better established open forest, whereas mesquite declines significantly in the brushy prairie of southern Dallas County.

Over all, elm (27%) and mesquite (23%) were the dominant trees of the brushy prairie. Hackberry and cotton wood were also prominent. Incidentals included post oak, blackjack, Spanish oak, red oak, red cedar, box alder, willow, locust, gum bumelia, mulberry, plum, red haw, persimmon, walnut, and pecan. The presence of fruit and nut bearing species, in addition to the elm and hackberry brush, would have provided excellent food resources for whitetail deer.

8. BRUSHY PRAIRIE IN NORTHERN DALLAS COUNTY

This environmental zone closely resembles the previously described brushy prairie, particularly in terms of vegetation density. The species composition differs radically, notedly in the near absence of mesquite. Elm (49%) was the clear dominant, along with hackberry (13%). Incidental species included post oak (4.6%), blackjack oak (1.2%), Spanish oak (2.3%), ash (5.8%), mesquite (1.2%), cottonwood (5.8%), willow (4.6%), locust (1.2%), gum bumelia (1.2%), plum (1.2%), red haw (4.6%), persimmon (2.3%), wild china (1.7%), and pecan (1.2%). Relatively speaking, the North Dallas Brushy Prairie contained a significantly higher percentage of all tree species than did the South Dallas.

9. STREAMS OF SOUTH DALLAS COUNTY

This zone consists of riparian and floodplain forest and bottom prairies associated with five Mile and Ten Mile Creeks, Pleasant Run and Red Oak Creek. These creeks transect the brushy prairie of South Dallas County, and merge with the Trinity River Forest (see #12) near their mouths.

STREAMS

Although tree distributions were recorded by stream, the species compositions were nearly identical for all. Therefore, all data have been collapsed into a single study cell. This was a relatively rich vegetational zone with 18 species recorded. Elm (25%), was dominant, followed by hackberry (19%), Spanish oak (12.5%), and pecan (10%). Bur oak, overcup oak, red oak (5.7%), ash, mesquite, box alder, cottonwood, willow, locust, red haw, wild china, red bud, walnut (3.4%), and hickory (2.2%) were incidental.

Pecan represents a greater percentage than found in any other environmental zone (Figure 26-9). Also, the incidence of walnut and hickory also contributed to the mast (nut production) potential of these drainages.

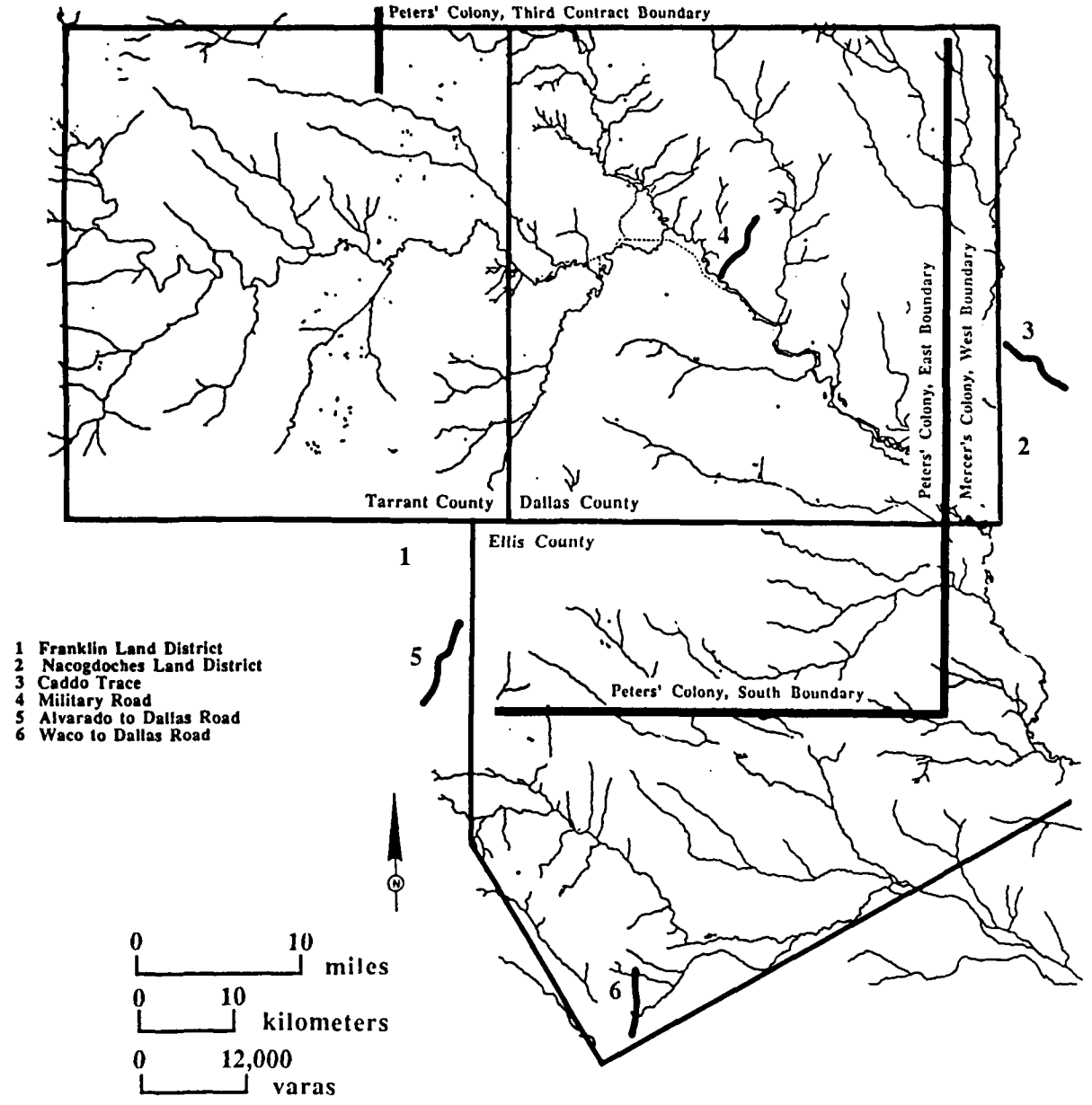


Figure 26-9. GLO records indicate that the distribution of overcup oak, bur oak, blackjack oak, pecan, and walnut clustered in the Mountain Creek Valley, Eastern Cross Timbers, and East Fork of the Trinity River.

STREAM-BOTTOM PRAIRIES

Only seven species were located in the open bottoms of the south Dallas County streams. Hackberry (46%) was dominant, followed by elm (21.5%) and Spanish oak (10.7%). Incidental species included mesquite, box alder, cottonwood, and pecan.

10. WHITE ROCK CREEK

This zone consists of the riparian forest and bottom and chalk rock prairies of the White Rock Creek drainage. This zone transects the North Dallas brushy prairie. The trees noted with GLO notes were relatively evenly distributed between both zones.

WHITE ROCK FOREST

Thirteen species were recorded in the floodplain of White Rock Creek. Hackberry (25%) was dominant, followed by elm (18%), ash (14.6%) and post oak (12.5%). Spanish oak, red oak, mesquite, cottonwood, willow, gum bumelia, persimmon, walnut, and pecan were incidentals. As with the streams in South Dallas county, White Rock Creek provided a relatively richer band of forest, cutting into the prairie environments that dominated the surrounding uplands.

BOTTOM AND CHALK ROCK PRAIRIES

Twelve tree species were recorded in this zone. Elm

(23%) was the dominant followed by post oak (14.3%). Incidental species included water oak, red oak, ash, mesquite, red cedar, cottonwood, willow, gum bumelia, persimmon, and pecan. In contrast to the South Dallas streams, this subzone was characterized by a post oak and red cedar barrens along exposures of chalk rock fronting the Trinity Forest and brushy prairie.

11. ELM FORK OF THE TRINITY RIVER

This zone consisted of bottomland forest and prairie pockets. Prairie zones were due to seasonal overflows, with several small lakes. Species were evenly distributed among both microenvironments.

ELM FORK FOREST

Thirteen tree species were recorded for this zone. Elm (23.6%) and post oak (22%) were dominants, with substantial amounts of hackberry (14%), ash (11%), and cottonwood (10%). Incidental species included blackjack oak, bur oak, Spanish oak, willow, locust, gum bumelia, mulberry, and pecan.

ELM FORK BOTTOM PRAIRIE

Thirteen tree species were recorded, with elm (25%), the clear dominant. Mesquite (14.3%) and locust (10.7%) were substantial components. Incidentals included post oak, blackjack, Spanish and red oaks, hackberry, ash, cottonwood, mulberry, persimmon, and pecan.

12. TRINITY RIVER MAINSTEM

This zone was dominated by dense floodplain forest. In overflow areas, bottom prairies were present. These prairies were more accurately described as lakes or marshes compared to the bottom prairies of the Upper Trinity and its tributary streams. The Trinity bottom prairies were relatively sterile with few trees.

FLOODPLAIN FOREST

This zone was the most diverse habitat, with 18 tree species recorded in the GLO notes. Post oak (20%), hackberry (16%), and ash (14%) were dominants. Elm (10%), overcup oak (9%), and cottonwood (8%), were relatively abundant. Incidental species included blackjack oak, Spanish oak, red oak, box alder, willow, locust, gum bumelia, mulberry, red haw, wild china, walnut, and pecan.

The strongest association noted was the presence of overcup oaks lining the banks of the Trinity River. These trees reached enormous proportions, as did their neighboring cottonwoods.

13. WAXAHACHIE CREEK

Due to the increase in mesquite in Ellis County, the stream forests and prairies of Waxahachie and Chambers Creeks were tabulated separately from the South Dallas streams. Waxahachie Creek was located in a denser zone of mesquite and contained an equal number of trees in its forest and bottom prairies.

FLOODPLAIN FOREST

Sixteen tree species were recorded in this zone. Elm (35%) and hackberry (24%) were the clear dominants. Pecan (8%) and ash (8%) were relatively numerous. Incidental species included overcup oak, Spanish oak, red oak, box alder, cottonwood, willow, locust, red haw, red bud, walnut, hickory and pepperwood.

BOTTOM PRAIRIES

The Waxahachie Creek bottom prairies were relatively rich, with 13 tree species present. Cottonwood (28%), elm (27%), hackberry (14%) and mesquite (14%) were dominant. Gum bumelia (9%) was abundant. Spanish oak, ash, willow, locust (5%), mulberry, plum, and pecan were incidental. This zone was characterized by relatively abundant fruit and nut bearing species.

14. CHAMBERS CREEK

Both riparian forest and bottom prairie zones were recorded in this stream valley. Species diversity decreased radically when compared to Waxahachie Creek.

FLOODPLAIN FOREST

Eight tree species were present in this zone. Elm (29%) was clearly dominant. Bur oak, hackberry, and mesquite (each 14%) were of secondary importance. Incidental species included bur oak, Spanish oak, red haw, and pecan.

BOTTOM PRAIRIE

This was a relatively sparse zone, with only nine recorded trees. Six species were present. Elm (33%) and ash (22%) were dominant. Incidental species included Spanish oak, red oak, mesquite, box alder, cottonwood, locust, plum, wild china, walnut, hickory, and slippery elm.

15. EAST FORK OF THE TRINITY RIVER

This environmental zone was the most distinctive and diverse of all in the GLO matrix. Extensive bottom prairies were present, separating the upper drainage from the lower, which merged with the Trinity Forest.

RIPARIAN AND FLOODPLAIN FOREST

Twenty-one tree species were recorded in this zone. Due to the proximity to the Trinity floodplain, post oak was the dominant (22%). Elm (13%), bois d'arc (13%), and ash (17%) were of secondary importance. Hackberry and pecan were common. Incidental species included blackjack oak, bur oak, overcup oak, water oak, Spanish oak, red oak, mesquite, box alder, cottonwood, locust, plum, wild china, walnut, hickory, and slippery elm.

This zone contained the only bois d'arc noted in any environmental zone in the three county area. The richness of the species composition, abundance of fruit and nuts, and proximity of diverse habitats made this the richest vegetational zone in the GLO matrix.

BOTTOM PRAIRIE

Extensive floodplain lakes were present in this zone. A total of 14 tree species were recorded. Elm (26%) was clearly dominant. Species of secondary importance included cottonwood (11%), pecan (11%) hackberry (10%), ash (8%), and mesquite (8%). Incidental species included post oak, blackjack oak, Spanish oak, red oak, bois d'arc, locust, mulberry, and walnut. Based on the abundance of nut and fruit bearing trees, this was a rich microenvironment within the rich East Fork Bottom.

SUMMARY

The presettlement vegetation of the Joe Pool Lake area was dominated by prairies. The upland prairies of Dallas and Ellis counties contained sparse mesquite and elm saplings which graded into stream gallery forests. The only substantial upland forests were the eastern Crosstimbers 10 miles west of Joe Pool, and the Cedar Escarpment at the eastern boundary of the lake. The upland forests and the floodplain forest of the Trinity River comprised the greatest natural resource available to the prehistoric and historic inhabitants of the area.

The blending of forests and grasslands contributed to the grazing potential of the region. Historically bison were frequently hunted along the stretches at Waxahachie, Chambers, and Richland Creeks. The Late Prehistoric bison recovered at Baggett Branch, and stream deposits containing bison remains indicate a presence. Certainly the herds did not approach the size of the western bison. Deer, on the other hand, favored the brushy prairie for browse, and this zone undoubtedly attracted them in large quantities.

The original surveyors provided a spatial map of the initial plant cover throughout the United States. When studying a specific area, the notes and field plats can be used to recreate the relatively undisturbed landscape. This information, combined with collections of trees from early historic buildings, archaeological fauna, and other paleoenvironmental evidence, allows for a greater comprehension of the effective ecology. Human selection of and adaptation to these specified microenvironments can then be modeled more accurately.

THE SPOKEN WORD: FOCUSED INFORMANT INTERVIEWS

27

by

M. Christopher Nunley

One research goal of the Joe Pool Lake Project entailed an integrated approach to the archaeological study and analysis of historic sites in the Project area. It was expected that interviews with senior residents in the study area would provide a broader understanding of local lifeways (see Nunley 1982, 1983). The main focus of this study was to provide greater insight and reliability concerning interpretations of historic sites and structures. Major topics of interest included: Community Identity; Foodways; Yard Usage; Trash Disposal; Farm Life; and Traditional activities.

OBJECTIVES

The primary areas of interest for the focused informant interviews were suggested by previous research. Earlier projects that included informant interviews were: the Lakeview Project conducted by North Texas State (Ferring and Reese 1982) which was the testing phase for the Joe Pool Lake Project; the Silcott Project directed by Adams (1977); the Waverly Project which was also directed by Adams (1980); and the Richland Creek Archaeological Project (Lee 1982; Nunley 1982, 1983; Jurney and Moir 1987: 210-208).

The primary mitigation objectives of the historic investigations of the Joe Pool Lake Project focused on aspects of traditional living patterns evident in the archaeological, archival, architectural, and oral records. General data related to socioeconomic status and the ethnohistorical study of impacted communities were combined with more specific investigation of lifeways, to aid site and artifact analyses and interpretations. Brief discussions are presented below detailing the six major topics upon which attention was focused: 1) Community Identity; 2) Foodways; 3) Yard Usage; 4) Trash Disposal; 5) Farm Life; and 6) Traditional Activities.

One interview focus was an attempt to discover which families identified with particular communities. This was necessary to determine the perceived boundaries of these communities, as well as, the general socioeconomic characteristics of the families within each community identified.

Foodways reflect numerous aspects of cultural and socioeconomic patterns, and data regarding food preparation and preservation technologies were a central focus in the study. The relative amounts of purchased food as opposed to self produced or wild gathered foods were examined. The archaeological record suggests stable patterns in some areas, with later pattern variations in others (see Archaeology Research Program 1982).

Information on yard maintenance practices and use may offer a key to the isolation and examination of activities related to the deposition of sheet refuse and artifact distribution patterns (e.g., were yards commonly swept?). In addition, information regarding daily and seasonal activities and chores within the yard can provide a guide to the functional relationships that may be reflected in the archaeological assemblages at different site

Yet another topic of interest was the handling and the disposal of daily accumulations of trash, including food remains. Disposable items and broken objects and utensils, generated on a daily, weekly, or seasonal basis, ultimately comprise a large proportion of the material record available for study and analysis and were important to the investigation of this subject. The problems of individual and/or familial perceptions of what constitutes trash, also affect the interpretation of informant responses. Scraps fed to dogs, chickens or hogs constitute an unconscious behavioral by-product which have an inherent value. Bottles saved for recycling and ashes scattered on the garden may or may not always be seen as trash, thus questions on this subject were attended by a need to be explicit. At the same time, informants may view this area of questioning as inconsequential subject matter; which was of so little use that it was thrown away and forgotten.

The primary subsistence strategy in the area has been farming until recent years. Indeed, virtually all the land taken in for the Joe Pool Lake Project was farm or pasture land. Farming as a way of life was of central interest to the investigation. The interaction of daily and seasonal patterns was examined, along with the related questions regarding ecological changes which affected farming.

The last area of interest coalesces many of the above topics. When combined with other information, such as cultural and individual values, beliefs, and folkways a general picture of life during the time of interest is rendered. This provides an opportunity to see shifting patterns as they are reflected in the material culture record. We were specifically interested in traditional activities and lifeways, before the advent of electricity, indoor plumbing, refrigeration, etc., and how these changed with the acquisition of such innovations.

RESEARCH DESIGN

As stated earlier, one research goal of the Joe Pool Lake Project was the examination of the historic lifeways in the project area, as reflected by the associated artifacts. This approach called for the analysis of material remains, aided by data gathered through informant interviews. This goal is in keeping with current trends in archaeology toward more integrated research designs (see for example Adams 1977, 1980; Nunley 1983:417-422; Ferring and Reese 1982) which combine historical, archaeological, and ethnographic methods and data. The addition of an ethnographic perspective places the emphasis of the archaeological research on the study of culture rather than on the simple arrangement of material objects from the past in a time frame relative to the present. It was with these points in mind that the study described herein was designed to combine ethnographic data with historical and archaeological data, deriving a more comprehensive view of historical lifeways in the Joe Pool Lake Project area.

METHODOLOGY

The methodology was directed toward the completion and analysis of interviews with informants who had resided in the study area and had knowledge of the traditional lifeways practiced herein. These interviews were designed to illuminate particular aspects of traditional living patterns that were well represented in the archaeological record. The primary emphasis was focused on these areas during, but not limited to, the period between 1910 and 1940.

The research design called for qualitative analysis with results expected, from the onset, to be indicative rather than conclusive. The appropriateness of this approach was demonstrated in a number of ways. For example, in several instances informants answered that they had not done or had no knowledge of a particular practice or event. However, later in a different context, they would relate information about that very thing. It was also noted that in some particular areas there simply were no set patterns of behavior. Informants answered questions by saying that they simply did not know or, that behaviors or events varied from time to time for no discernable reason.

An interviewing agenda was used to guide questioning, but informants were not discouraged from diverging from the subject at hand when they wished to add information that they deemed relevant or simply was interesting and enjoyable for them to talk about. The wisdom of this approach was borne out when previously unsuspected themes emerged from these interviews. Thus, data were obtained which fleshed out the skeleton of the research, adding life and a sense of humanity to what could have been limited to a discussion of dates, artifacts, and lists of people and events. Hence, many of the data were obtained simply through the stream of conversation, with an occasional question or comment from the interviewer aimed at providing direction and a finer focus on, or clarification of specific details.

Ten interviews were taped. These informants did not object and seemed comfortable with the equipment and the subsequent question. Importantly, one informant agreed to the taping but appeared to be somewhat suspicious and uncomfortable from the outset. Serendipity intervened and mechanical problems arose. Although these problems were relatively minor, in the interim during which the recording equipment was switched off, the informant became visibly more relaxed and spoke with evident relief. Thus, the interview was resumed but the taping was discontinued. Other problems arose during taping. These were related to problems such as noise interference from air conditioning, etc., as well as a frequent problem of informants' voices not being picked up as some were elderly and their voices had little volume. Thus not all interviews were recorded, and some that were did not produce an interpretable recording.

RESULTS

A total of 15 focused interviews are represented although one of these had to be cut short due to activities of the informant and was not completed. Thirteen of the informants were born in the local area and two moved into the area early in their lives and have lived in the area almost constantly since then.

Informants consisted of ten females and five males, all Caucasian and ranging in age from 60 to 93 years.

Of these, all but three were raised on farms in the Joe Pool Lake area, two of these came to the area as young adults, the other having grown up in the town of Cedar Hill proper. This last informant was very effective in pointing up any differences between rural lifeways and those "in town."

COMMUNITY IDENTITY

The question of which community did the various informants identify with was complicated by the fact that some of the small communities in which informants were born and/or lived no longer exist as an identifiable administrative subdivision, if indeed they ever were. Informants have lived so long with new designations that they have come to identify these places by the new names. For example, three informants were born in the Florence Hill Community but kept insisting that it was really Cedar Hill and that it later became Grand Prairie. Two other informants gave different names. For example, Gertie and Whippet grew up from communities within three hundred yards, ("just a ditch away") from each other. It seems likely that one was identifying the community based on the Gertie School. In the end, one informant stated that she was a native of Britton; five informants were residents of Cedar Hill; three of "the Valley"; one of Pleasant Valley; one of Whippet; one of Gertie; and three of Florence Hill.

Informants perceived little real socioeconomic difference between communities. They stated that most everyone was struggling, though at the same time, they recognized that a very few families were relatively better off than some others. Families which were considered to be influential were Reitz, Ballweg, Anderson, Foster, and at least one segment of the Holveck family, Pools, Penns, Bryans, and Alspaughs. Of these, the Penns and Andersons were most prominent, both Andrew Penn and Andrew Anderson being fondly remembered as being somewhat eccentric but valued neighbors. It was said of Andy Anderson that he was always loaning out a milk cow or mules, and that at his death, his widow never tracked all of them down to reclaim them. He was known to be exceedingly thrifty, but exceedingly generous.

FOODWAYS

A wide variety of foods were grown and eaten by inhabitants of the Joe Pool Lake Area. All of the informants', including the informant who resided in Cedar Hill proper, had gardens, and in fact the latter stressed that all families had gardens, regardless of whether they lived in town or not. Thus only specific foods were purchased. Bought food was generally restricted to staples such as flour, salt, sugar, coffee, etc.

The ground for the gardens was usually broken by the husband/father but after this had been completed, the responsibility of the garden seemed to be primarily that of the woman of the house. She supervised planting and care of the garden although it was agreed that everyone was expected to help with planting, weeding, and cultivating as needed.

The most commonly grown garden produce were potatoes, onions, tomatoes, okra, beans, black eyed peas, cabbage, corn, and "greens". Turnips were usually planted in the fall and served as a fresh vegetable during the winter.

Vegetables and fruits were canned in large quantities, at first using tin cans and a sealer. Later it was more common to use glass jars. Pressure canners also ultimately replaced the hot water bath method of processing the food. It was noted that canning required much time and energy and was an uncomfortable task as it generally occurred during the very hot time of the year. However, most of the women informants still put up food and they express an enjoyment of this task.

Another way of preserving some foods was to place them in cellars. The foods most commonly placed there were potatoes, sweet potatoes, turnips, and onions. These alternatively were placed under the houses and covered with straw to protect them from freezing.

Orchards were a source of peaches, plums, and pears. These fruits were not only canned, but were also made into jellies, jams, and preserves. Fruits were also dried in the sun, sometimes on roof tops by covering boards with cheese cloth and spreading the fruit out on the board under another layer of cheese cloth to protect them from insects and birds. The fruit had to be taken in at night to protect them from the dew, and were placed in the sun again the following day. Interestingly, none of the informants could recall how long this process of drying the fruit required.

Wild mustang grapes were available in the area and these were very popular for jelly-making. Wild berries could also be picked and eaten fresh or preserved.

There are pecans scattered throughout the area and they were another source of wild food. They apparently were not abundant enough to be a source of income as no informants mentioned this. They did, however mention that it was enjoyable to go "pecan picking" in the fall.

The most commonly used meats were pork, chicken, and beef, in their respective order of importance, according to informants. All of the families, with the exception of the informant who was reared in Cedar Hill, raised hogs for meat. The hogs were slaughtered in late fall or early winter. Neighbors often cooperated in this task, or at times a man would do the butchering for a share of the meat. It was not unusual for a family to kill five to six hogs for meat. At one time it was noted that one well-off family with many farm hands to feed butchered 15 to 20 hogs in one day.

The pork was prepared in various ways. Most was cured by packing in salt. It was said that "Michigan salt" was preferred to "Grand Saline salt" because the former was "dry" and did not cause the meat to "sweat," rather it drew moisture out of the meat. After curing, the meat was often smoked.

Sausage was made by grinding the pork and mixing it with salt and spices such as sage. Pepper was also often added, but one informant stated that this was often too spicy for young children. The sausage meat was then put through a stuffer into an intestinal casing. This had been prepared by cleaning the intestines, removing the contents, washing them inside out, and scraping them. This produced an almost perfectly clear casing into which the sausage was stuffed before being hung up to be smoked.

Another way of preserving meat was by frying sausage patties and then stacking them in glass jars.

The hot grease was then poured over them and the jar sealed.

Chickens were a common source of both meat and eggs. All families had chickens and these were killed and eaten regularly. One of the more enjoyable bits of information collected was that about a man in the area who had the capability of plucking six chickens completely clean, including pin feathers, in one minute. At least two of the informants remembered this phenomenon and took pleasure in relating it to me. The man was said to have placed the chickens in hot water and rubbed the feathers off rather than plucking them off.

Beef was eaten less commonly than pork or chicken. Occasionally a resident would slaughter a calf. As preservation was a problem prior to the advent of refrigeration, the portions that could not be readily used by the family would be sold to neighbors. Most families had a milk cow and thus were supplied with milk, buttermilk, and butter. Any excess was likely to be sold, as were eggs. Women frequently handled this small industry, delivering butter and eggs to town. Some made fairly regular deliveries from the Cedar Hill area to Dallas.

Milk was kept in a cellar or water cooler in the early days of this century. Later most families had ice boxes. Ice was readily available in Dallas, Grand Prairie, or Arlington. One informant told of a man who would often go into Arlington and pick up the large blocks of ice which he then distributed in the area. In order to do this he once borrowed a wagon and team from the informant's father. On the return trip from the ice house, the man evidently consumed a large amount of liquor and passed out. The informant's family discovered the mule team standing quietly outside the barn still hitched to a wagon of melting ice, with the sleeping man lying inside. In the absence of commands from a driver, the mules had simply gone home.

All families had wells. These wells were often placed in the location suggested by a man capable of "witching water" by using a forked willow branch to determine where water would be found.

One of the most time and energy consuming chores was that of food preservation and meal preparation. Families tended to be quite large and informants noted that, in order to maintain the level of energy necessary for such hard work, large amounts of food were consumed. On large farms there were also hired hands to be fed.

In general, all families shared the same pattern of eating. A large breakfast was served early in the morning. This usually consisted of eggs; some type of meat, usually ham, bacon, or sausage; some bread such as biscuits, gravy; and some sort of preserved fruit or jelly. Alternatively, pancakes might be served with syrup, again with some sort of meat.

The midday meal, which was called "dinner", was the largest meal of the day. It usually consisted of meat, several kinds of vegetables, either canned or fresh, depending upon the time of the year, bread and often a dessert. The evening meal was called "supper" and was quite similar to the midday meal. Indeed, it frequently consisted of food remaining from the earlier meal which had been reheated with perhaps the addition of fresh cornbread.

The noon meal on Sunday tended to be more elaborate. Preparations might begin on Saturday, for example, the baking of pies. Guests were often present for this meal.

Children always carried their lunches to school. These consisted of easily transportable foods such as sandwiches made from ham or fried eggs. Children also liked jelly sandwiches, or they might simply take some food left over from breakfast.

Despite the lack of refrigeration, informants reported that people seldom became ill from eating spoiled food. Women were experts at knowing just how long food could be held over. Apparently this, combined with fairly efficient preservation methods, made for generally well fed, healthy people.

YARD USAGE

A varied range of activities were carried out in yards. Common activities reported by informants included, the washing of laundry, soap-making, meat processing, lard rendering, wood chopping, and trash burning. These were activities which could not be carried out indoors because of the requirement of space and/or open fire. These tasks were also considered "messy" activities, better attended to outdoors to preclude spillage. Another reason given was that wells were usually located in yards, and, as many of these activities required the transporting of large quantities of water, it was much easier to perform them outdoors. This also negated the necessity of large quantities of ashes from the fires having to be removed from inside the house.

All informants agreed that laundry was a back-breaking chore. It was usually done once a week, though no certain day was designated. Very busy times, like harvest, were likely to cause delays, other chores being more pressing and receiving priority. In all instances, laundry was done in yards in large cauldrons or wash pots set over a fire. White clothes were washed first, then darker clothes were washed in the same water, this order being followed for rinsing. Scrub boards were used to rub the clothes to remove dirt. After being washed, clothes were usually hung on clotheslines, and if there was not sufficient space on the lines then fences and bushes were employed. This constitutes one of a number of differences between residents of the Joe Pool area and those of the Richland/Chambers area where clothes lines were very infrequent. These and other findings will be discussed in broader context later.

Although hogs and other animals were usually slaughtered elsewhere, much of the meat processing was carried out in the yard. Meat was butchered into the appropriate cuts and portions, trimmed, and packed in salt for curing in the smokehouse. Chickens were usually plucked in the yard where a large pot of hot water was used to scald the chicken so that feathers could be removed easily.

There were often animals in the yard, either by design or accident, although, with the exception of dogs, the yard was not considered the usual place to keep them. Chickens tended to roam about and often nested under houses and in surrounding trees. Dogs lived in yards and under houses. They were fed in the yards and obviously acted in part as scavengers, although they were perceived by residents as pets or watchdogs.

Gardens were often in or contiguous to yards for convenience, maintenance, and for easy access from the kitchen. This placement, however, was not always the case, and some times gardens were placed much farther away.

There was a wide diversity of patterns related to placement of houses, barns, sheds, smokehouses, and outdoor toilets. Barns and sheds were said to be placed where there was good access for wagons, etc. There was no particular distance from the house considered to be the optimal, just so that it was enough distance to avoid flies and odors.

Smokehouses were in the yard and generally not too great a distance from the house for the sake of convenience. These structures were not only for the curing and smoking of meat, but also served as storage areas for canned goods, furniture, wash tubs, and other equipment.

The most common placement for outdoor toilets was behind the house at some distance. One informant stated that these structures were often placed as far away as behind the barn. The question of odor avoidance seemed to be secondary to a sense of privacy and/or aesthetics. All informants indicated that lime was used to freshen the structures. Both pit type and ground level privies were reported. Informants did not recall their having been used for trash disposal.

There appeared to be no particular pattern of orientation for houses. Some informants mentioned that it was wise to place them to take advantage of cool breezes in the summer and to avoid cold north winds in the winter. But even repeated questioning produced nothing but vague suppositions. [This was in surprising contrast to answers offered by residents of the Richland/Chambers Creek area who were fairly definite in stating that houses were placed to face the road and to be near the road (see Nunley 1983).] After considering the differences in the terrain of the two areas, however, it is easier to understand these cognitive differences.

Although some of the Joe Pool Lake area is flat, most of that on which the informants and their neighbors lived was along the escarpment which rugged hills and valleys. Roads were often curved and rising sharply. Access to many land holdings was made difficult in that they were not all weather roads. Frequently these could only be accessed by crossing a neighbor's property on narrow private lanes. Thus, the fact of irregular terrain and limited access to roads made house to road orientations a moot point. However, most of the architectural and archaeological properties are aligned to the property boundaries, the most important landmarks.

All families had wells and some larger farms had houses to cover them. Wells were often dug in a location advised by a "water witch," a man who was able to determine the location of underground water through the use of a piece of forked willow. Informants indicated that this was a very efficient method of finding water. Houses may well have been located with some regard to the proximity of wells so that water would not have to be transported great distances.

Fire wood was readily available. One informant reported that in the fall her father would go to other land that he owned, "on the mountain," and spend about two weeks cutting wood which was then hauled back to the homeplace in wagons pulled by mules. Wood was stored in the yard, sometimes under a shed, for use in cooking and keeping the house warm

In the Joe Pool Lake area, most yards had at least some grass, although a few were swept regularly. The grass was cut occasionally by the use of a push mower. Clippings were left as they lay. Occasionally, livestock was allowed to feed on grass growing near the dwelling enclosure, but in general there was more of an aesthetic sense in regard to many yards. Informants stated that most yards featured flowers and bushes for decoration. These usually were tended and maintained by the woman of the house. Rinse water from laundry was often used to water the flowers.

Cellars were located in yards, usually in close proximity to the house. At the Penn site there was a house with slatted sides built over the cellar. It was through this structure that the cellar, which had no door over the actual entrance, was entered. At the Anderson site, the cellar was entered from inside the house, through the kitchen. When questioned as to the use of cellars, informants tended to state first that they were for the purpose of storage, usually of canned goods and other food stuffs, such as potatoes, etc. Secondarily they noted the cellar's function as protection from severe storms.

Informants indicated that only about half of the houses had cellars, and that some tenant houses lacked them. Many people feared storms, it was reported. This was probably a residual fear resulting specifically from a tornado which struck Cedar Hill in the nineteenth century (Vinyard 1973:54). Although some informants stated that they had no particular fear of storms, they indicated that many did have, and would take to the cellars at the first sign of a storm. Indeed, one informant said that she was less than twelve hours old when a storm struck. Her father carried her mother to the cellar and her grandfather carried her. She stated, "I spent half my childhood in a storm cellar."

These cellars varied in construction. Some were of concrete but more commonly they were simply dug out and railroad ties were used for beams and shoring. Tin was then placed over that and then dirt was piled on top of that. Another sheet of tin was, perhaps, then placed over the mound. Several informants, all women, stated a strong dislike and fear of going down into the cellars as there were frequently snakes present. One lady told of being at home alone one day when a storm struck bringing heavy rain, wind, thunder, and lightning. She feared the storm and went to the cellar taking with her her two little dogs. But after entering the cellar she looked up into the ceiling to see a snake there. She was so afraid of the snake that she returned to the house to wait out the storm.

On the subject of snakes, it was surprising to encounter so many informants with such a fear of snakes, despite the fact that none related having ever known anyone who had been bitten, and further, that these are people from a rural environment in which snakes would be encountered frequently, and it might be assumed that, with such frequent encounters, and with no experience of anyone having been bitten that these informants would have become somewhat desensitized to such a fear. But lore about snakes was strong. Several informants remarked on their mothers' fear of snakes.

Evidently this was the source of much of the learned fear.

TRASH DISPOSAL

All informants agreed that there was significantly less trash in earlier times. This was due, in part, to there having been less consumption of commecial foods and various other items that would have required wrapping or packaging, as well as fewer items of mail, advertisements, newspaper, magazines, etc. There were fewer consumer items, in general, and if an item was broken, it was most often repaired rather than being thrown away. Additionally, many items were recycled, including jars, bottles, almost any type of cloth, and even tin cans.

The most common way of trash disposal was burning, usually in a large metal barrel placed to the rear or side of the house. Items that were too large to burn, were not flammable, or burned incompletely, were taken to a ditch. This served a double purpose, it disposed of unwanted items and got them out of the way; it was also an aid in stopping, or at least slowing erosion. As stated earlier, some yards were swept. In these cases, the accumulated pile of trash was often burned, or alternatively, it was swept to the edge of the yard and left there.

Some trash, of a biodegradable nature, was allowed to simply decay. Scraps thrown to chickens and dogs were usually readily consumed. In cases where an accumulation of such scraps began to build up, it was removed. Some items were used to nourish flowers, etc. Tea leaves and eggshells were placed on flower beds to help the plants grow. Rinse water from the laundry tubs was sometimes used for the watering of plants.

FARM LIFE

The most common cash crop since the Cedar Hill area was settled was cotton. Corn and wheat were also of major importance although, as one informant put it, "this area is just one good rain short of being good corn country." But it was cotton that gave the area its start as far back as 1855.

During the era of plantations, half of the land was prairie and was soon placed into cotton production. Informants pointed to what they felt were significant changes in the environment of the area. One of the most significant was the proliferation of mesquite trees. One informant stated that there was absolutely no mesquite in the area during his early years but it is now abundant. Informants reported that the mesquite is spread by the cattle that eat the sweet-tasting mesquite bean pods. The indigestible seeds are then spread over an increasing area through the cattle droppings. This is a false impression, because the General Land Office records clearly indicate that mesquite dominated the area prior to settlement and grazing.

Several informants indicated that the climate is now dryer than in past years. They also felt that the weather is more extreme now, hotter in summer, colder in winter. This may be the result of their having become acclimated to modern heating and cooling systems.

The major theme that emerged from informants' discussions is that farming is a tremendous gamble. There are numerous variables that affect the success or failure of crops. Perhaps the major one is rainfall. Although the area is generally well watered, rainfall is variable and irrigation often unfeasible. Informants remembered some years when crops failed completely. One such year was approximately 1909 when a drought caused crops to fail and necessitated most farmers to ask "to be carried over" for another year by area stores. In another year, one family's 4th of July celebration was particularly joyous as the corn crop was bountiful and harvesting was to begin the following day. But during the afternoon a swarm of grasshoppers came into the area. The crop was totally decimated by that evening.

While household chores of cooking, cleaning, sewing, and laundry remained generally the same throughout the year, farming imposed its own seasonal schedule of activities, ranging from planting and harvesting, to canning, calving, and butchering. The timing of these activities was not open to negotiation or planning, as it was the seasons that dictated the schedule. Although the usual sexual divisions of labor prevailed in regard to daily and weekly chores such as cooking and laundry; planting and harvest were times when those customs and traditions changed and division lines became blurred.

Outside the house, there were farm chores such as milking and the husbandry of animals that also remained constant during the year, to which were added the burdens of the seasonal planting and harvesting of various crops. Equipment repair and maintenance, the cutting of wood, and other less urgent chores could be scheduled for less critical times.

Interestingly, informants agreed that the formal opening of the various community schools in September was not altered to take into account the cotton harvest, something that affected virtually every family in any of the farming communities surrounding Cedar Hill. (Any child old enough to be able to pick cotton was needed in the fields, and was kept out of school until the harvest was complete. This would seem to reflect an increasing shift of responsibility for education from local communities to the county and state during the modern era.

Although farm life was quite difficult, farm families did have some securities not shared by urban families. Informants reported seldom actually going without any basic necessity. With land on which to raise a garden and animals for food, the primary necessity of sustenance was fulfilled. Even when crops did not make, it was primarily a loss of cash with which to buy staples, seed, and the few consumer goods commonly used. And, as there was always hope for the following year's crops, store owners generally were willing to extend credit for another year. As one informant said, "We didn't always have everything we wanted, but we never really wanted for anything."

TRADITIONAL LIFEWAYS

There was an overall, rather than specific, pattern to the lifeways in the communities surrounding the Joe Pool area. Life was quite similar in general, for informants' families, with the specifics peculiar to particular families differing significantly. Durkheim's

(1933) model of a mechanical solidarity was evidenced here, as it was in the Richland/Chambers Creek area. Families showed a great homogeneity, doubtlessly related to their common base of farming. They were, despite a striking sense of community, still independently functioning units.

Large families were the norm during the period of interest. Among the informants, two came from a family of fourteen children and two others from families of ten. Although this meant that many mouths had to be provided for, it also meant that many hands were able to help with farmwork. Indeed the family unit was an efficiently functioning economic unit, the basic unit of production.

There was a common pattern that emerged during the interviews. It was normal for males who had reached their late teens or early twenties to go away for two to four years, working at some wage producing employment. This might include, work in oil fields, on pipelines, railroad crews, road construction crews, or even ranches. When informants were questioned as to the rationale for this, it was stated that it was necessary because there was no wage work in the area. The pattern included the men returning to the community within the time frame noted above, after which they generally married within a short period and began to farm on their own, whether as share croppers or landowners. It would appear that their wage earnings functioned to provide the basis for setting up their own farm and household. And, it became apparent that this period also served as a time of separation and transition. The young man returned, having had experiences not wholly common to those around him, establishing not only his independence, but also his individualism. It was, perhaps, a significant social situation in which generation after generation followed the same type of work, remaining in the same area if not on the same land. This independent experience would have functioned to establish an individual identity, separate from the whole of a large and close family and signaled his preparedness to establish his own independent family.

Although various generations and collateral branches maintained close contact and cooperation, the ideal and most commonly encountered family type was the nuclear family. There were no instances mentioned by informants in which family members outside of the boundary of the nuclear family resided together.

With the exception of the one informant who grew up in Cedar Hill proper, daily patterns were largely the same, being altered only by the superimposition of the seasonal pattern related to planting, harvesting and animal husbandry, and for youngsters, the school calendar. To some extent the weekend dictated some alterations of activities, usually simply by shortening the length of time devoted to some activities, and others then being added.

Saturday was the day when most shopping was done. Informants reported that the streets of Cedar Hill were abustle with a sudden influx of farm families shopping, visiting, and doing business. These activities extended into the evening, especially in the 1920s and 1930s when many families had cars and the journey back to the farms in the dark was faster and more comfortable. One informant stated that Cedar Hill was a "Saturday night town". During the 1930s, merchants arranged for motion pictures to be shown on the outside of one of the downtown buildings. This was a welcome entertainment to all, but most particularly to children who alternately watched and then raced about the streets playing tag and other games. Adults often watched the movie after having conducted necessary business.

Sundays were often, but not always, days of worship. Informants reported that they went to church when it was possible, but that the condition of roads after rains and other hardships frequently precluded the family from being able to attend. There were a number of churches in the area. Most families attended the Baptist church, but there were also a significant number of Methodists. The Ballweg family was German and were of the Catholic faith, as were other German families in the area. It was reported that an abandoned boxcar was the place where mass was celebrated for some years.

Informants noted that in general, there was less of an identification with a particular church than might be expected. Particularly in the earlier days of the century, churches did not hold services every week. Thus, area residents attended whatever services were being conducted nearby. For this reason, though religious ties and beliefs were strong, it is likely that ties with specific churches or religions were less strong. One informant stated that, although he was of the Methodist religion, he preferred to be baptized by full immersion. On the day of his baptism, he, the minister, and congregation journeyed down the road to the Church of Christ where arrangements had been made to use the baptistry. Other people reported baptisms being conducted in creeks. Another popular place was the flowing well on the Pool property.

A variety of community activities served as forms of entertainment and strengthened social ties. These included box suppers, picnics, occasional rodeos, and activities associated with schools. One important activity frequently mentioned was dancing. Dances were held in various places, usually at houses. In that case, one or two rooms would be cleared of furniture and cornmeal would be sprinkled on the floor to make a better surface for feet to slide. Alternative locations for such dances were abandoned houses. Permission was usually sought from the landowner and then the house would be swept and the floor treated as above. It was said that dances were not sanctioned by area churches but that they were well attended, nevertheless. One informant especially recalled the dances during her childhood. The adults would dance late into the evenings while children ran and played with one another. When the children finally became sufficiently tired that they wanted to sleep they would wander about the house in search of a bed on which to go to sleep. But the beds would be covered by the coats of all the guests and the child would have to try to burrow down in some small space, by, or under the piles of coats.

The advent of such modern conveniences as electricity, indoor plumbing, and other advancements changed the lifeways of many residents significantly. It is important to note that many had telephones for as long as they could remember, there having been a early community phone system. The addition of electricity in the 1930s created changes. No longer did irons have to be heated on wood stoves, nor oil lamps chimneys have to be cleaned. It was said to have relieved much of the

tedium of life. The most significant improvement that the advent of electricity allowed was, especially for women, the washing machine. Laundry had previously been a back-breaking task. Washing the family laundry was the most difficult task frequently mentioned. Refrigerators were considered to have been important acquisitions, but informants noted that ice boxes had worked well and that the old fashioned coolers that preceeded the ice box had safely preserved the few spoilable foods that were consumed.

All informants noted the relative comfort provided by indoor plumbing. It was the change that appeared to have been perceived as more a "luxury" than any other improvement, but not necessarily the most important.

There was, and is, a strong work ethic among the informants and other residents of the Joe Pool area. Informants noted on numerous occasions that the work on area farms had been strenuous, and even dangerous. Both male and female informants noted that they did not know how they survived the back-breaking work that was necessary. There was, however an apparently equally held belief that the hard work built character and made for good mental health by keeping a person's mind off their problems. There was also a belief that hard work functioned to increase overall health, and the more elderly informants especially, attributed their own health and longevity to this.

Informants repeatedly indicated a disdain for modern values; or, more correctly, they lamented the demise of old values. They noted that a more self-oriented, described as "selfish", personality is prevalent among young people today. Informants also abhorred what they considered to be an overly materialistic society in which families are less important than consumer items. At the same time, it was also noted how hard today's women must work, especially those that are mothers. Women informants, most particularly, felt sympathy for mothers and wives who must work a full day and then return to their homes and still do the cooking, cleaning, and laundry. They remarked that so much work would be unnecessary if there were less of an emphasis on consumerism and status.

During the late 1920s and early 1930s, area residents had begun journeying to Dallas regularly for a variety of reasons. Some sold eggs and butter or other products. Often trips included transactions at the Dallas County Courthouse. But increasingly, residents journeyed to Dallas for recreation. For some who were fond of dancing, it was not uncommon to go to Dallas to spend an evening having dinner and dancing at one of the downtown hotels. Still other reasons took area residents into Dallas.

At least one of the men informants participated in amateur basketball and baseball in Dallas. Amateur teams were sponsored by various businesses which provided uniforms, etc. Games were well attended and of considerable local and regional interest. There were also local teams in Cedar Hill, which played teams from Dallas and other surrounding areas. It was noted that the local basketball team did quite well despite having only a sand court on which to play and practice.

In part, the increased contact with Dallas, and, to a lesser degree, Arlington and Fort Worth was due to the increased ownership of cars. It was also possible to ride the interurban rail system One informant noted the marked contrast that had come about. For he remembered making a trip to Dallas, earlier in the century. The trip was by mule-drawn wagon, across a wooden bridge that spanned the Trinity River at that time. The journey took an entire day and he spent the night in a wagonyard near the present Union Station before making the return trip the following day.

CONCLUSIONS

Interviews with informants were conducted to achieve a more unified perspective of historic lifeways in the Joe Pool Lake Project area. The primary mitigation objectives of this study focused on earlier living patterns of the area. Major topics of interest included: Community Identity; Foodways; Yard Usage; Trash Disposal; Farm Life; and Traditional Lifeways. Oral interviews of fifteen informants familiar with the Joe Pool Lake area between 1910 and 1940 were conducted. As expected, results were indicative rather than definitive.

It appears that there is very little identification with the small farming communities, most of which no longer exist. All residents now live in Cedar Hill, Duncanville, Grand Prairie, or Mansfield. There was little socioeconomic difference perceived, or at least it is no longer recalled, although informants were aware that some families were economically more well off than other families. It was perceived that everyone was struggling.

An investigation of foodways revealed that a wide variety of foods were eaten; most of these were produced on the farm. There were efficient methods of preservation which included curing of meats, canning, and drying. Foods were also kept cool by various methods such as a water cooler or ice box. In general, the people of the area were well fed and healthy.

The yard surrounding the house was in many ways an extension of the work area of the house, when weather permitted. But other chores were conducted there because of their "messiness" or the necessity of having a large fire such as during soap-making and the washing of laundry.

The most common method of disposing of trash was through burning. Other forms of trash such as food scraps were fed to pigs and dogs. Finally, anything not burnable or otherwise needing removal from the immediate house area was thrown into ditches or gullies.

The primary cash crop of the Project area according to informants was cotton. Corn and wheat were also important, and eventually row crop agriculture gave way to cattle production since the 1940s. A number of informants noted changes in the climate and ecology of the area. They indicated that the seasonal variations have become more extreme and feel that the weather is now dryer than in previous years. Although cotton production was invasive and altered the biotic community significantly, cattle raising may have affected the area to an even greater degree.

Farming was described as a gamble. Crop failure due to weather or insects was a constant threat. At the same time, farming did offer some security not shared by urban residents. Farming could virtually always be depended upon to yield a susbsistence. If a family had

no money, credit could usually be arranged for staple items not produced on the farm.

The nuclear family was the basic unit of production. Families were large and members were close, both in terms of affection and cooperation. Beginning in the 1920s the population of the area became more mobile as the use of automobiles become more common. Dallas, Grand Prairie, Fort Worth, Arlington, and Midlothian were more accessible and residents moved accordingly. The area more and more became a suburb of Dallas and the residents of the Project area became involved in a wider area, both in terms of geography and activity.

At the time of the present study the residents of the Project area had very much become suburbanities. Although they still valued their rural upbringing and their own particular set of values, they were full participants in a metropolitan way of life. There were many areas of interest among the informants, who tended to be quite mobile and involved in the activities of the metropolitan area. Indeed, the interviewer had a somewhat difficult time in scheduling interviews around the activities of the informants.

DENDROCHRONOLOGY OF HISTORIC BUILDINGS

28

by

David H. Jurney

Few nineteenth and early twentieth century structures still remain in the Joe Pool Lake area. Abandonment and urban expansion have resulted in the destruction of many homes well before construction began on Joe Pool Lake in 1980. This chapter presents our tree-ring dating results for the Joe Pool Lake region. Three historic buildings from areas adjacent to the Mountain Creek region are also included in this discussion. These were sampled to provide a larger framework for evaluating the Joe Pool Lake material. A recently derived master chronology for longleaf pine in East Texas is also presented, and it is applied to the undated pine specimens from the Reservoir. The potential and problems of dating Texas pine buildings are discussed in light of these data.

A total of 136 tree-ring specimens (Tables 28-1 through 28-5) were collected during the 1985 season, consisting of 55 red cedar, 51 pine, and 30 oak specimens. The relative proportions of these wood types roughly reflect their actual proportions of use in construction of wood building in the Mountain Creek area, and correspond to the vegetation reconstruction derived from the General Land Office surveys (see Chapter 26). Red cedar was widely used particularly during the first waves of settlement, and still is used for some construction functions on farms. Pine lumber was a primary commercial material for wood construction in North Central Texas after the establishment of the railroad in the 1870's. This species is not native to the Joe Pool area. Before pine lumber became available, bur oak was the major oak species in the Mountain Creek area, based on the GLO notes, and probably was used by local sawmills from the 1850s to 1870s. Post oak is the best species in Texas for tree-ring dating purposes but was not common in the immediate Project area in the GLO notes. Its distribution was restricted to small pockets along the Cedar Ridge escarpment, in the Walnut Creek Valley, and in the Eastern Crosstimbers. Bur oak on the other hand, was present on floodplains, and was the most available local hardwood for the early settlers. Unfortunately, most of the bur oak specimens recovered are complacent and could not be dated.

Only two structures in the project area contained datable oak materials, but three other structures adjacent to the Mountain Creek area were dated to strengthen the local sequence. Overall, a number of historic buildings in this portion of North Central Texas may eventually be dated, but the percentage of dated buildings may not be as high as in areas where post oak forests are more extensive.

A BRIEF HISTORY OF DENDROCHRONOLOGICAL APPLICATIONS

Dendrochronology is defined as the study of the chronological sequence of annual growth rings in trees (Ferguson 1970b). A growth ring is a concentric layer of wood added each year and consists of two parts, early wood (light color) and late wood (dark color). Only those tree species which add a single ring per year are

LEGEND FOR TABLES 28-1 THROUGH 28-5

EXPLANATION OF SYMBOLS USED IN THE TABLES OF DATED TREE-RING SPECIMENS[1]

The dated tree-ring specimens are listed chronologically in the tables by the order of their outermost date. Also listed for each specimen are the identification number, species, whether the outer date is a true cutting date (an "X" in the column labeled "CD" indicates a true cutting date), the nature of the terminal ring (a "C" in column "TR" indicates that the terminal ring is complete, and "I" indicates that the terminal ring is incomplete and includes only early wood), and any comments concerning the dating or condition of the speimen. The nature of the terminal ring is significant for true cutting dates, because it indicates whether the tree was cut during or after the spring-summer growing season. Several standard symbols are also used to describe aspects of the inner and outermost dates for each specimen (see J. S. Dean 1969). Symbols used with the innermost date are "p", indicating that pith is present in the inner ring, and "np" for specimens with ring curvature indicating that the inner ring is within a few years of the pith. Symbols used with the outermost date are "B" when bark or phloem cells are present immediately outside the outer ring indicating a true cutting date; "G" beetle galleries are present on the outer surface of the last dated ring indicating a true cutting date; "os" the curvature of the outer surface of the timber indicates that the true outside or waney edge is present, and the outer date is a true cutting date; "r" the outermost ring is continuous around the available outside edge of the specimen, and the outer date is a true cutting date (probably); "v" there is no direct evidence for a true outside surface on the specimen, but the date is subjectively believed to be within a year or two of the true cutting date; "vv" the outermost date is probably far from the true cutting date. When "±" is included with the inner or outer date, it indicates that the specimen ceased to date at some point and the date so modified represents a simple ring count from the last year of absolute dating. The symbols B, G, os, and r indicate true cutting dates in order of decreasing confidence, unless modified with the "±".

[1] from Stahle 1978a

Table 28-1
DATED TREE-RING SPECIMENS FROM THE SOUTH GRANARY AT SITE 41DL192

Specimen	Species	CD	Dating	TR	Comments
14-1	oak[1]	X	1777 - 1874B	I	core, break misaligned near 1820
14-2	"	X	1793 - 1874 B	I	core
14-8	"		1771± - 1871	I	cross-section, ring count before 1775
14-7	"		1740 - 1852vv	C	cross-section, good crossdating outer rings sawn off

[1] *Quercus* spp. (probably *Q. stellata* or *Q. macrocarpa*)

Table 28-2
DATED TREE-RING SPECIMENS FROM THE BARN AT SITE 41TR45

Specimen	Species	CD	Dating	TR	Comments
1	oak[1]	X	1826 - 1934B	C	cutting date, good cross-dating and frost rings

[1] *Quercus* spp. (probably *Q. stellata* or *Q. macrocarpa*)

Table 28-3
DATED TREE-RING SPECIMENS FROM THE T. M. ELLIS HOUSE, LANCASTER (DALLAS COUNTY), TEXAS

Specimen	Species	CD	Dating	TR	Comments
5-1-5	oak[1]	X	1743 - 1849v	C	sapwood present
5-1-4	"	X	1723± - 1849v	I	sapwood present, no date before 1746
5-1-1	"		1754p - 1844±	I	squared timber, burned
5-1-3	"		1713± - 1829vv	C	" " "
5-1-2	"		1712np - 1822vv	I	" " "

[1] *Quercus* spp. (probably *Q. stellata* or *Q. macrocarpa*)

Table 28-4
DATED TREE-RING SPECIMENS FROM THE TELLICO CHURCH, ELLIS COUNTY, TEXAS

Specimen	Species	CD	Dating	TR	Comments
1	oak[1]	X	1745 - 1868	C	sawn 2 × 4"
			os,B	C	studs
2	oak[1]		1750 - 1862	I	sawn 2 × 4" studs

[1] *Quercus* spp. (probably *Q. stellata*)

Table 28-5
DATED TREE-RING SPECIMENS FROM THE LIVELY CABIN, OLD CITY PARK, DALLAS, TEXAS

Specimen	Species	CD	Dating	TR	Comments
1	oak[1]	X	1704-1867	I	outer ring damage but outer surface (os) observed in the field, probable cutting date
2	oak[1]		no date		81 rings, but cross-dating conflicts = no date
3	post oak	X	1686p-1857r, B,G	C	wall log, recycled mortise, axe cuts full cross-section, termite eaten
4	post oak		1751p-1849v	C	wall log, heavily eroded
5	post oak	X	1719p-1849v, B,G	C	wall log, axe cuts, partially weathered
6	post oak	X	1773p-1850r, os	C	wall log
7	post oak		1721p-1850r, os	C	wall log, heavily termite eaten axe cuts
8	post oak	X	1730p-1850r, os	C	wall log, axe cuts

1 *Quercus* spp. (probably *Q. stellata*)

suitable for dating. Although some individual trees have double or missing rings that present problems, these problems can often be resolved using crossdating procedures (Stokes and Smiley 1968). For a long time tree-ring dating has been applied successfully to the late historic period in eastern North America (Robbins 1921; Hawley 1941; Estes 1969, 1970; Stahle 1978a, 1978b). The best archaeological example of tree-ring dated construction phases, is Dean's (1969) work at the Navajo National Monument in Arizona.

Tree-ring dating is the most accurate method available to geochronology (Smiley 1955), and tree-ring dating has been employed to calibrate the radiocarbon time scale (Ferguson 1970a), resulting in a dramatic reorganization of European culture history (Renfrew 1971). Within the last 20 years, important advances have been made in the reconstruction of paleoclimate based on long tree-ring records (Fritts 1965, 1971, 1976). A popular article describes the many contributions of dendrochronology (Trefil 1985). A series of 39 high-quality chronologies now exists for the eastern United States, many of which extend well back into the seventeenth century (Dewitt and Ames 1978). These, in turn, have been substantially augmented by a southern regional network of 34 post oak, five shortleaf pine, four baldcypress, three white oak, and one overcup oak chronologies, produced by the University of Arkansas Tree-Ring Laboratory (Stahle et al. 1985).

Stahle (1978a, 1978b) dated 24 historic structures in Arkansas, and these tree-ring series significantly extended the length of the previously available post oak, pine, and red cedar chronologies. In addition, Stahle has produced the first dating results for a baldcypress structure. Stahle's research indicates that wood in historic buildings or from archaeological sites can be an important tree-ring resource useful for chronological extension and climatic studies.

In North Central Texas, Stahle has collected two post oak chronologies, one from the Fort Worth Nature Center (1737 - 1980) and the other from Throckmorton County (1681 - 1980) in 1980. A total of 11 modern chronologies and two chronologies derived from historic buildings comprise the present tree-ring network for Texas.

THEORY, METHOD, AND DEFINITIONS

The fundamental technique of dendrochronology involves *crossdating* (Douglass 1934, 1935; Stokes and Smiley 1968), comparing ring width patterns within a single tree, between trees, and between sites and major geographical areas (Stahle 1978a). The *skeleton plot* technique, developed by Douglass (1934), is a shorthand method used to illustrate relative ring width patterns, and is the basic method used in the Joe Pool Lake work. The *skeleton plot* is simply a strip of a graph paper with each vertical line corresponding to one ring on each specimen. Narrow and very wide rings are marked in their proper sequence, with the vertical scale corresponding to the relative width of each ring in comparison to its nearest neighbors. When plots have been drawn for a number of specimens, the patterns are compared, and if narrow and wide rings match in most patterns (i.e., crossdate), a *composite skeleton plot* is drawn. This depicts the average ring width patterns of the crossdated specimens and emphasizes the similarities among trees responding to the same environmental factors (Stahle 1978a).

The group of crossdated specimens is called a *floating* or *relative chronology*, when they do not overlap or otherwise match a *master* or *modern chronology*. The modern chronology is a series of dated tree-rings showing similar relative ring width patterns derived from a group of living trees growing under similar environmental conditions. Preferably, two

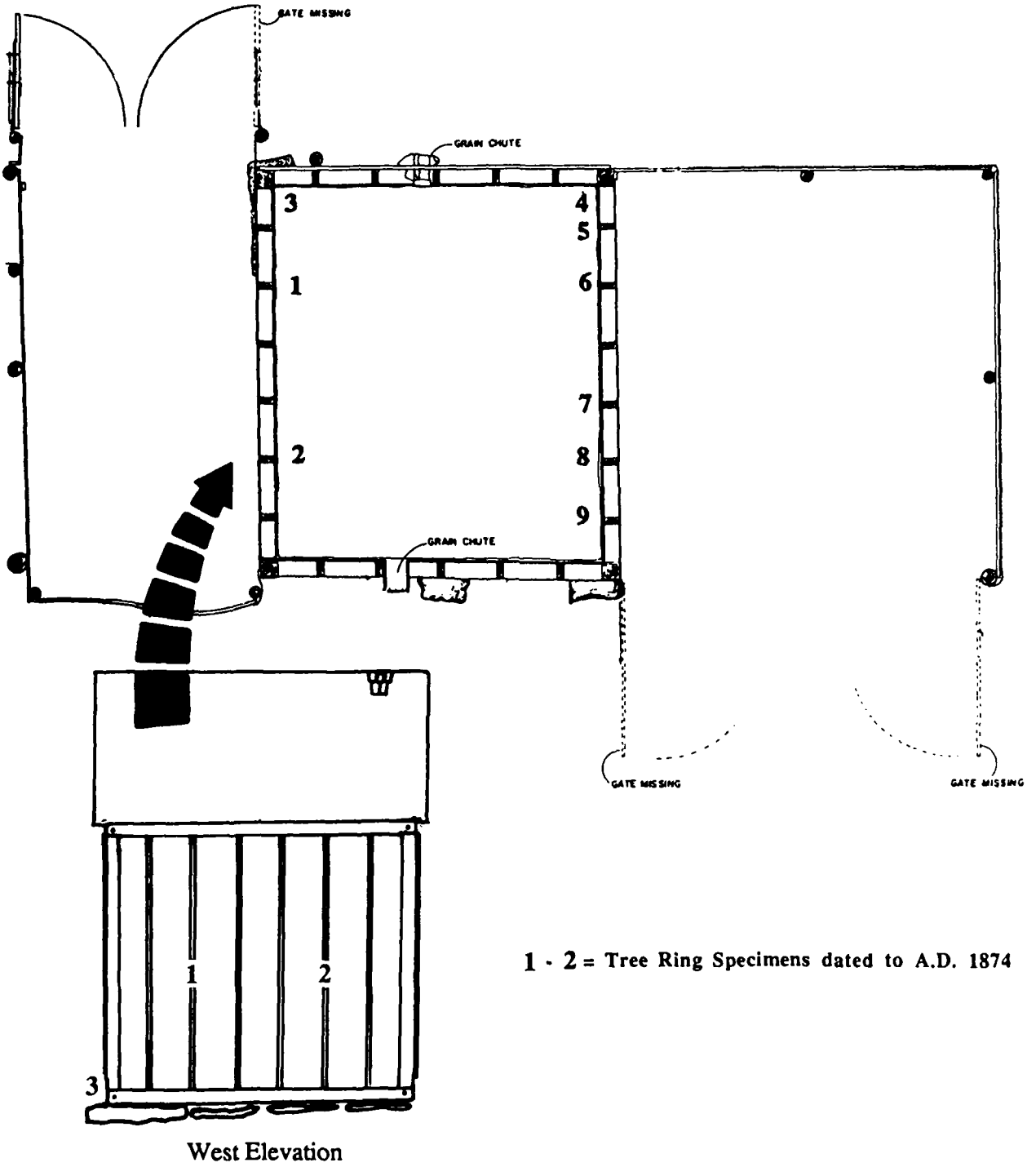


Figure 28-1. South granary at the Penn farmstead (41DL192) showing the location of the dated oak tree-ring specimens.

opposite core samples per tree are extracted by using an increment borer, for ten or more trees. The actual year of each ring in the chronology is determined by counting and crossdating backwards from the outermost ring: the known date of extraction (Stahle 1978a).

Floating chronologies compiled from extant buildings or buried charcoal are known as *historic* and *archaeological chronologies*, respectively. Historic and archaeological chronologies receive absolute dates when they overlap in time and match the ring width patterns in the earlier portion of a dated master chronology from the same region (Stahle 1978a). An overlap of 50 or more years is essential to establish accurate crossdating. Should such an overlap not exist, or the historic and

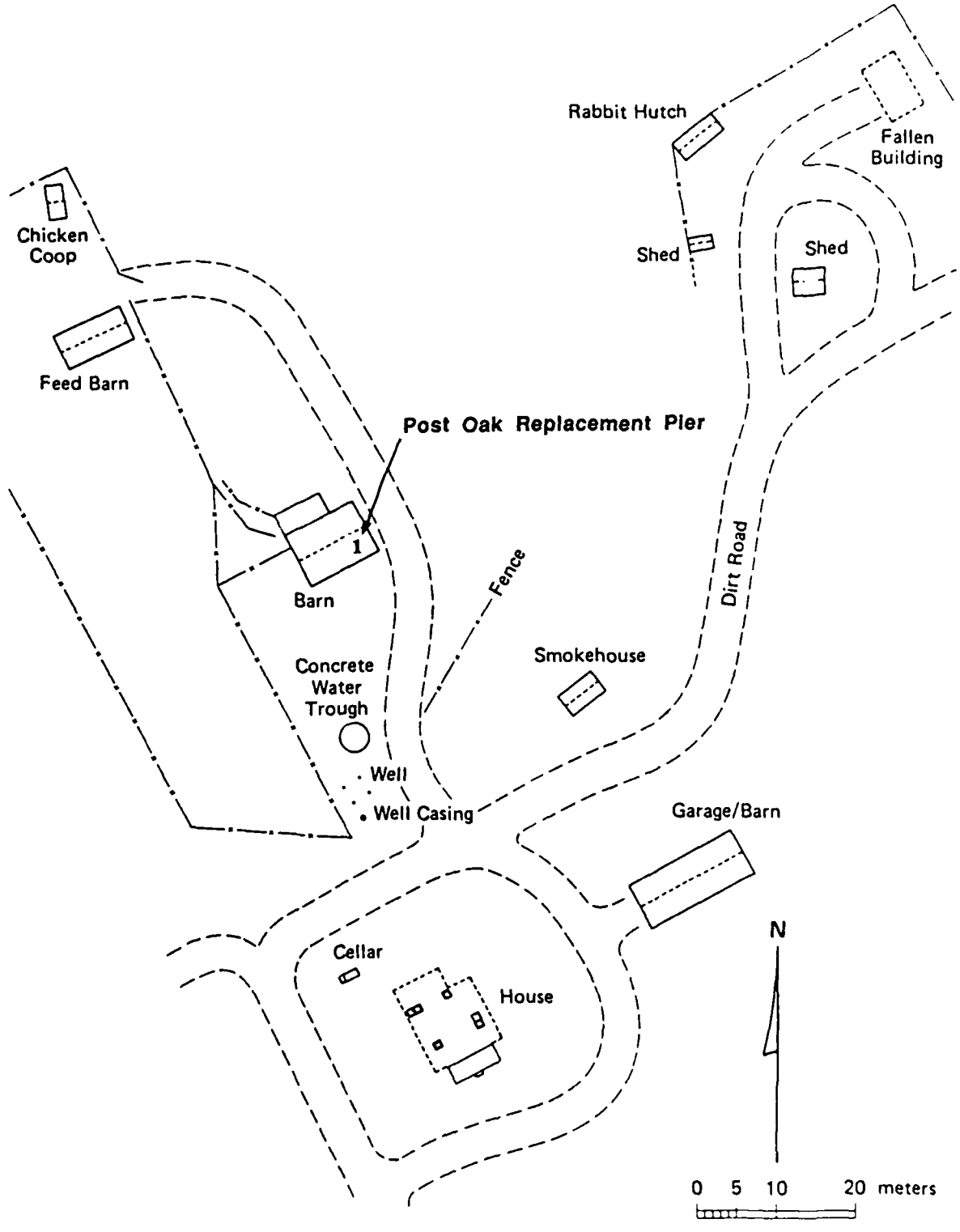


Figure 28-2. Plan view of the Reitz site (41TR45) showing the location of the 1934 post oak replacement within the Reitz Barn (after Ferring and Reese 1982:149).

archaeological chronologies not crossdate, the master must be sufficiently extended, or a new master compiled closer to the location of the floating chronology. When composite and component specimens are dated, the decades, innerdates, and outerdates are marked on each specimen (see Stokes and Smiley 1968 for details).

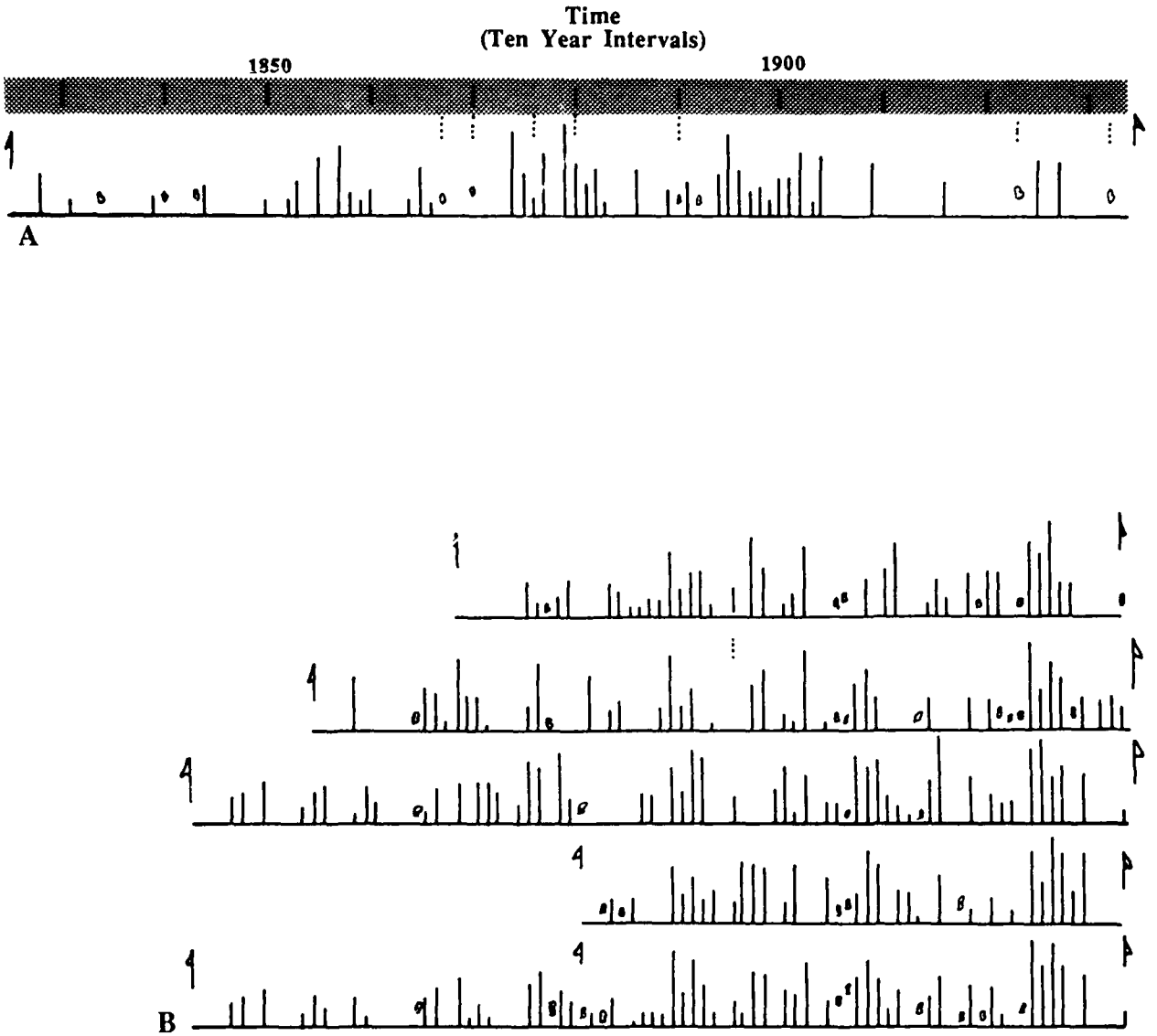


Figure 28-3. Skeleton plot (a) of the dated oak specimen from 41TR45, showing the wide and narrow ring sequences and frost rings. The lower group of skeleton plots are from the red cedar floating chronology, derived from the double crib barn and recycled mortise and tenon beams (b) of the Penn Farm (41DL192).

Once crossdating is established between a group of specimens and a master chronology, a wide range of techniques are available to study the climatic information encoded in tree-ring growth. Measurements can be made of all dated ring widths and computer programs used to analyze the annular variation. *Sensitivity* refers to a tree-ring series (assemblage of trees) that displays great variation in ring width from year-to-year (Ferguson 1970b; Stahle 1978a). When there is little or no appreciable variation from year-to-year, a tree-ring series is termed *complacent*. Dating within such a series is difficult, and requires a much longer series and temporal overlap. When a particular pattern of wide and narrow rings is present in a sensitive series, which crossdates among many trees in a site or region, such a pattern is known as a *signature*.

In practice, it is crucial to identify the presence of bark or indications of the outer surface of the tree in order to adequately date human cutting or procurement activities with historic or archaeological wood. Specimens which have bark or the outermost rings under the bark can produce *cutting dates*. These dates are historically most significant, because they record the final season and year of growth before the trees were either cut down or died of natural causes (Bannister 1962; Dean 1969; Stahle 1978a). Since most historic log buildings were constructed with green wood (Hutslar 1972:65), cutting dates, with few exceptions, tell us the actual year of construction (Stahle 1978a). Variables such as seasoning and stockpiling may be indicated by clusters of cutting dates (Stahle 1978a). Hewn or sawn dimension lumber in frame buildings also can produce cutting dates, due to the taper of trees. When a beam or board is cut out of a log, the edge may intersect the outer surface and bark may adhere to the board (known as a *waney edge*). A single tree may produce several

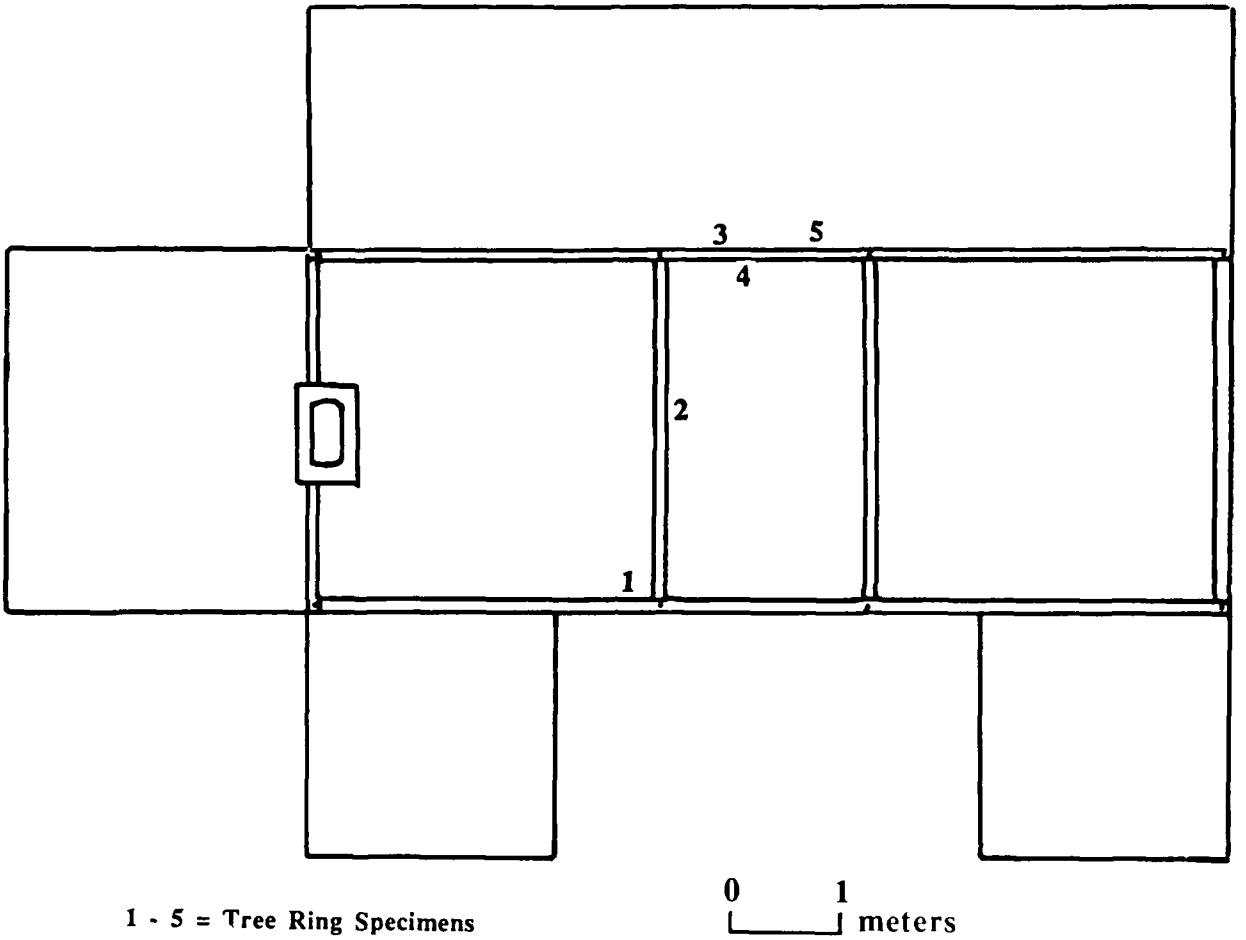


Figure 28-4. Location of the dated oak (possibly bur oak; numbers 1 to 5) tree-ring specimens and plan view of the T. M. Ellis House, Lancaster Texas.

beams or boards, increasing the chances of duplication. Sawmills often mix several stands of trees. When sold commercially, the dating qualities of such lumber may be very heterogenous. However, in the case of local sawmills, or lot purchase of lumber, more homogenous tree-ring samples may be obtainable.

DATED SITES:

THE SOUTH GRANARY — PENN FARMSTEAD (41DL192)

This sawn oak building was well constructed, using mortise and tenon technology. It was originally covered in sawn pine clapboard, similar to the siding on the Old House. During the twentieth century, it was sheathed in tin and a shed was added to the east (Figure 28-1). A total of nine oak specimens were collected, several from extremely rotten and fragmented sills and wall studs of the original granary. Two specimens (Table 28-1) were collected from the protected west wall, using a sharp, manually operated increment borer. The boards from which those two specimens were collected contained long strips of bark, due to the tapering of the tree which, when cut at the sawmill, left a waney (or waning) edge to the 2 x 12" boards. The outer rings of these two specimens contained only early wood vessels, indicating that the trees were cut just after spring growth commenced, but prior to latewood production during summer.

The entire chronology derived from the South Granary spans the period from 1740 - 1874. Based on the two specimens with bark, the lumber was cut in April, 1874, and the building was probably erected erected soon thereafter, by John W. Penn. The limestone foundation, lack of doors, and mortise and tenon technology using large sills and studs indicate that this building was a major facility for the farm, which has been maintained on its original setting.

THE REITZ BARN (41TR45)

This collapsed sawn pine, braced frame barn had suffered extreme deterioration. The pine lumber was cut from the hearts of trees which consisted of juvenile growth that was extremely complacent and unsuitable for dating purposes. Due to this deterioration, a post oak pier was exposed under the edge of the floor along the north wall (Figure 28-2). This area was adjacent to the cedar pole, tin roofed wing, added during the twentieth century. This single pier, although not directly related to the construction of the barn contained

a sensitive series, and proved to be the best dendrochronological specimen in the entire Joe Pool Lake assemblage.

The pier contained a tree-ring sequence that spanned the period from 1826 to 1934 (Table 28-2 and Figure 28-3). The complete terminal ring and presence of bark and outside surfaces indicated that the pier was cut after the growing season of 1934. Thus, the pier does not relate to the construction of the old barn, but to a remodeling episode during the occupation of the Reitz site. The location of the pier, adjacent to the cedar pole addition, suggests that this wing was added, and the old barn leveled and repaired in 1934 or soon thereafter. Based on examination of other outbuildings and the main house, this period marks a significant episode of repair and enlargement of the entire farmstead.

Four probable and two possible frost rings were identified by David Stahle in this specimen. The probable frost ring years are 1870, 1876, 1890, and 1923. The possible frost ring years are 1832, 1867, 1880, and 1932.

T. M. ELLIS HOUSE IN LANCASTER, TEXAS

This rambling, central hall house (Figure 28-4), was once the oldest, lived-in dwelling in Dallas County, until it was nearly totally destroyed by fire in 1981. The rough cut stone chimney, hewn oak sills, and red cedar and oak wall studs are all that remain of the charred dwelling. The building was built using mortise and tenon technology, and was a substantial building, indicative of its owners' status.

Ten charred oak specimens were collected, several of which had unburned outer surfaces that were well preserved. Five specimens (Table 28-3) were dated, and produced a chronology spanning the period 1712 - 1849. The logs from the dated sills were cut during and after the growing season of 1849, and the dwelling was probably constructed soon thereafter.

Two probable frost rings, corresponding to the years 1716 and 1833, and two possible frost rings corresponding to the years 1810 and 1820 were identified by David Stahle. The less than ideal crossdating indicates that the original trees may have been growing on a floodplain and may actually be bur oak. In the case of this site, the closest major forest containing bur oak was along Ten Mile Creek. The lack of post oak trees in the presettlement landscape, based on General Land Office (GLO) records for this area, is evidence that the Ellis house trees were probably bur oaks.

LIVELY CRIB IN DALLAS, TEXAS

This crib contained reshuffled elements, and was reported to have been located on the Lively farm located along Bachman Creek. An examination of the General Land Office records indicates that post oak trees were among the native trees for this area. This building will be part of the living farm restoration planned for Old City Park, and will become the blacksmith shop (Figure 28-5).

Two specimens were collected in 1985 by using a core extractor kit. Only one specimen was dated,

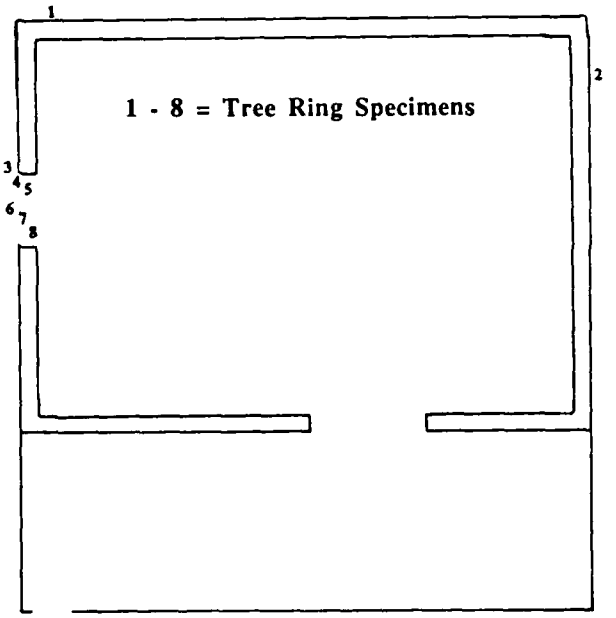


Figure 28-5. Location of dated post oak tree-ring specimen from the Lively Crib, Old City Park, Dallas. This structure contained logs taken from several different structures and reused to construct the crib.

spanning the period 1704 to 1867. The other specimen was fairly short with only 81 rings and was not dated. In 1986, an additional six specimens were collected when a doorway was cut through the south wall during construction of the blacksmith shop (Table 28-5). Five cutting dates were derived, with a cluster of three dates at 1850, one at 1857, and one at 1867. Also two near cutting dates of 1849 were probably associated with the 1850 cutting event. It is possible that the initial structure was built in 1850, with repair in 1857 and 1867. Due to the extensive amount of recycling and shuffling of logs, two later structures may have been incorporated into the present structure. Although a true construction date cannot be obtained since several structures may have been recycled, and there is no documentation abouot the Lively building on its original site, it can be stated the tree cutting occurred in three episodes. The most intense was 1849-1859, followed by 1857 and 1867.

TELLICO CHURCH, ELLIS COUNTY, TEXAS

This church was constructed with large hewn beams from complacent, floodplain pecan trees. The rafter and wall spiderwork of the braced framing consisted of sawn post oak, 2 × 4" studs, several of which had bark and outside surfaces forming waney edges. The church is maintained by a cemetery organization, which has plans to stabilize and restore the building.

Two specimens were collected (Table 28-4), both of which dated a chronology spanning the period from 1745 to 1868. One was a loose rafter and one was left from carpenter's trimmings, but the site of their original

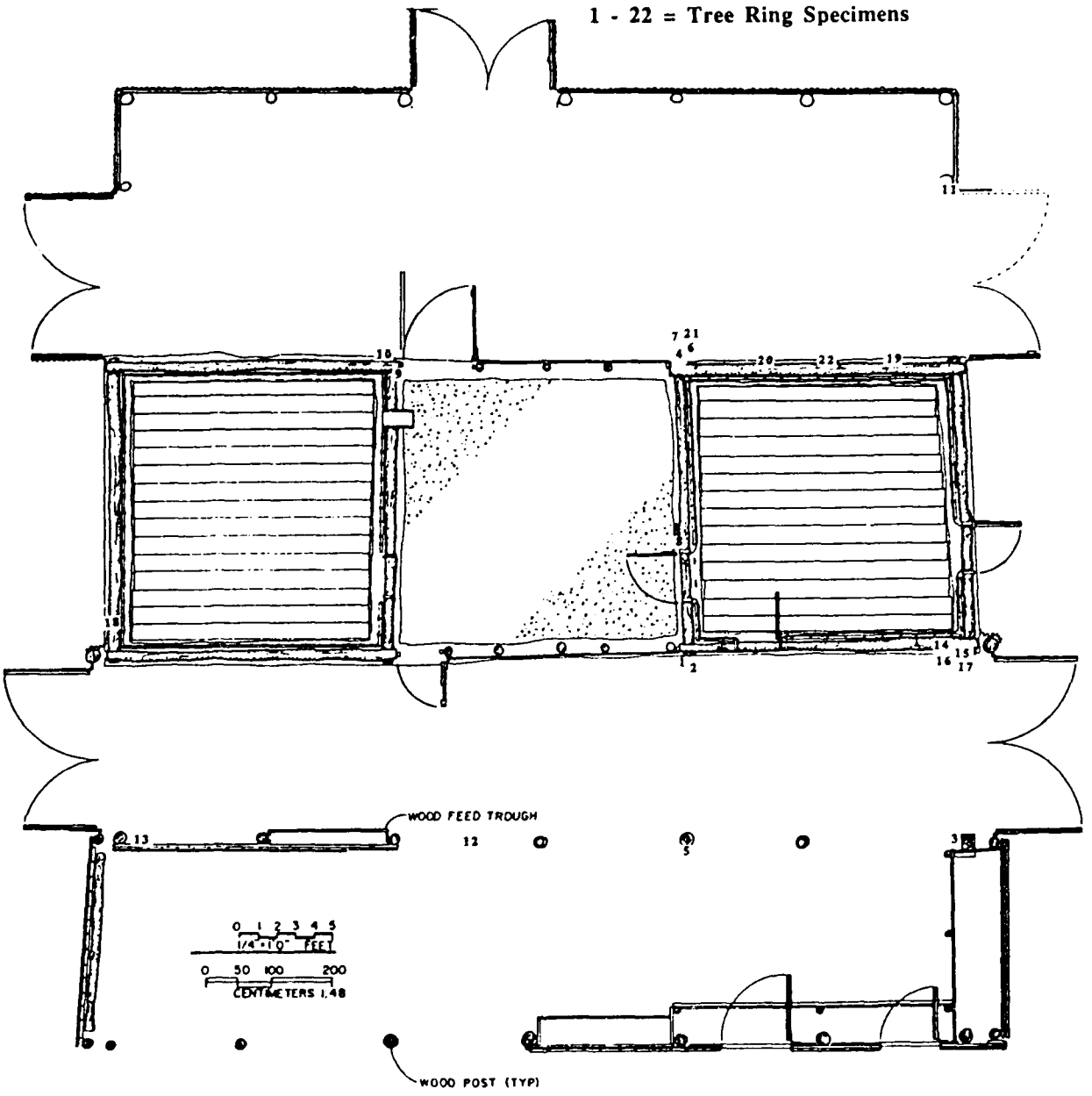


Figure 28-6. Location of tree-ring specimens from the double crib cedar log barn at the Penn Farmstead (41DL192). A relative or floating chronology was all that was able to be identified using these red cedar specimens.

position in the rafter spiderwork could be determined. Also, the manner in which the rafters were inserted into the braced framing indicates that the sawn rafters were an integral part of the original construction. These two specimens may have been damaged and removed after the church was hit by a tornado in the 1920s.

A single cutting date of 1868 suggests that the lumber for the church was sawn after the growing season of 1868. Although the structure was damaged, the remainder is intact with some evidence of post construction remodeling. This suggests that the church may have been erected soon after the fall of 1868. The historical documentation compiled by the Ellis County Historical Commission also indicates a major construction episode in 1868.

FLOATING CHRONOLOGY

DOUBLE CRIB BARN ON THE PENN FARMSTEAD (41DL192)

This double crib log barn (Figure 28-6) consists of over 80 individual red cedar trees, hewn on two faces and joined with shallow half dovetail corner notches.

Modifications were produced during the late nineteenth century. During the early twentieth century crudely hewn beams, with mortises and tenons and broken cut nails, were recycled and used to add stables in the form of low lean-to wings to the double crib barn.

A total of 22 red cedar specimens were collected. Due to the presence of carpenter bees *(Xylocarpa virginanica)*, which have tunnelled thorough each log, many of the cores extracted from the logs had to be discarded. Stahle examined 11 specimens and used the four longest specimens with marginal crossdating to establish a floating chronology. False rings are the biggest problem. The derived floating chronology is only 92 years long and does not date against oak, pine, cedar, or baldcypress chronologies available for the southcentral United States. This may be due to the very short composite and an apparently different climatic response for these particular red cedars believed to have been obtained from the Chalk Rock Escarpment near Cedar Hill. If a good quality red cedar master chronology can be derived from living trees in the vicinity of this collection, it may be possible to assign absolute dates. Several such attempts, prior to and during the Joe Pool Lake project, have failed. Perhaps such trees can be found on the escarpment of the Brazos River.

Despite the lack of absolute dates, an interesting sequence of events is suggested by the relative dating. Two specimens, 9-19 and 9-11 were collected from the east and west cribs, respectively. An additional two recycled mortise and tenon beams (9-12 and 9-13) were collected from the south pole addition. Interestingly, identical cutting dates were derived for specimens 9-11 and 9-12, the original west crib and a recycled beam respectively. Identical cutting dates, a year earlier, were derived for specimens 9-13 and 9-19. This is an extremely small sample, but further examination of the other specimens may also help to establish crossdating among them for more refined relative dating.

The floating chronology indicates a contemporaneous use of two radically different construction techniques on the Penn Farm. Traditionally, cultural geographers often hypothesize a uniform horizontal log technology used by frontiersmen, after the frontier spread fron the Atlantic Coast Colonies. Although braced frame buildings are found along the western frontier, these were thought to date later than the log buildings. This floating chronology indicates that horizontal log and braced or timber frame co-existed along the 1850s Texas frontier.

Secondly, if such a granary were located on the farm, it was built over a two year period. The double crib barn, used for stabling mules and storing fodder was being concurrently built, also taking two years to (1) complete both cribs as a unit, or (2) first build the east crib, then the west crib, later joining them to make the present double crib structure, which may be on its original site. The trees for both buildings were probably cut from the same stand based, of course, on their crossdating, however the cutting could have extended over several years, stockpiling the logs.

UNDATED TREE-RING COLLECTIONS

The remaining tree-ring specimens (oak, pine, and red cedar), collected from the Joe Pool Lake buildings were examined by David Stahle. His observations are summarized as follows. Six oak specimens were collected from the sawn oak 4 × 4 inch corner posts and 2 × 4 inch studs in the braced frame, mortise and tenon double pen at 41TR39. These complacent specimens were too short (<50 rings) to provide adequate dating.

Eight of the 21 specimens were plotted from the Lowe site (41TR40). This dwelling was a 1.5 story, T-shaped central hall, built with sawn mortise and tenon pine, and post in-ground red cedar wall posts on one portion of the building. Of the eight specimens, only three possessed vague crossdating. Due to their complacency none of these specimens dated. The composite of specimens 10, 12, and 14 was only 140 years long, with only 75 years in common.

Three of the nine specimens from site 41TR42 were plotted. All contained less than 80 rings. Due to problems with false and locally absent rings, and the unreliable, juvenile growth of the specimens, none were dated. The elements were collected from four recycled mortise and tenon buildings, reincorporated into this early twentieth century Victorian structure.

The large sawn pine sills and studs in the braced frame barn on the Anderson site (41DL190) were at first promising, especially because of their relatively log length, which provided 150 to 190 rings per specimen. However the growth patterns were extremely complacent, and may never be datable.

The red cedar assemblage from the recycled, horizontal log, single pen building in the 1918 barn at 41DL192 consisted entirely of unreliable, juvenile trees less than 80 years old. Although Stahle plotted and examined the five best specimens, no internal or external crossdating was established. The primary problems with these specimens were false and locally absent rings. Based on growth characteristics, these trees may not have been cut from the same stands that produced the logs for the double crib barn.

The four red cedar specimens from the wallposts of the north granary (Building 11) at the Penn Farm (41DL192) were all very young. Only one specimen, with less the 50 rings was examined by Stahle; all other specimens were younger. In addition to the short ring sequences, the problems of false and locally absent rings were amplified in this assemblage.

The old house (Building 13) at the Penn Farm also consisted of young trees. Of 14 specimens, Stahle examined nine. A marginal internal crossdating may exist among specimens 13-3, 13-7, and 13-8, but these specimens do not crossdate among the other red cedar or oak buildings at the Penn Farm.

ESTABLISHMENT OF EAST TEXAS PINE CHRONOLOGIES FROM LIVING STANDS

The potential for dating Texas buildings constructed of pine lumber is promising, but has yet to be fulfilled (Jurney 1986). Recent dating attempts have been focused on collecting and dating living pine stands in conjunction with historic buildings (Figure 28-7). For example, a pine chronology has recently been developed for Pine Park by David Stahle (Figure 28-8) and should be useful for tree-ring dating of historic pine structures in East Texas, and possibly for pine

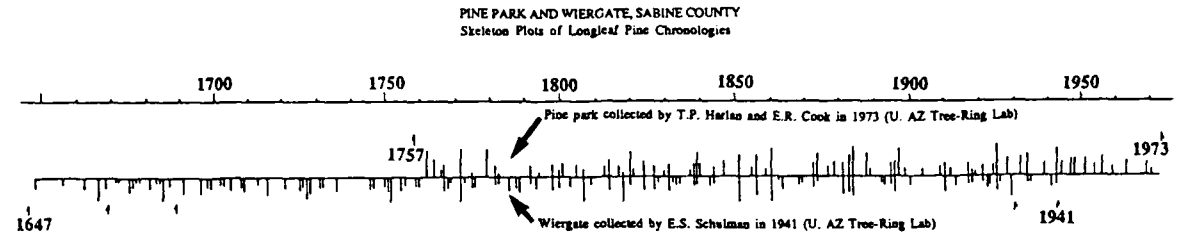


Figure 28-7. Skeleton plots of two longleaf pine collections from Sabine County, Texas. The upper is the Pine Park chronology (n = 10 trees), collected by T. Harlan and E. Cook in 1973. The lower is a collection from near Hemphill, made by E. Schulman in 1941.

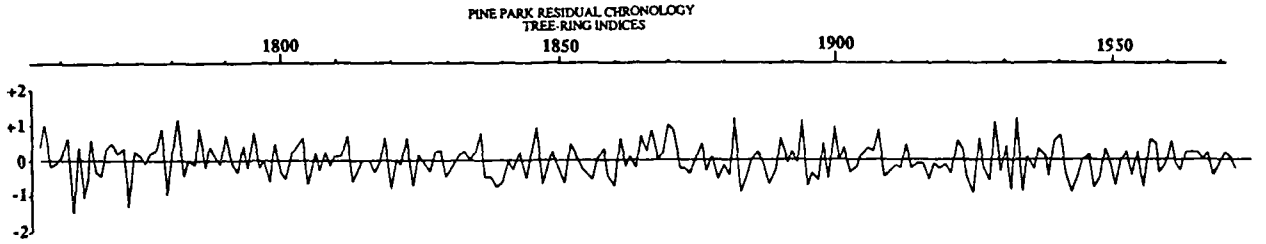


Figure 28-8. Standardized Indices derived from the Pine Park specimens; prepared by David W. Stahle using the program ARSTND (Espey, Huston and Associates 1986).

specimens from Joe Pool Lake. Statistical tables relating to this chronology are on file with Espey-Huston and Associates, Austin, and the University of Arkansas Department of Geography.

Two long leaf pine skeleton plots shown in Figure 28-7 span the period from 1650 to 1973. Note that there is only marginal crossdating between the three specimens collected by E. Schulman (lower) and the ten specimens collected by Harlan and Cook (upper). Due to the low correlation between these two collections, the standardized indices were calculated by Stahle for the Pine Park collection of T. Harlan and E. Cook. The Pine Park chronology (Figure 28-8) is only moderately sensitive (.27), but is probably average to above average for pine in East Texas.

SUMMARY

Tree-ring dating is a viable tool in the examination of historic architecture in Texas. Lumber derived from post oak trees can usually be dated (in 80 - 90% of the cases examined to date). Structural elements including wall logs, piers, wall studs, and sills have been dated. Other species of oaks also can be dated in Texas, but are not usually as satisfactory as post oak. In the Joe Pool Lake area, post oaks were rare on the presettlement landscape, and thus did not become incorporated to any great extent in historic buildings (approximately 30% of all cases).

Only local red cedar and sawmill produced pine (possibly from East Texas) were present in the Joe Pool Lake. Although only one longleaf pine chronology has been established for Texas (in Sabine County), none of the Joe Pool Lake area historic pine specimens crossdated with this chronology. Historic pine buildings have been dated in Arkansas, and buildings with pine lumber containing more than 100 rings per specimen should continue to be collected and curated for future examination in conjunction with CRM studies in Texas.

The distribution of red cedar trees and the presettlement landscape of Dallas, Ellis, and Tarrant counties was predominantly restricted to the Chalk Rock escarpment west of Cedar Hill. The majority of red cedar lumber used in the Joe Pool Lake area buildings probably came from this escarpment. Based on examinations of old second growth stands of red cedars and the cedar timber in historic buildings, red cedar trees from this area rarely lived more than 100 years. These short cedar series are further complicated by numerous false rings, and probably missing rings. The single floating red cedar chronology from the double crib barn and recycled mortise and tenon beams at the Penn Farm (41DL192) is only the second such chronology derived from historic buildings in Texas. Although absolute dates were not established, the relative dating obtained within these specimens still provides useful insights into the architectural history of the Penn Farm. As with pine specimens, all red cedar specimens with at least 100 rings should be collected and curated for further investigation in conjunction with CRM projects in Texas.

The absolute dates derived in this study provide several sources of data not previously available. The construction date of the south granary on the Penn Farm probably corresponds to a major period of construction activity and farm expansion. This 1874 structure typifies the buildings used during the expansion of late nineteenth century agriculture in Texas. The central hall dwelling of T. M. Ellis is the third oldest building in Texas currently dated by dendrochronology. This house was built in 1849, only 3 - 4 years after Ellis had established has farmstead. This structure seems to typify an early type of status housing commonly found on the Texas frontiers.

The sawn oak studs in the Tellico Church (1869) and the hewn wall logs from the Lively cabin (1867) illustrate the coexistence of horizontal log construction and braced (timbers) framing in the post-Civil War Texas. Community planners and agriculturalists both drew on available sources of local lumber, and previous knowledge about suitable building size, strength, and stylistic appearances to construct buildings. Simple dwellings and farm outbuildings were frequently horizontal log. Status dwellings, community structures, and important farm buildings such as granaries, which required a stout construction, were frequently braced frame with mortise and tenon joinery.

The co-existence of braced frame and horizontal log construction is revealed on the Penn Farm by the relatively dated specimens in the double crib barn. Clearly, the construction style (i.e., half dovetail corner timbering) cannot be used in all cases to determine either the cultural origin or tradition, or the inferred date of construction. Thus, the importance of absolute and relative tree-ring dating cannot be ignored in historic architectural studies.

In addition to dating, trees can provide an interpretation of local versus imported lumber source. This is particularly important when analysing the historic settlement process and local adaptations. The large stands of oaks present to the south and in East Texas were not present in the Joe Pool Lake area, thus necessitating different selections of construction techniques. Frame technology played a greater role in this area. Larger timbers and sills were hewn or sawn from local forest, but siding had to be imported from East Texas.

In conclusion, dendrochronology provides an added dimension to historic architectural studies. For Texas, this dating method permits closer scutiny of regional and temporal variations in buildings. We are beginning to see a more complex scenario of styles and techniques than originally conceived. Simple or intricate buildings that used either horizontal log or braced frame technologies span much of the nineteenth century in North Central Texas. They do not necessarily follow a simple, linear evolutionary model of cruder styles being replaced by more sophisticated buildings. Instead, they seem to be related to family origins and building function.

HISTORIC INVESTIGATIONS: SUMMARY AND CONCLUSIONS

29

by

Randall W. Moir and David H. Jurney

Thirteen historical sites were the focus of archaeological investigations to recover important information about nineteenth and early twentieth century farming families living in the project area. In addition to excavation, fieldwork also involved (1) the documentation of standing buildings and architecture, (2) interviews with senior citizens about traditional farm life, and (3) archival and historical research to gather important information about specific sites, families, and local communities. All of these investigations were designed to provide a fuller understanding of the ethnic diversity, historical development, demographic relationships, and changing lifestyles/lifeways of the families that settled in the Mountain Creek area since the 1850s.

Archaeological investigations of nineteenth century farmsteads, such as the ones addressed in the Joe Pool Lake studies, are a comparatively recent endeavor in North Central Texas. The research design used to address the significance of these sites was focused on the integration of archaeological data with written records and oral history. Farmstead sites, like the ones studied here, once formed the backbone of rural America. In 1890, for example, two of every three households in the United States were farmers. In Texas, the ratio was considerably higher reaching about six of every seven. In the following five decades, the composition of Texas has changed dramatically as many families gave up farming to pursue new opportunities in major urban areas. We reviewed many of the more significant changes affecting North Central Texas in Chapter 2.

Farming has also changed significantly as a result of technological advances in the past century. Mechanization has forced most farmers to become industrialized and has made agribusiness a necessary and viable alternative to the old family farm. A detailed history of the traditional farmstead, like the cotton tenant farmer of yesterday, is a casualty of twentieth century progress. What seemed unimportant and inconsequential at the time that many changes were taking place has since become lost in the passing of decades and the changing of generations.

Recent studies of rural farmsteads in the Richland/Chambers Reservoir located about 60 miles south of Dallas have revealed that farmhouses and their outbuildings were surrounded by abundant archaeological deposits useful for studying past lifeways (Jurney and Moir 1987; Moir and Jurney 1987a). These yard deposits around Richland Creek farmsteads were found to be rich depositories o. historical information on certain segments of traditional lifeways that are not in practice today.

The Joe Pool Lake investigations, like the Richland/Chambers investigations, also encountered sizeable archaeological deposits or middens around most rural dwellings. Buried in the soil around these houses were artifacts numbering in the hundreds of thousands. These small pieces of glass, pottery, bone, metal, wood, and other materials also represented a rich but fragmented record of some daily activities and household possessions of the past. Furthermore, systematic study of these midden deposits has revealed that some

categories of artifacts are not haphazardly scattered about, but formed a physical map or layout of some kinds of yard activities carried out during the life of the farmhouse (see Chapter 7).

A little more than fifty years ago, the rural yard was the center of much household activity. Before electricity and other modern conveniences, the yard received more intensive use than many parts of the farmhouse. Children and adults worked on chores ranging from fetching water, splitting wood, or washing clothes; to making soap, feeding chickens, butchering animals, or doing specialized cooking. Consequently, the yard itself was markedly different than today. Instead of a lush, green, and properly cut or manicured grass lawn, the traditional yard consisted of many bare earth areas crisscrossed by paths and trails and interspersed with weeds and small brush. The inner portion of the yard would receive the closest attention to what we would consider yard maintenance today, and might be swept periodically for practical as well as aesthetic reasons. The distribution of artifacts around the old Penn farmhouse, for example, indicated that yard sweeping was conducted around this dwelling (see Chapter 8). Many Richland Creek farmsteads exhibited this spatial patterning of artifacts, while only two farmstead sites did in the Joe Pool lake project area (41DL192 Old; 41DL196). Both of the latter farmsteads had tenant families occupying them for a majority of their total span of occupation. At most of the other Joe Pool Lake farmsteads, larger and more dispersed yard middens were encountered than the typical Richland Creek farmstead midden. This divergent trend is most easily explained by the heavier representation of long-term landowner farms among the Joe Pool site sample in comparison to the Richland Creek sample. Both Richland Creek and Joe Pool are located in rural areas, near moderate-sized urban centers. Joe Pool is closer to Dallas, a somewhat larger regional distribution center.

The Joe Pool Lake investigations, like other recent archaeological studies, have revealed that these artifact rich middens are as important for studying some segments of the past as historical diaries, photographs, and documents. While much has been written about the wealthier upper classes, urban dwellers, or rugged pioneers of the nineteenth century, far less has been documented about the typical rural farmer, his farmstead, possessions, and family activities. The archaeological record provides detailed insights for such mundane items as the table dishes and kitchen containers owned, kinds of glass, metal and ceramic foodstuffs consumed, buttons and personal items worn, and even the types of animal meats eaten by rural households. For example, the techniques and implements (cleaver, saw, etc.) used to butcher a cow can be identified from its bones when preservation is good. The age and health of the animal at its time of death are also evident on the bones and can be used to reconstruct animal husbandry and seasonality for slaughtering when the appropriate remains are recovered, as discussed in Chapter 25. The scratches and wear marks on a dish tell us of the frequency and intensity of use it was put to, as well as the kinds of storage methods used for it between meals. The duplication of patterns of glass and ceramic vessels provides some direct information on the personal tastes, wealth, and current fashions of the family from which they were discarded. Even the scatter of material fragments around the farmhouse conveys family information about activities of the past.

The research design organized for the archaeological investigations of historic farmsteads in the Joe Pool Lake project area was focused on the nature of the middens associated with the farmhouses, the common material possessions indicated by their artifacts, and the layout of the farmstead based on these deposits. Also investigations took into account the types of buildings associated with the farms, their locations, size, and specific techniques of construction. Using all of the available kinds of archaeological, historical, and architectural information, the research design not only concentrated on the particular National Register significance of each farmstead, but also their scientific, historical, and humanistic merits and associated material remains.

Eight research hypotheses were formulated in order to provide a guiding structure for the historic investigations. They are listed in Table 29-1 and 29-2 along with relevant test implications. In order to summarize some notable results, we have selected several major research topics or themes based on our research design (Moir et al. 1984:26-72) and the hypotheses presented here. These hypotheses were used to probe for the delineation of patterns encoded in material remains, artifacts, and architecture in order to address cultural and socioeconomic variability at the household level. Ancillary studies were called upon to add substantive information concerning ethnic affiliation, household size, personal histories, and pertinent local demographic, historical, and economic data. Informants, archival resources, photographs, and landscape studies were used to identify local lifeways and the shift from traditional to popular culture. In this respect, historical archaeology in the Joe Pool Lake project area has provided information on specific broad trends and local patterns that have also been unobtrusively measured at the household level and that are not easily documented by other sources of information.

RESULTS BY MAJOR TOPIC AREA

The major research themes behind the data recovery program for historical properties revolved around a basic framework initiated by Ferring and Reese (1982:223-231). Based upon their site testing program, they recommended eleven historic properties to address inter- and intrasite differences. For example, significant historical properties in the project area were viewed as resources useful for investigating material manifestations of the ethnic origin of a household. In this regard, it was hypothesized that sites in the project area appeared to be strongly homogeneous in many respects despite varied ethnic backgrounds. This pattern contrasted greatly with other parts of Texas where strong differences were highly evident between different ethnic groups. The commonly shared characteristics of unrelated German households in the Hill country of central Texas in architecture, foodways, outbuildings, and material possessions are excellent examples. The

Table 29-1
RESEARCH HYPOTHESES RECOMMENDED BY NORTH TEXAS STATE UNIVERSITY
(FERRING AND REESE 1982:230)

RH1: Intersite variability during the historical period at Lakeview (Joe Pool Lake) is in part explicable by ethnic differences of the settlers-occupants of the sites.

- I1: Architectural manifestations reflect patterning determined by ethnic traditions of the original settlers.
- I2: Artifact assemblage differences among sites are patterned according to ethnic differences, reflecting different preferred sources of imported commodities as well as differential introduction of personal possessions.
- I3: Sheet refuse distributions and spatial patterns of artifacts will reflect differences attributable to ethnic background and culture of birth.
- I4: Site layout and yard proxemics will reflect differences attributable to ethnic affiliation and cultural origins.

RH2: Intersite variability during the historical period at Lakeview (Joe Pool Lake) is partially explicable in terms of functional manifestations of different or similar economic adaptations of the settlers-occupants.

- I1: Initial settlements will reflect less extensive trade and communication networks, and hence will manifest more evidence of subsistence agriculture-ranching as well as folk production/ maintenance of implements and facilities. Minimized availability of commercial foodstuffs and utensils will be reflected in lower discard rates than later periods and greater curation of containers and implements.
- I2: Following the initial settlement period, intersite assemblage variability should decrease, owing to increased market availability of supplies (implements, containers, etc.).
- I3: Following initial settlement period, intersite functional variability will be proportionate to economic specialization (farming versus ranching) and economic productivity. (Ferring and Reese 1982:230)
- I4: Sheet refuse and other discrete trash disposal patterns (i.e., dumps, trash pits, etc.) will exhibit less variation between sites when socioeconomic, temporal, and functional variables are taken into account.
- I5: Site layout and yard proxemic models will diverge in direct relationship to the degree of socioeconomic differences exhibited between households, and be especially divergent when an upper class farmstead is compared to one of the lower classes.

absence of well defined ethnic communities in the Joe Pool Lake project area indicated that the Mountain Creek area was settled by a blend of households that cross-cut simple ethnic boundaries. Furthermore,the apparent rapid acculturation of the households, especially in regards to architecture, provides some empirical support for the concept of an *ethnic threshold* population, a minimum group size necessary to perpetuate certain ethnic traits, and thwart rapid acculturation. In the Mountain Creek area, ethnic groups of sufficient size to retain their own identity did not exist.

There were also several other generalized research themes proposed (Ferring and Reese 1982:228-230). Under the fabric of economic adaptations, the issue of local settlement and subsistence systems initially raised by Skinner and Connors (1979) was pursued. The practical problems inherent in applying a simple ranching versus farming dichotomy to explain differences among sites was recognized. For example, although the Anderson and Penn households emphasized horse and cattle raising to a greater degree than other crops, farming still remained the dominant economic adaptation among nearly all rural homesteads. Given this general adaptive strategy shared by most households, smaller differences in economic adaptation were thought to be exhibited in other maintenance activities, such as blacksmithing, and in widely different socioeconomic affiliations (e.g., slaves, hired hands, and day laborers, etc.).

Finally, the importance of diachronic change both in architecture and in commercial goods was recognized. Ferring and Reese (1982) expressed an interest in focusing some research on isolating changes in the availability and source of manufacture items archaeologically recovered. At the same time, they also recognized that little research had been pursued to date on these two topics for post 1850 sites in Texas.

Summarizing each of these major research questions, Ferring and Reese (1982) suggested two basic research hypotheses as major foci for further investigations (Table 29-1). One emphasized *ethnic diversity* and the other *economic adaptation* as basic elements crucial to understanding differences among sites. It was believed that without examining these basic elements, the development of useful models of the Joe Pool area would be questionable at best.

In addition to Ferring and Reese's (1982) two research hypotheses (i.e., RH1 and RH2), we proposed six other hypotheses (Table 29-2) as a part of the formal research design for Joe Pool Lake (Moir et al. 1984:54-57). The first, which becomes RH3, is focused on an objective evaluation of the thirteen historical properties selected for mitigation, particularly in regards

Table 29-2
RESEARCH HYPOTHESES RECOMMENDED BY SOUTHERN METHODIST UNIVERSITY
(MOIR ET AL. 1984:51-53)

RH3 The range of households attributable to the thirteen historic properties in the Joe Pool Lake mitigation plan is also representative of the general range of households found for all of the Project area.
- I1 The division between landowners and non-landowners (i.e., tenants) illustrated on the Sam Street map (ca. 1900) closely fits the sample of historic properties selected for mitigation.
- I2 Oral history and archival information portray a much more complex history of occupation for each site and indicate that a simple tenant versus landowner dichotomy is erroneous.
- I3 Length of occupation and amount of visible standing architecture, two factors that weighed heavily in the initial inventory of historical sites (Skinner and Connors 1979), selected against the inclusion of typical tenant farming sites.
- I4 Socioeconomic data relative to the properties selected indicates a general status well above that revealed from census information for the rest of the sites in the area.

RH4 Antebellum Period (ca. 1854 - 1861) farmsteads in the Project area represent above average households by economic standing and present a picture of a semi-closed, ethnically related community.
- I1: Site physical dimensions (site area) for older components when definable will be larger than the typical small land owner patterns established for the Richland Creek area (see Moir 1983a, 1983b) which correspond to the usually "cabin plus 40 acres" stereotype.
- I2: Deed/title, census, and probate records (when available) will provide another yard stick against which household wealth can be quantitatively measured.
- I3: Names and personal data on census forms will reveal a certain level of ethnic affiliation that will also support overall community ties and bonding.
- I4: Marriage records also will provide a yard stick against which community and family bonds can be measured.
- I5: Fine ceramic tablewares, glassware, and other status items will contrast sharply with the generally plain, utilitarian items found associated with landowners in the Richland Creek area, and will reveal middle to upper class affinities.

RH5: Major sociocultural changes occurred during the 1861 and 1875 period which involved the settlement system, land use and subsistence patterns.
- I1: Land holding size decreased as major plantations were replaced by the cotton tenant farming system.
- I2: Economic upheaval will be evident in documents (e.g., number of land transactions) and in material remains through a decline in "high style" material items commonly attributed to northern sites for the period represented, but not found in this area.
- I3: Economic instability will be reflected in architecture and will show some chaotic blending of regional and local styles and construction techniques.

to rural settlement of the Joe Pool Lake area. There was some unintentional bias toward selecting landowner sites over typical tenant sites in the original 11 sites recommended for data recovery. The addition of two more tenant sites (41DL267, 41DL268) to the mitigation plan helped to correct this bias. Consequently, Research Hypothesis Three specifically addresses the nature of rural farmsteads and rural settlement in the Mountain and Walnut Creek areas. The Sam Street map compiled for Dallas County in 1900 (Highland Historical Press 1980) showed 20 tenant houses and 14 landowner occupied houses in the Joe Pool Lake project area. Thus, tenants occupied 59% of the dwellings in the area. If one counted the residences located up to 2 miles outside the general project area on the map, the total counts would be 43 tenant houses to 27 landowner occupied houses, or 61% tenants. The proportions remain similar either way.

There were two other research hypotheses included in the formal Joe Pool Lake research design. We have listed these by time period. The first, RH4, is focused on the Antebellum period in detail following the ideas laid out by Ferring and Reese (1982:223-224). The Antebellum Period is briefly represented in the Joe Pool Lake area at only two sites (41TR39 and 41DL192). From both of these, discrete remains are scant and consist of a thin veneer of older material scattered across yard areas and occasionally found in isolated pockets (see Chapters 8 and 12). The total amount of Antebellum material represented at either site, however, was not great enough to enable a clear picture of the lifeways associated with this period. Consequently, we recognized early the futility of addressing antebellum questions with the set of sites selected for data recovery. We searched, without success, for older sites to fill in this gap. Our search, however, was informal at best given the focus of our active tasks and scope of work.

ETHNIC DIFFERENCES AND INTERSITE VARIABILITY

Excavations conducted at the thirteen historic sites in the project area revealed some very unexpected results along with the anticipated wealth of artifactual information. Hypotheses RH1 and RH2 both placed great emphasis on the origin or place of birth of each family whose site was under investigation. We found

Table 29-2 — (*continued*)
RESEARCH HYPOTHESES RECOMMENDED BY SOUTHERN METHODIST UNIVERSITY
(MOIR ET AL. 1984:51-53)

RH6 The late nineteenth century (ca. 1876 - 1900) is a period of great socioeconomic differentiation whereby the major classes of households can be separated based upon site layout, sheet refuse complexity, and material remains.
- I1 Tenant households will exhibit the smallest active yards and yield the broadest assemblages of glass and ceramic vessels whereas major landowners will be associated with the largest site areas and a narrower assemblage of glass and ceramic vessels (excluding features).
- I2 Architectural designs will reveal greater inclusion of regional styles for upper class sites and more local variants for lower class sites and tenant farmers.
- I3 Tenant sites will reveal the simplest site layouts, and landowner sites the most complex layouts.

RH7 The early twentieth century (ca. 1900 - 1925) represents one of the most dynamic periods for rural households in Texas. It is during this period that many of the more prosperous families and middle class farmers actively relinquished their ties to traditional lifeways. Farmsteads located next to urban centers reveal a greater assimilation of popular lifeways then more remote households.
- I1 Active use of yard areas declines in direct correlation with abandonment of traditional lifeways. Sheet refuse, a trait of traditional living, becomes less prevalent with twentieth century occupation.
- I2 Landowners, especially those with well-to-do households, will shift away from traditional yard activities toward more cosmetic types of yard care. Sheet refuse, an important signature of traditional living will decline in quantity and content.
- I3 Architectural techniques and styles, especially basic framing and fenestration, will reveal greater affinities towards mainstream America and a break from past rural traditions.

RH8 Differences observed in Joe Pool Lake farms in comparison to farms investigated in the Richland Creek Project can be explained by the differences in population origins of each of the two rural areas. These differences related directly to Upper South vs. Lower South (i.e., Deep South/ sociocultural traditions (see Jordan 1967, 1969, 1970).
- I1 Upper South farmsteads will display greater agricultural diversification than Lower South farmsteads.
- I2 Upper South architectural traditions will include a broader spectrum of building types and will also involve more status related structures than Lower South traditions which focus primarily on cotton agriculture and its associated traditions.
- I3 Because of their broader agricultural focus and greater overall income, Upper South farmsteads will exhibit a greater tendency to assimilate new technologies than more rigid, Lower South farmsteads.

very little support that nationality or foreign place of birth exerted any deep effect on the architecture and archaeological remains associated with the set of sites intensively examined. For example, both the Holvecks (41DL183), who immigrated to the U.S. in 1872 from France, and the Hintzes (41DL181), who immigrated to the U.S. in about 1878 from Germany, occupied dwellings and left behind artifacts that looked the same as those recovered from native born households (e.g., Penn, Anderson, Pool, Lowe households). The Holvecks lived in a modified double pen and the Hintzes lived in a Cumberland with ell addition. Unlike the Hill Country of Central Texas, architecture in the Mountain Creek area was strongly southern and Midwestern in affiliation.

Barns and outbuildings were typically brace frame (mortise and tenon) in construction. In comparison to the Richland Creek area just 80 km to the south, the Joe Pool Lake families owned well constructed farm outbuildings. Diversified farming was very evident in the types of outbuilding owned. Granaries, seldom seen in the Richland Creek area, were abundant on the Joe Pool Lake cultural landscape. Storm cellars and root cellars were also found associated with nearly every residence in the project area. The beehive shape of the Penn's cellar constructed in the 1870s, for example, is indicative of similar cellars constructed in the Midwest. Consequently, while foreign ethnicity does not seem to be associated with a measurable amount of variability on a site by site basis, population origins within the U.S. seem to be associated with some major differences within North Central Texas. The Richland Creek area is dominated by Southerners, especially families from the Deep South. The Mountain Creek area, on the other hand, is settled by many families from the Midwest and Upper South. These families practiced diversified farming that included wheat, corn, and other grains as well as varied animal husbandry and livestock. They did not place as great an emphasis on cotton as a cash crop as we found the families in Navarro and Freestone counties south of Dallas. The differences in storm cellars, stone lined wells, well constructed barns and outbuildings, and diversified farming practices seem to provide direct empirical evidence for these geographical associations.

TRENDS IN ARCHITECTURE

One of the most interesting insights we gained from studying the architecture in the Mountain Creek area was a recognition of the early occurrence of braced frame and box frame houses. It had been our firm conviction that most early residences would have been constructed of log rather than sawn lumber for the A.D.

1850 to 1870 period. Exceptions, of course, would have occurred among only the wealthiest of families. The old Penn farmhouse (41DL192) and the Loyd house (41TR39), both still standing today, are physical evidence that sawn lumber was used by some of the middle class before 1860. In our investigations around the greater Mountain Creek area, we identified several other early houses constructed of sawn lumber and dating between 1849 and 1860 (e.g., the T. M. Ellis house tree-ring dated to 1849).

The Joe Pool Lake architectural studies (Chapters 18 and 28) demonstrated that many of the initial homes and farm buildings were constructed of hewn or sawn wood using mortises and tenons to join wall posts and sills together. The siding was frequently pine hauled in by wagon from mill operations in East Texas. Our wood identification studies and dendrochronological research have indicated that local red cedar and oak trees were used to construct many early Joe Pool Lake buildings.Also from these studies, we have verified the precise year that many trees were cut to construct specific buildings. Based on this research, let us review some of the more notable results obtained.

The Penn Farm (41DL192), for example, contains hewn timber frame dwellings and outbuildings that are representative of the architectural evolution of the region. The major barn on this site was built in the late 1850s from over 80 red cedar trees cut over a two year time span. The structure is a horizontal log double crib barn capable of storing grain and sheltering animals. A frame granary was also built at the same time using red cedar trees from the same forest stand. The earliest Penn dwelling, a modest hewn timber frame house built in 1859, was constructed of trees that had been cut from a different forest than the barns. Tree-rings indicate that a second granary was cut from a floodplain oak forest in April 1874, probably the product of a local sawmill. The main Penn house, built in 1876, was constructed from large pine timbers cut from East Texas forests and shipped by the railroad. During the twentieth century, all lumber used in frame and box and strip construction was commercial pine lumber bought from local lumberyards.

The architectural forms of houses in the Joe Pool Lake area were diverse, but the main type used by wealthy landowners was the central hall. Single story, 1.5 stories, and 2 stories were present. Houses of smaller landowners and tenants were simpler two room dwellings. The average room dimensions of a house provide a general measuring stick of the affluence of their owner-builders. At the upper end of the social scale is the Anderson family's plantation house on site 41DL190. Constructed in 1887, it was an impressive two story house containing 14 rooms that was destroyed by a fire in the 1940s. Based on the dimensions of its burned remains, its rooms averaged about 20 x 20 feet. In comparison to the average room size for Joe Pool Lake dwelling, the Anderson plantation house rooms were 1.5 times larger.

Most Joe Pool Lake dwellings contained rooms averaging about 16 or 17 ft square (sites 41DL181, 41DL183, 41DL192 New, 41DL192 Old, 41DL196, 41TR39 and 41TR40). The dwellings at the Pool (41DL191) and the Marrs tenant (41TR48) sites contained the smallest average room sizes (14 x 14 ft averages) and these sites also ranked near the lower end of the economic scale. Still, however, their occupants were not poor and their families lived at a lifestyle above the average Texan household of the time.

Architecture also indicates that the Joe Pool Lake rural population stayed closely abreast of the major architectural fashions spreading through urban areas and more densely settled portions of the northern and eastern United States. The Bowman-Sprinkle house, for example, illustrates the mainstream participation of rural Mountain Creek (see Chapter 14). The house contains many Victorian elements in its layout and construction. It combines Victorian Stick (picket fence trim and diagonal flat stick work in its gables), Queen Anne (spindle work gingerbread in its gables, free classic porch columns, and bay windows) and simple folk characteristics (symmetrical south facade and floor plan, moderate roof pitch, and sloping skirted or battened lower foundation). The house was built in 1907 and its facades present a late Victorian appearance more typical of in town residences rather than rural farmers. Interior elements such as elaborate molding and bull's eye motifs matched (Cox, personal communication 1985) some of the period details found in upper middle class urban houses constructed in Dallas' lower Swiss Avenue District by Frederich P. Wilson between 1899 and 1902.

The Bowman-Sprinkle house, although presenting a outward appearance of stylish and mainstream designs revealed an inner incongruence in its construction. Unlike urban residences constructed at the turn of the century, the Bowman-Sprinkle house revealed a inner frame of reused beams and wall boards from several older buildings. This conservancy of wood materials seemed to contrast greatly with the outward Victorian appearance that did not reveal the same emphasis on short supply. Furthermore, architectural investigations indicated that the house may have been constructed in several phases over a five year period, as supported by oral recollections. The house represents a well balanced mixing of traditional rural conservation and modest urban late Victorian architectural fashion. Consequently, architecture reveals that the Mountain Creek communities were more mainstream in some of their ideas than other rural areas that we have studied to the south. Thus hypothesis RH6 test implication I2 has evidence to suggest that it is true.

GLO RECORDS, INITIAL SETTLEMENT, AND COMMUNITIES

The vegetation and landscape today is considerably different than it was when the early pioneers first came to the Mountain Creek region. There is a thick growth of mesquite trees and other scrub brush choking once open farmlands. Stories told by some senior residents note some of these changes and early surveyors' records housed in the General Land Office in Austin add additional light. Lovell Penn recalled the story his Uncle Andy (1876-1964) used to tell him about the early days when Andy could "get on a horse and ride from his homeplace [site 41DL192] clear to Fort Worth, just cut across the country. It was all open prairie . . the grass was way up there that high, no mesquite trees or anything but grass".

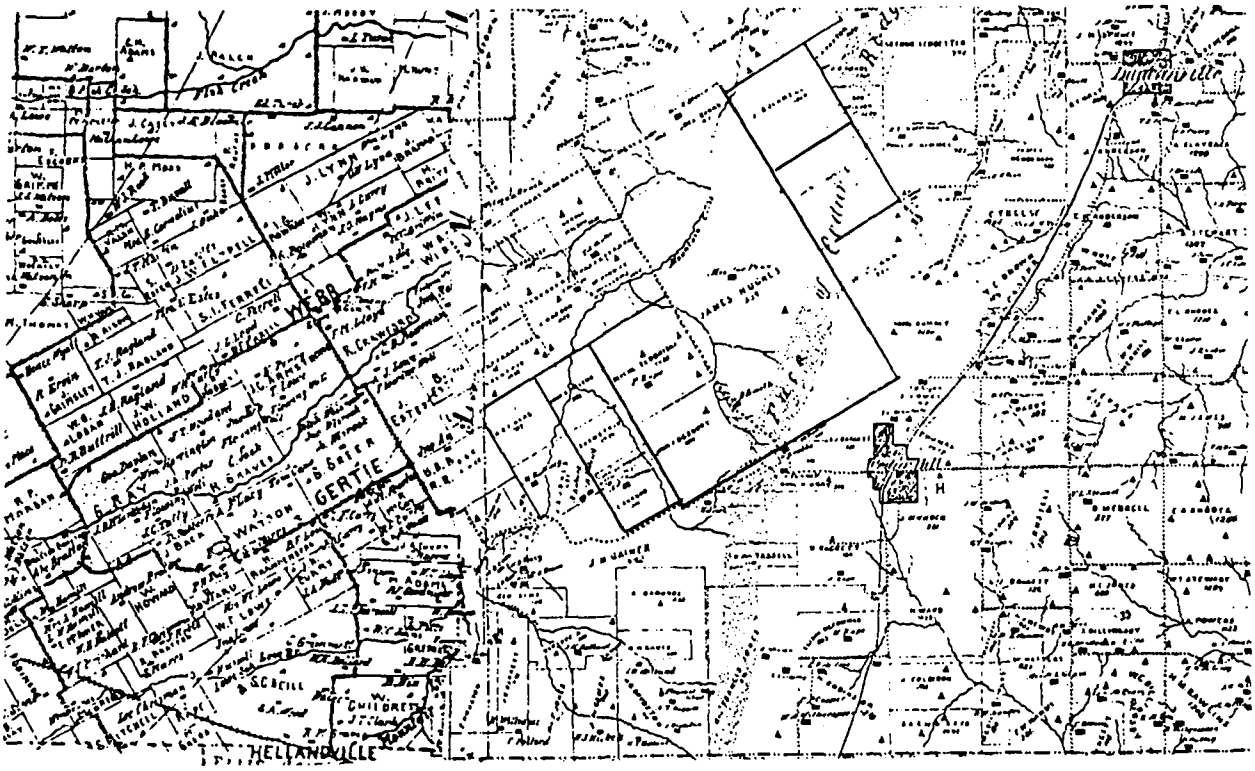


Figure 29-1. Dallas County (1900) and Tarrant County (1895) Sam Street Maps showing turn-of-the-century settlements and road systems in the Joe Pool Lake area. Landowners' names are listed next to their houses.

The fencing of the prairies with the newly invented barbed wire in the 1870s and 1880s and improvements in plows for tough prairie soils contributed greatly to changing the landscape. Saw mills cut the virgin forests down along many of the streams and the Cross Timbers also fell victim to their blades. Suppression of nature's and man's prairie fires which produced fertile soils, and finally the abandonment of many agricultural systems in the second quarter of this century have led to a landscape that is considerably different today than 130 years ago.

In a very few areas, some undisturbed vegetation has been by-passed by most of these events. A few remnants of undisturbed prairie will be protected in the Joe Pool Lake parklands. Early settlers, such as the Penns, Andersons, Loyds, and Rapes, took advantage of these small natural prairies. Without any initial preparation, these prairies offered feed for livestock and required little maintenance. GLO records supported the proposition that the Penn and Anderson families settled on the edge of the Mountain Creek escarpment specifically to take advantage of small, upland prairie patches away from dangerous bottomlands and the larger, more open, and unbordered "grand prairies". Guidebooks and entrepreneurs writing to attract new settlers noted the good mixture of bottomland forests and prairies in North Central Texas. Edward Smith, for example, who published a guidebook in 1848 covering his travels through North and East Texas noted that a settler should choose a location well away from the "midst of a great prairie. . .[because] stock water is not very plentiful; wood is scarce. . ., and shade is absent" in those areas. Instead, one should locate on the "edge of a wood, where there is good timber. . . and not far distant from small water courses"(Smith 1848).

Records of the General Land Office (GLO) in Austin supports Edwards' recommendations. The earliest land tracts surveyed and patented in the Joe Pool Lake area were usually located along Mountain Creek (Chapter 26). These GLO records also contain a wealth of information on the vegetation of the area before settlement, land clearing, and lumbering disrupted the natural order of the area. The corners of each tract of land contain a description of the trees used as witnesses to mark the boundary point. The species, diameter, and distances were noted so that they could be used to document the survey point. When prairies or open spaces were encountered, these notes clearly document the problem by indicating the great distances or other features required to set the survey point. Through researching many of these records, we have been able to collect a picture of the initial, native vegetation and landscape before it was radically altered by development.

The records of the early surveyors indicate that prairies comprised 60% of the landscape in the project area, but brushy trees were often scattered in prairie areas. The Mountain Creek valley contained hogwallow (heavy clay soil) prairies with scattered mesquites. Apparently the spread of mesquite was limited by the native vegetation and fire ecology until plowing and grazing altered the natural balance. The Eastern Cross Timbers were 10 miles west, but a lobe of post oak forest extended down Walnut Creek into the reservoir. The cedar ridge forest was much smaller than today, concentrated in a 10 square mile area around Cedar Hill.

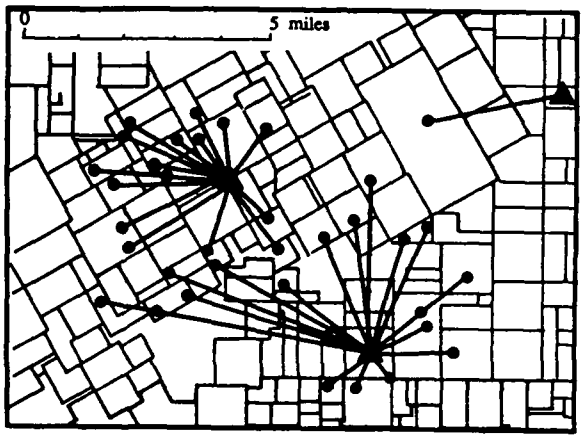


Figure 29-2. Community boundaries reconstructed in 1900 from mapping the contemporaneous relationships shared between family house sites and family burial plots. Good boundary definitions are evident for two of the cemeteries covering the project area because of the extensive archival data base derived from the Joe Pool Lake historical studies 1978-1986.

All of this information has allowed us to better understand what was available for the frontiersmen to use for their buildings, cattle, and families.

The first land tracts surveyed in the Joe Pool area were prime lands located along major streams (Chapter 2; Figure 2-1). A group of tracts were surveyed along Mountain Creek in the early 1840s. When Texas implemented a plan to build their treasury, they allowed the Peters Colony to administer land in the area. A different form of surveying and land division was used where square parcels were arbitrarily surveyed despite the available resources. This practice and the Peters Colony administration angered the early settlers, who revolted and succeeded in getting the Texas Legislature to repeal the contract, reverting to the earlier system of land grants in the 1850s. By the 1870s, all Public Domain had been granted and farmers and entrepreneurs were actively trading and selling land. In Texas, throughout the nineteenth century, land was the best form of currency.

The influence of these different survey divisions has been imprinted into the settlement pattern and landscape of the Mountain Creek area and the greater Dallas-Fort Worth Metropolitan area. The orientations of many roads, town layouts, and even rural farmhouses have been detailed by the original surveys. Since many landowners did not desire newer roads cutting across their farmlands, the rural road system is filled with right angled corners and property line roads that ran between adjacent owners. The influences of these factors are highly visible on the turn of the century Sam Street maps for Dallas and Tarrant Counties (Figure 29-1).

The Sam Street maps are also rich archival documents because they locate and identify all landholders dwellings, and also show the location of most tenant houses. Two cemeteries, located adjacent to the Joe Pool Lake, contain many individuals from residences shown of these early maps. By locating and studying the relationships of these buried individuals to their residences, we have been able to reconstruct two distinct communities across part of the Joe Pool Lake area (Figure 29-2). The largest community located on the Cedar Ridge escarpment was centered around Pleasant Valley Cemetery and School. The other was located on the prairie between Mountain and Walnut Creeks, centered around the Estes Cemetery, Friendship Church, and Gertie School. In interviews with local residents, we found it very difficult to reconstruct these same communities since different families retained very different perceptions depending on the time period recalled or personal relationships held. The reconstructed cemetery "communities" actually represent church related geographical areas rather than politically and socially cohesive units. It is unfortunate that many rural cemeteries are being vandalized since gravestones often represent some of the more easily retrievable personal data on former inhabitants of rural areas.

ARTIFACTS AND TRADITIONAL VERSUS POPULAR PRACTICES

The artifacts and bone remains recovered from excavated yard areas around the farmhouses investigated contain specific information on the types of foods acquired and consumed (see Chapter 25). Two results are worth mentioning in this regard. First, home canning using the glass fruit jar is a technique that has been around for over 120 years. In North Central Texas, archaeological studies on over 30 rural farmsteads in the Richland Creek area 60 miles south of Dallas, indicated that home canning by the typical farmer was not practiced to any large degree before 1910 (Moir and Jurney 1987b). Open smoking, curing, salting, and drying of foods (fruits, vegetables, meats, etc.) were usually the preferred practices as opposed to the rigors of home canning in glass jars or tin cans. Although informant after informant vouched that their family had practiced home canning for over 100 years, the archaeological evidence did not support these assertions. Furthermore, when an occasional informant or two dragged out an old fruit jar to prove the point, it generally dated to after 1890 or 1900 and added support to the absence of old jar fragments on nineteenth century sites.

In the Joe Pool Lake area, however, the practice of home canning appears to exist earlier than in more rural areas. The historic trash pit uncovered next to the old Penn house (41DL192) yielded fruit jar remains dating to the 1870s and 1880s, and discarded by 1895. At several other sites, fragments of late nineteenth century fruit jars were also recovered. Two influences seem to contribute to this earlier occurrence based on our investigations. First, the old adage of "keeping up with the Jones' " seems to apply to the Mountain Creek area and apparently home canning spread faster throughout this area as a result of influences from the major urban centers of Dallas and Fort Worth. A second factor that may have enhanced this early assimilation of home canning was that many of the families who settled in the Mountain Creek area were from the Midwest and Upper South. Historical research has indicated that families from these areas practiced a more diversified farming and therefore, relied on more crops and farming

practices than cotton farmers. While these families did grow some cotton, they also raised cattle, horses, and other livestock as well as planted wheat, corn, oats, and other grains. Unlike the Richland Creek households mentioned above, who focused mostly on cotton as a cash crop, Joe Pool Lake households started off with a philosophical advantage and were more open to experimenting with other foods and food technologies. This is, of course, our present interpretation and it will be investigated in greater detail as we study other farming households in Texas and elsewhere.

The bones of animals consumed for food are also frequently found on historic sites. Over 1800 fragments were recovered in Joe Pool Lake excavations. The majority of these remains represent cattle and pigs. No deer bone was recognized among the species identified, but this was to be expected since there were no sites occupied earlier than 1859. Many of the sites dated after 1875. Settlers in North Central Texas quickly exterminated these wild animals and deer were scarce except for an occasional fleeting individual probably flushed out of the Trinity River bottomland forests to the north.

Cattle were the major meat source since beef bones were the most prevalent *faunal* remains recovered in refuse deposits at Joe Pool Lake historic farmsteads. This is quite different from the typical traditional southern diet where pork dominates. Chickens, eaten on weekends and special occasions, were also common. At the households of prominent landowners (41DL190, 41DL192, 41TR39), greater prairie chickens and passenger pigeons were present indicating that these gentlemen farmers preferred fowling as a sporting leisure. Fish, turtles, shellfish, and ducks also indicate that people visited the Trinity River and lower Mountain Creek to supplement their diets. In all, over two dozen species of animals were represented in the faunal materials recovered from the historic sites. The passenger pigeon bones (41DL192), of course, represent one species that did not make it beyond the 1920s due to carelessness and the price of progress. The faunal remains contradict some aspects of the informant reports, particularly the dependence upon pork. This is due both to a twentieth century shift in diet and a time throw which informants cannot bridge. Archaeology speaks strongest, and as shown by studies in Richland Creek, the nineteenth century Texan preferred beef (Jurney 1987d).

Over thirty thousand artifacts were recovered from excavations of historic sites in the Joe Pool Lake area. Glass and ceramic vessels account for about one third of these remains. Whole bottles dating from the nineteenth century, naturally, were extremely rare. Most often, bottles were discarded only after they were broken and therefore, were of no further use. Bottle dumps like the ones associated with early twentieth century farmsteads were not encountered on the sites investigated. The level of consumption was not high enough before 1900 to necessitate the need for special family dumps to discard unwanted glass. This paralleled our results found to the south in the Richland Creek area (Moir and Jurney 1987b).

The ceramic dishes and plates represented by broken fragments were generally undecorated white ironstones from the nineteenth century. Unlike the first half of the nineteenth century, these later dishes were very plain and epitomized the sparkling cleanliness commonly associated with the Victorian period. On a few sites, fragments of brown or blue decorated transfer printed dishes were recovered. These were reminiscent of the earlier wares and sometimes represented family heirlooms that had finally been discarded or accidentally broken.

Architectural remains were also very common among the artifacts recovered from excavations. The nineteenth century bricks represented were not the usually crude handmade varieties commonly found in rural areas, but often were well formed, semi-pressed, mass produced varieties. These fragments once again underscored the influence exacted on the rural families by urban Dallas. Like many of the other differences noted in the artifact assemblages, these bricks indicated mainstream influences on the local area.

CONCLUDING REMARKS

Historical investigations in the Joe Pool Lake area have involved both excavation and documentary research. The extensive architectural and archaeological deposits at the John Wesley Penn farmstead, for example, were intensively assessed and will be preserved from immediate damage or land alteration due to reservoir and public park construction. Similar conservation oriented investigations were conducted at five other historic sites located on major lake shore parks.

From these investigations, we have gained a few more insights into the history of the Mountain Creek area. Excavations of historic farmsteads have indicated that many middle and late nineteenth century families lived in well constructed dwellings. Log buildings were not as common as once believed. Both Dallas and Fort Worth attracted sawmills along the Trinity bottomlands and sawn lumber was available to most families by the 1850s.

The artifacts recovered from excavations of the yard areas around dwellings have also provided us with some insights into family life and household possessions. Home canning using the glass fruit jar indicates a break from older traditional foodways by the turn of the century (i.e., 1900). Animal bones indicate a strong reliance on beef rather than on the more traditional pork. Both of these pieces of evidence support the dominance of a Midwestern orientation of foodways that diverges from most Texas counties to the south. The plain white ceramic tablewares and the low consumption of bottle glass for the same period, on the other hand, both correspond more closely with Upper South traditions. North Central Texas from Dallas northward appears to diverge from many of the occupation related traits found associated with cotton farmers to the south and represents a more diversified rural farming area than usually found elsewhere in Texas between 1860 and 1930.

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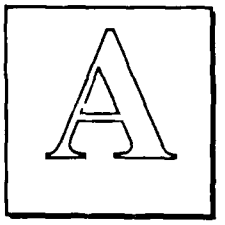
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APPENDIX



SITE INVENTORY OF MAJOR ARTIFACT CLASSES

by

Susan A. Lebo

Appendix A, on microfiche and jacketed in the back of this volume, contains a tabulated summary of major artifact categories for all historic properties investigated within the proposed Reservoir. Chapters 4 through 14 present site maps and site descriptions for each property which received mitigation. Sites 41DL267 and 41DL268 which received testing level investigation as part of the 1986 Addendum to the Joe Pool Lake Archaeological Project are discussed in detail in Chapters 10, and 11, respectively. Additional information pertaining to these properties, as well as those not recommended for mitigation, is on file at the Department of Anthropology, Southern Methodist University, Dallas, along with original field notes, computer tabulations, and photographs. This information is also on file on microfiche.

TABLE FORMAT ON MICROFICHE

Sites are listed in alphanumeric order by field season (Table A-1). With the exception of site 41TR39, sites that were excavated during several field seasons have their data provided by season. Testing data was recovered from 41TR39 in November, 1984, and has been included in the 1985 tables for this site. Excavation and surface collection units for each site are presented together. Unit numbers were assigned consecutively beginning with 1. Units designated 99 or 999 during the 1979-1980 testing season and 999 during the 1985 season indicate surface grab samples, or material recovered from disturbed deposits.

ARTIFACT CATEGORIES

The artifact assemblage for each site is presented on two tables. The first table includes the medium to high frequency artifact categories, while the second includes the lower frequency categories. Dominant artifact categories include ceramics, vessel glass, and architectural remains which generally account for between 50 to 80% of the artifacts recovered from the farmsteads. Thin metal and tin can fragments, and faunal/floral remains which were highly variable, are included in the less dominant categories on these tables. Other less dominant artifact groups include personal, household, and farm items. These major categories have been subdivided into several morphological and functional categories. The reader is directed to Chapters 19 - 25 for a detailed discussion of some of the historic artifact classifications. The tables included in this appendix were designed to provide an overview of the artifact assemblage recovered from each site.

Table A-1
INDEX FOR ARTIFACT SUMMARY TABLES FOR HISTORICAL PROPERTIES ORDERED BY SEASON

1979-1980 Season	
41TR35	41DL181
41TR39	41DL182
41TR40	41DL183
41TR43	41DL185
41TR45	41DL188
	41DL190
	41DL191
	41DL196
	41DL197
1985 Season	
41TR39 (tested in 1984)	41DL181
41TR40	41DL183
41TR42	41DL190
41TR45	41DL191
41TR48	41DL192
	41DL196
1986 Addendum Season	
41DL267	
41DL268	

DOMINANT CATEGORIES

The ceramic assemblages from historical properties in the Joe Pool Lake Reservoir were subdivided into five major classes: coarse earthenwares, semicoarse earthenwares, refined earthenwares, stonewares, and porcelains. Detailed discussion of these classes is provided in Chapter 20. Additional information on stonewares can be found in Chapter 22. Vessel glass was divided into four classes: bottle glass, table glass, lamp glass, and unknown glass. Bottle and table glass vessels, and lamp glass are presented for each site in Chapters 4 through 16. Unknown glass includes melted and burned sherds that could not be identified as bottle, table, lamp, or window glass fragments. Architectural remains were divided into four categories: nails, bricks, window glass, and other architecture. Nails include both cut and wire building nails, and spikes, and are discussed in detail in Chapter 24. Horseshoe nails are grouped under horse and stable gear. Bricks include hand made and machine made brick fragments, while window glass (see Chapter 21) includes most flat pane glass. Mirror and specialized flat glass (e.g., table top glass) are excluded. Other architecture include cement, mortar, concrete, roofing slate, wood, tar paper, shingles, door knobs, fencing wire, and other building hardware. A complete listing of all subclasses and types for these groups is provided in Chapter 19.

LESS DOMINANT CATEGORIES

Personal items are divided into three groups: clothing items, toys, and other personal. Clothing items include buttons, fasteners, and shoe parts. An assortment of porcelain, glass, metal, and plastic toy fragments are grouped into the toy category, and include such items as marbles, doll parts, jacks, and vehicles. Other personal items are comprised of hygiene and grooming related remains (e.g., combs, mirrors, toothbrushes, and razor blades), leisure and recreation items (e.g., smoking paraphernalia, harmonica, mouth harp, and phonographic record fragments), and personal possessions (e.g., purses, coins, jewelry, watches, and writing implements). Among the faunal and floral remains recovered are bone, shell, teeth, gastroliths, peach pits, walnut shells, and burned seeds. Thin metal is comprised primarily of tin can fragments, metal bottle and jar lids, and unidentifiable thin scrap metal. Heavy iron includes an assortment of miscellaneous hardware remains (e.g., nuts, bolts, washers), machine parts, and heavy scrap iron. Fuel remains are represented by coal and lignite fragments. Hand tools are comprised of both kitchen and farm related tools such as flatware, cast iron vessels, scissors, hoes, axes, plow blades, fish hooks, bastard files, and hammers. Firearms consist primarily of ammunition (e.g., bullets, lead shot, rim and centerfire cartridges, and shotgun shells), and clay pigeon fragments. Horse and stable gear include horse and mule shoes and nails, harness and rein hardware (buckles, straps, rivets), bits, and hame and wagon parts. Electrical remains include primarily insulators, battery fragments, motor parts, electrical wire, and light bulb fragments. Items that could not be identified into one of the above categories were grouped as miscellaneous other items. These usually consisted of plastic, charcoal, and nondescript lead, wood, glass, and metal remains. The less dominant categories, excluding faunal and floral remains (Chapter 25), are discussed in detail in Chapter 23. A complete listing of all related subclasses and types is provided in Chapter 19.

1979-1980 TESTING SEASON

Subsurface testing or surface grab samples were recovered from twelve historic farmstead sites during the 1979-1980 testing season (see Table A-1), and are included in this microfiche. Data for each site are ordered by unit number, and which were assigned consecutively beginning with Unit 1. Units designated 99 or 999 indicate surface grab samples, or material recovered from disturbed deposits. Readers are directed to Ferring and Reese (1982) for additional information including site maps showing unit locations, particularly for sites not recommended for mitigation level investigation, or the original site forms, notes, and field photographs on file at the Department of Anthropology, Southern Methodist University, Dallas.

1985 MITIGATION SEASON

Eleven sites were intensively investigated during the 1985 season (see Table A-1) and are included on microfiche. These sites are discussed in detail in Chapters 4 through 9 and 12 through 14. Information for these sites are ordered by South and East coordinates (e.g., S100 E104). Sterile units are recorded at the bottom of the tables. Missing numbers reflect designations assigned to units during testing. For example, unit numbers for site run from 6 to 97. Units

1 through 5 were excavated during testing (see Ferring and Reese 1982).

1986 ADDENDUM TESTING SEASON

Two sites were recommended for testing in order to provide a more representative sample of late nineteenth and early twentieth century tenant farmsteads in the Joe Pool Lake Reservoir. These sites are included at the end of the enclosed microfiche, and are discussed in detail in Chapters 10 and 11. Information for these sites are ordered by South and East coordinates, and sterile units are recorded at the bottom of the tables.

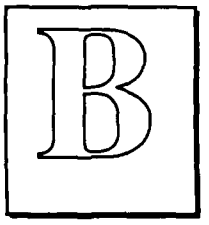
ADDITIONAL INFORMATION ON FILE

As mentioned above, additional information for historic farmstead sites in the Joe Pool Lake Reservoir is on file at the Department of Anthropology, Southern Methodist University, Dallas, and include original field notes, maps, and photographs. Files for sites which received subsurface testing and/or mitigation during the 1985 or 1986 season, also contain computer files which include several SORTS of raw data output, field and laboratory SYMAPs, and SPSS runs.

Computer printouts of the raw analyses data were produced for each site, and were sorted by major variables using the SORT program. Two major data sorts are provided for these sites: (1) sort by South and East grid coordinates, Class, Subclass, and Type categories, and (2) Class, Subclass, Type, and South and East grid coordinates. These sorts were designed to provide a rapid overview of the assemblage from each site by grid location or major artifact categories.

SYMAP distribution maps were generated for dominant artifact categories using the assemblage recovered from 50 × 50 cm units on a 4 or 8 m grid. A series of SPSS runs were also produced using these units. A total of five major SPSS files were generated, and include: (1) Breakdown and Chi-square tables of all artifacts, and Chi-square and Frequency tables for (2) ceramics, (3) vessel glass, (4) nails, and (5) window glass.

APPENDIX



LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS, AND DATES

Listing of General Land Office Patents, Grantees, Surveyors and Dates

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
1	1-305	James Hughes (J. J. Osburn - B. F. Smith)	B. J. Chambers	11-14-1841
2	1-881	T. J. Tone	J. H. Cole	3-18-1857
3	1-1100	Joel Banks (Koutes 1838-41)		12-22-1867
4	1-1112	Joel Banks (Koutes 1838-41)		12-20-1867
5	1-1145	Heirs John Childress	W. A. Darter	4-24-1876
6	1-1179	John N. Gainer	R. D. Murphey	9-26-1870
7	1-1332	J. G. Garret (Margaret E. Boggs alias Garret)	S. W. S. Duncan	12-25-1874
8	2-671	Felix Houston	J. H. Smith	9-27-1842
9	2-141	William Clark	B. J. Chambers	11-12-1841
10	3-44	Wesley C. Webb	"	1-10-1841
11	3-52	Alfred B. F. Kerr	"	1-14-1841
12	3-56	John S. Jones	"	1-14-1841
13	3-125	John Dodd	"	1-12-1841
14	1-1255	Heirs Francis Jones	W. A. Kerr	2-28-1873
15	3-1625	Hugh Robinson		
16	3-1738	Robert Ground	J. H. Cole	
17	3-657	George Wilson	J. E. Patton	6-24-1851
18	3-1786	Sebourn J. Bagget[1]	J. H. Cole	11-18-1851
19	3-2184	Daniel H. Gray	J. E. Patton	5-26-1853
20	3-1172	J. McCombs	J. H. Cole	2-13-1855
21	3-1193	J. G. Boydston[1]	"	2-12-1855
22	2-1228	E. McCommas, J. Merrifield[1]		6-2-1854
23	3-1621	Henry Ward[1]		
24	3-1628	J. Munden[1]	F. G. Eakins	3-5-1851
25	3-1676	Benjamin Dye (D. Cope)[1]	J. H. Cole	1-6-1852
26	3-1783	Jane Coldiron[1]	*J. E. Patton*	7-22-1851
27	3-2468	G. Syms to F. Dunaway[1]	G. C. H. Pierce	11-22-1855
28	3-2260	U. Baggett	M. Meyers	5-17-1850
29	3-3460	H. Brite	J. H. Cole	3-15-1857
	3-3461	J. W. Carter	"	3-15-1857
30	3-3657	D. S. Goodnight	J. P. Smith	6-26-1857
31	3-5116	W. Caruth & Bro. to A. J. Robinson	W. H. Thomas	6-24-1862
32	B-180	B. F. Smith (J. D. McLeod)[1]	B. J. Chambers	11-14-1841
33	B-181	B. F. Smith (J. A. Huesir & H. G. Runnels)	"	11-12-1841
34	B-182	J. Rockwell (B. F. Smith)	"	11-12-1841
35	B-185	H. G. Runnel (B. F. Smith)	"	11-12-1841
36	B-860	C. G. Gracey	J. H. Cole	12-8-1857
37	S-1087	San Antonio & Mex. Gulf R. R. Co	W. H. Thomas	12-20-1862
38	S-1095	San Antonio & Mex. Gulf R. R. Co.		12-23-1863
39	S-2017	International & Great Northern R. R. Co.	R. M. Cooke	8-4-1876
40	S-438	Thomas Bronson (Gregory)	J. H. Cole	1-10-1858
41	S-497	W. W. Oliver from McKinney & Williams	W. H. Thomas	9-19-1859
42	S-1033	McKinney & Williams	"	4-30-1862
43	S-1034	McKinney & Williams to E. W. Gregory	"	4-30-1862
44	S-1079	M. L. S. Irving	"	10-30-1863
45	B-1007	D. Thomas to heirs M. Davis	"	9-4-1866
46	S-869	J. B. Cope	"	11-23-1861
47	S-1109	SAMG R. R.	"	12-30-1862
48	B-201	B. F. Smith (J. Hudrall)	B. J. Chambers	1-26-1842
49	P-1390	Holveck (Billingsley?)	J. W. Story	3-16-1881
50	S-259	B. B. B. & Colorado R.R. Co.	J. W. Walker	8-26-1868
51	B-249	Joseph Proctor	B. J. Chambers	1-28-1842
52	B-552	B. F. Smith (M. Teodoski)	"	11-14-1841
53	B-554	B. F. Smith (J. J. Ogsbury)	"	11-14-1841
54	B-199	B. F. Smith (J. Scroggy)	"	11-12-1841
56	2-386	W. Colwell	A. G. Walker	9-14-1849
57	3-1422	H. McDowell	J. H. Cole	2-19-1855
58	3-1398	A. C. Wampler	A. G. Walker	1-7-1851
59	3-1397	W. R. Wampler	"	1-7-1851

LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS AND DATES

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
60	3-1261	Thomas J. Crutchfield	J. H. Cole	4-26-1850
61	3-1245	Samuel A. Pryor	Meredith Myers	4-8-1850
62	3-1691	J. Stevens	W. H. Thomas	7-18-1860
63	3-1564	Sarah Ream		6-3-1854
64	3-893	Orson McDaniel (J. Garrett, A. Patrick)	A. G. Walker	12-19-1846
65	3-1534	P. Narboe	J. H. Cole	8-26-1851
66	3-2600	C. Wise	A. G. Walker	3-8-1852
67	3-1645	Pleasant Will (Issac Talley)	S. A. Cook	3-8-1845
68	3-1543	Valentine Wampler	A. G. Walker	3-19-1852
69	3-1392	W. Sloan	J. H. Cole	8-26-1851
70	3-1703	T. Langley	E. G. Eakins	4-2-1852
71	B-769	R. Lander	J. H. Cole	3-20-1857
72	3-1242	W. Fletcher	A. G. Walker	4-26-1850
73	3-1246	J. Strong	"	4-26-1852
74	3-3629	R. Platt	J. H. Cole	3-20-1857
75	3-1241	A. Cockrell (G. H. Fitzhugh)	A. G. Walker	4-26-1852
76	3-1241	A. Cockrell (G. H. Fitzhugh)	A. G. Walker	4-26-1852
77	3-2322	W. C. May[1]	G. M. Pierce	5-1-1855
78	3-2322	W. C. May[1]	"	2-15-1855
			W. H. Thomas	1-27-1860
79	3-3630	D. White to I. C. Reed	J. H. Cole	3-20-1857
80	3-3630	"	"	3-20-1857
81	S-1036	SAMC R. R. Co. to N. Mathiessen	W. H. Thomas	3-25-1862
82	1-853	J. McLaughlin	J. H. Cole	4-10-1857
83	1-853	"	"	6-8-1857
84	1-853	"	"	4-20-1857
85	1-853	"	"	4-8-1857
86	3-3041	R. Tucker	W. H. Thomas	5-18-1859
87	S-553	Buffalo Bayou, Brazos to Colorado R. R. Co.	J. W. Thomas	9-13-1860
88	1-852	J. C. Reed	J. W. Smith	6-10-1857
89	3-1556	D. Bradshaw	J. C. Cole	1-21-1856
90	3-1636	J. Horton	A. J. Walker	6-3-1852
91	3-1655	D. Pearson	J. H. Cole	9-4-1851
92	3-1711	R. Huitt	F. G. Eakins	11-25-1850
93	2-440	I. Jennings to W. Jennings	"	1-11-1851
94	3-1576	R. Wilson (A. G. Harris)	J. H. Cole	2-5-1851
95	3-1641	D. R. Cameron[1]	A. G. Walker	9-27-1849
96	3-1641	"	G. M. Pierce	4-30-1855
97	3-1704	P. Linney[1]	J. H. Cole	9-2-1851
98	3-1704	"	"	9-3-1851
99	3-1773	J. R. Baugh (J. W. Lane)	F. G. Eakins	3-28-1851
100	1-1255	Francis Jones	W. A. Kerr	2-28-1873
101	3-1614	P. Kimmel	M. Myers	6-26-1850
102	3-1632	L. Ledbetter	J. H. Cole	6-2-1852
103	3-1113	E. M. Thomas	J. Eakins	3-21-1851
104	3-3357	J. Estes	J. T. Hooler	4-13-1857
105	3-4280	C. Adams	A. J. Lee	4-15-1858
106	3-649	J. Lee	J. E. Patton	1-14-1852
	3-652	G. A. Wilson	A. G. Walker	3-29-1852
	3-652	"	J. E. Patton	6-24-1851
107	3-1626	E. H. Paxton	A. G. Walker	6-9-1851
108	3-1626	"	"	8-30-1851
109	3-1816	S. Ramsey	J. E. Patton	5-23-1853
110	3-1816	"	"	12-8-1852
111	3-3251	G. W. Gresham	G. H. Cunningham	1-10-1852
112	3-3666	Baalis Estes	H. J. Fairly	10-20-1854
113	3-4279	J. A. Curry	C. C. Lacy	4-20-1858
114	B-186	J. Gordon (B. F. Smith)	B. J. Chambers	11-15-1841
115	B-957	J. Jones	J. J. Richardson	6-29-1860

Listing of General Land Office Patents, Grantees, Surveyors and Dates

Map No.3	Certificate	Grantee (*asse*)	Surveyor	Date
116	P-1199	G. A. F. Wash	W. A. Darter	2-22-1877
117	P-1347	J. Rape	R. M. Cooke	2-2-1877
	S-852	R. McCoy	R. Wilcox	9-16-1867
119	1-352	R. Crawford	B. J. Chambers	11-15-1841
120	1-551	H. McGhee	C. H. Rolfe	3-22-1849
121	1-861	S. C. Neill	J. P. Smith	7-11-1857
122	1-1029	M. Gregg	W. Lively	1-7-1860
123	2-567	R. Groves	"	4-21-1859
124	3-760	Elizabeth McAnier	J. E. Patton	1-25-1851
125	3-760	"	"	1-24-1851
126	3-51	G. Ray	B. J. Chambers	11-15-1841
127	3-1668	heirs H. Brandenberg	A. J. Kerr	6-22-1852
128	3-2093	W. C. Howard	J. E. Patton	12-9-1853
129	3-2112	R. Bratton	"	3-20-1854
130	3-2864	J. W. Holland	A. J. Lee	2-16-1854
131	3-2868	S. Ferrel	"	3-2-1854
132	3-2870	W. G. Logan	"	2-16-1854
133	3-2869	William J. Ferrel	"	3-2-1854
134	3-28-71	Walter Ferrel	"	3-2-1854
135	3-2888	J. Bacus	A. G. Walker	10-14-1854
136	3-3099	I. G. Bowman	A. J. Lee	2-20-1854
137	3-3218	W. Lynn	"	3-2-1854
138	3-3219	J. Lynn	"	3-2-1854
139	3-3275	W. C. Lowe	"	2-14-1854
140	3-3276	T. J. Ragland	"	2-10-1854
141	3-3667	S. Estes	H. J. Fairly	10-18-1854
142	3-877	J. H. Hughes	S. Pryor	4-13-1859
143	2-580	M. Anderson	W. L. Lively	11-21-1860
144	1-1028	J. B. Renfro	"	2-20-1850
145	1-1028	"	"	2-1-1850
146	3-3796	W. E. Hollam	C. C. Lacy	2-26-1857
147	3-2866	J. Grimsley	A. J. Lee	2-19-1854
148	3-4305	J. Robertson	"	4-12-1850
149	3-5031	J. Brannan	"	4-3-1856
159	3-5157	Guadalupe Garcia Greer	W. B. Tacker	6-24-1867
151	3-4248	Louisa Bower (M. & P. R. R.)	J. P. Smith	2-23-1857
152	3-4670	A. N. Curry	W. L. Lively	10-27-1858
153	3-4722	T. D. Curry	"	11-15-1858
154	3-4813	H. Howard	"	5-13-1858
155	3-5281	Rebecca Grisam	J. A. G. Walter Jr.	4-15-1868
156	B-183	H. Odell (H. G. Runnels)	B. J. Chambers	11-16-1841
157	B-275	J. C. Armstrong	"	11-15-1841
150	B-359	G. Greer	"	11-27-1842
160	S-659	J. Snyder	W. L. Lively	10-5-1860
161	S-644	E. C. Cannon	"	5-25-1860
162	S-682	Jepe Russel	"	5-23-1860
163	S-771	J. M. Lilly	"	5-23-1862
158	S-1176	J. R. Worrall	W. W. McGinnis	6-23-1863
	S-2124	Ruidosa Irrigation Co.	W. A. Darter	7-24-1877
165	S4057	B. Jophling	S. Pryor	2-27-1857
164	P-700	W. H. Vant	W. A. Darter	10-15-1873
170	1-535	J. M. Daniel	C. W. Rolfe	4-2-1849
171	1-536	D. Strickland	"	4-3-1849
172	1-953	J. Balch	J. P. Smith	3-3-1858
173	1-954	W. D. Lacey	A. G. Walker	8-17-1868
174	2-170	J. A. Crary adm. J.G. Clark	J. G. Clark/D. K. Webb	1- -1842
175	2-341	M. Maise adm Robert Mays	A. J. Lee	11-28-1851
176	2-549	W. J. Whiting	J. P. Smith	7-16-1858
177	3-696	N. Smith	A. J. Lee	6-25-1850

LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS AND DATES

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
178	3-698	Simeon Moore (H. L. Rawlins)		
179	3-701	W. P. Milby	A. J. Lee	6-25-1850
180	3-702	E. Daggett	"	3-11-1851
181	3-705	S. A. Houston	"	12-29-1851
182	3-706	C. H. McClure	C. H. Rolfe	3-26-1849
183	3-1199	J. Blackwell[1]	A. J. Lee	1-3-1852
184	3-1200	Ruth Brown alias Smith[1]	"	1-30-1850
185	3-1206	J. Hyden	"	7-12-1850
186	3-1213	W. Stephens[1]	"	6-31-1852
187	3-1226	J. M. Riggs	J. E. Patton	6-30-1852
188	3-1333	J. C. Davis	J. H. Cole	1-18-1851
189	3-1567	Washington Bradshaw	A. J. Lee	7-12-1852
190	3-1589	J. Huitt[1]	"	1-8-1852
191	3-1591	John A. Hurst	A. G. Walker	6-1-1850
	3-3110 1/2	J. R. Earhart	J. H. Cole	4-29-1857
474	3-1257	E. C. Thomas	"	1-18-1856
475	3-1645	A. W. Anderson	F. G. Eakins	2-3-1852
476	3-1645	"	"	2-4-1851
192	3-1650	J. W. Lane	A. J. Lee	1-9-1851
193	3-1651	W. Mask heirs E. Mask[1]	"	11-18-1851
194	3-1728	J. Brown[1]	J. H. Cole	9-2-1851
	3-1728	"	"	9-2-1851
195	3-1752	G. W. Ragan[1]	A. J. Lee	8-16-1851
196	3-1754	W. R. Loving[1]	"	7-8-1851
197	3-1757	L. Barnes[1]	"	2-3-1851
198	3-1804	Vivant J. Hutton[1]	"	5-23-1850
199	3-1954	R. Ray	"	3-8-1852
200	3-2376	J. M. Henderson	"	1-28-1851
201	3-2832	S. Davis	A. G. Walker	4-6-1854
202	3-2855	A. B. Howerton	"	4-6-1854
203	3-3061	R. Collins	A. J Lee	11-21-1853
204	3-3278	J. Condra	A. G. Walker	4-10-1854
206	3-4208	J. Beale	C. C. Lacy	3-3-1858
207	3-4312	W. Welch	A. J. Lee	7-12-1854
208	3-4518	T. J. Patton	J. P. Hogue	2-18-1857
209	3-4891	G. W. Couch	W. L. Lively	10-10-1854
210	3-5158	A. Fox heirs (L. J. Pearce, J. C. Gardner)	A. G. Walker	11-22-1867 6-26-1868
211	3-5226	L. F. Perkins	J. P. Smith	7-25-1867
212	3-5227	Emza Perkins	"	7-22-1867
213	3-5499	E. Johnson	W. A. Darter	12-19-1873
	3-5499	"	"	12-20-1873
214	3-5535	J. Andrews	"	8-6-1875
215	B-152	U. Wuthrick	D. K. Webb	1- -1842
216	B-525	R. R. Ramey	A. J. Lee	12-24-1851
217	B-728	T. Holland	J. H. Cole	3-14-1857
218	B-759	P. Caldwell	J. P. Smith	7-13-1857
	B-759	"	"	4-3-1857
219	B-844	R. R. Raimey		
220	S-318	D. Spear		
221	1-667	W.W. Wallace	A. G. Walker	6-6-1850
222	1-543	N. H. Carroll	J. P. Philpott	10-31-1849
	1-543	"	C. C. Lacy	8-12-1856
223	1-641	Jose Chirino (I. Roberts)	A. G. Walker	12-1-1851
224	1-649	D. Odum	"	11-27-1851
225	1-666	J. Edmonds	"	9-12-1851
226	1-813	G. J. Ashabranner	A. J. Lee	6-26-1851
227	1-833	W. McGowen	J. F. Wilcox	10-10-1851
228	1-1025	B. Thomas heirs	W. L. Lively	12-24-1859

Listing of General Land Office Patents, Grantees, Surveyors and Dates

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
165	1-1025	B. Thomas	"	2-24-1859
229	1-1037	H. Robertson	W. A. Danter	2-18-1874
166	1-1043	A. F. Albright	W L. Lively	5-7-1860
230	1-1043	"	"	5-5-1860
166	1-1188	H. Covington heirs	J. W. Smith	2-12-1872
231	1-1188	"	W. A. Danter	3-1-1873
232	1-1314	Maria Josefa Arocha (D. Murphree)	J. W. Smith	12-1-1871
167	1-1214	"	C. A. Sams	11-1-1871
168	1-1214	"	J. W. Smith	12-1-1871
233	1-1226	J. J. Albina (F. Thorn)	C. A. Sams	9-26-1871
234	1-1228	J. F. Heath	J. W. Smith	8-25-1871
235	1-1286	J. Righley	"	12-18-1872
236a	2-547	G. F. Martin	J. H. Farley	1-31-1855
236b	2-547	"	"	1-1-1855
237	2-578	G. Herrera	C. A. Sams	4-25-1871
238	3-626	H. Alsbury	R. Beall	10-25-1851
239	3-1223	J. W. Harris heirs	G. W. Cunningham	6-18-1852
240	3-1329	I. Crowley	A. G. Walker	6-18-1850
241	3-1443	D. Tannehill[1]	"	6-27-1850
242	3-1444	L. G. Tinsley	"	6-10-1850
243	3-1551	S. Huitt (I. Crowley		4-23-1853
244	3-1659	H. Medlin (J. Woolford)	A. G. Walker	7-23-1850
245	3-1683	W. Bradford (Frances Jourdan)	J. H. Cole	6-10-1852
246	3-1803	A. Foster heirs Susan Foster	A. G. Walker	6-25-1850
247	3-1889	Francis Troop heirs	"	6-25-1850
248	3-2803	T. Jasper	J. H. Cole	3-8-1854
249	3-2804	J. G. Cummings	"	3-6-1854
250	3-2806	J. M. Cummings (J. E. Still	"	3-6-1854
251	3-2826	L. J. Teeter (I. Elgin)		1854
252	3-2829	Esther Moore (W. Gidding)	A. G. Walker	4-11-1854
253	3-2833	I. F. Byrd	"	4-11-1854
254	3-2991	J. Doss	"	3-14-1854
255	3-2994	J. R. Doss	"	3-14-1854
256	3-5042	S. Cotrial	J. W. Lively	11-14-1860
257	1-130	T. Lagow	W. A. Ferris	6-28-1841
258	1-176	J. Grisby	"	6-28-1841
259	1-196	R. Christ	"	5-4-1841
260	1-206	P. Stockman	"	1- -1841
261	1-256	A. Nail (J. Rowe)	"	1- -1841
262	1-346	R. Kleberg	"	7- -1842
263	1-427	J. Howard (J. Rowe)	"	7- -1841
264	1-442	J. S. Ramsey (J. A. Smith, J. C. Brooke)	R. A. Terrell	6-15-1844
265	1-453	T. Thomas	"	6-11-1844
266	1-514	D. Tanner	"	6-1-1844
267	1-601	J. M. Hamilton	"	4-28-1847
268	1-781	J. Becknell (J. Byrd)	A. G. Walker	6-16-1851
269	2-22	J. H. Hyde Sr.	W. A. Ferris	10-18-1840
270	2-28	A. Rieman heirs	"	10- -1840
271	3-149	W. S. B. Anderson	"	10- -1840
272	3-1149	J. N. Bryan	A. G. Walker	1-25-1847
273	3-1965	J. Johnson heirs adm. S. B. Pryor	A. M. Keen	9-20-1847
274	3-1979	M. Hargraeder	"	12-4-1854
275	3-1987	A. M. Leake	A. G. Walker	5-17-1850
276	3-2051	J. A. Smith	"	1-13-1851
277	3-2123	W. M. Chenault	A. M. Keen	10-21-1851
278	3-2151	W. H. Barnes heirs	"	5-3-1851
279	3-2193	E. Willburn	A. G. Walker	1-2-1850
280	3-2195	J. Scurlock	"	1-5-1847
283	3-2201	A. G. Collins		4-2-1853

LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS AND DATES

Map No.3	Certificate	Grantee (*asse*)	Surveyor	Date
284	3-2202	J. W. Davis	J. H. Cole	4-25-1856
285	3-2385	J. M. Bennett	R. W. Lunday	11-16-1853
		"	A. M. Keen	7-10-1850
286	3-2933	W. H. Bennett	A. G. Walker	2-25-1854
287	3-3766	B. Beckner	"	3-27-1854
288	B-418	D. A. Murdock	W. A. Ferris	10- -1840
		"	"	10- -1840
289	B-131	N. McCraney	"	10- -1840
290	B-20	C. Grigsby	"	6-28-1841
291	1-164	U. Wuthrich	D. K. Webb	4- -1842
292	1-343	L. Dixon (P. Sublet)	"	4- -1842
293	2-69	L. Van Cleave	"	4- -1842
294	2-70	J. B. Richards (J. G. Beath, J. W. Harwood)	"	4- -1842
295	2-169	W. D. Menefee	B. J. Chambers	11-8-1841
296	3-36	B. J. Chambers	"	11-7-1841
297	3-1311	J. Weatherford	A. G. Walker	3-4-1847
298	3-1362	W. Rawlins	J. E. Patton	7-26-1851
299	3-1380	H. M. Rawlins	"	2-4-1851
300	3-1486	P. Kirkland heirs	"	10-15-1847
301	3-1535	G. L. Lenard	E. B. Spillman	4-12-1870
302	3-1561	W. W. Conover (Meredith Myers)	J. H. Cole	6-19-1856
303	3-1709	W. P. Holdman	A. G. Walker	3-9-1852
304	B-175	L. Van Cleave		2- -1842
		D. K. Webb	B J. Chambers	10-30-1841
305	1-181	S. Rumfield adm J. Duckworth	G. C. Parks	9-9-1874
306	1-213	J. Mott	B. J. Chambers	4-16-1840
307	1-270	B. Smith adm. Catherine	"	2-20-1847
308	1-271	C. White	'	2-1-1836
				2-14-1840
309	1-294	J. G. Lowe	"	2-1-1838
				4-16-1840
310	1-342	J. W. Baker	J. E. Patton	2-1-1847
311	1-363	G. Carpenter adm M. M. Batte	B. J. Chambers	2-1-1838
				4-10-1840
312	1-370	H. H. Swisher	D. R. Mitchell	5-1-1846
313	1-379	J. Boren	"	5-2-1846
314	1-415	G. B. McKinstry adm. Ann C.	B. J. Chambers	2-1-1838
				1-20-1841
315	1-462	W. Henry	J. E. Patton	1-7/8-1854
316	1-481	P. Olivar (C. Emmons)	D. R. Mitchell	4-27-1846
317	1-506	Z. Wilson	"	6-4-1840
318	1-603	E. D. Harrison	G. H. Cunningham	1-18-1853
319	1-691	A. Gonsaba (W. H. Steele)	W. L. Browning	10-14-1850
320	1-707	J. L. Chirino (J. W. Flannegan	B. P. Hollingsworth	7-11-1854
321	1-723	Ellis Co. School	G. H. Cunningham	8-12-1853
322	1-729	"	J. E. Patton	11-17-1852
323	1-729	"	G. H. Cunningham	6-14-1853
324	1-767	J. Hagerty	B. P. Hollingsworth	5-5/6-1854
325	1-839	W. K. Dalton	M. Wright	4-3-1857
326	1-841	J. Stewart	"	5-7-1857
327	1-845	G. R. Wheelock	I. Walker	4-2-1857
328	1-850	J. Barker heirs	"	4-7-1857
329	1-858	J. Chamblee	M. Wright	5-6-1857
330	1-864	J. B. Adams	"	3-28/30-1857
331	1-917	J. Lawrence	R. A. Davis	11-25/26-1858
332	1-957	R. Berry	"	11-25/26-1857
333	1-1009	L. Delsey heirs	"	8-8-1859
334	1-1089	T. M. Rowe	J. M. Eliot	6-12-1862
335	1-1092	J. A. Gaona (M. D. Bullion)	R. M. Wyatt	3-6-1853

Listing of General Land Office Patents, Grantees, Surveyors and Dates

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
336	1-1129	Mrs. Martha Brenan (W. A. Ransom)	W. M. Knight	12-30-1869
337	1-1178	B. Canfield	C. K. Goodwyn	12-5-1870
338	2-117	T. J. Smith	B. J. Chambers	2-1-1838
				4-14-1840
339	2-139	E. Farris	"	11-1-1841
340	2-228	R. Crow	J. E. Patton	2-1-1847
341	2-245	M. Whitaker	B. J. Chamers	8-1-1838
				11-3-1840
342	2-446	T. Webb		
343	3-1295	J. E. Patton	G. H. Cunningham	11-4/5-1850
348	N3-1421	J. M. Harding[2]	A. M. Keen	5-17-1850
349	N3-1423	J. R. Bruton (R. Akins)[2]	"	6-6-1850
350	N3-1424	S. A. Haught[2]	"	6-3-1850
351	N3-1425	"[2]	"	6-4-1850
352	N3-2199	T. J. Cambell[1]	"	7-24-1850
353	N3-3650	I. Edwards[2]	J. H. Cole	6-10-1858
354	N5-950	M. L. Swing	W. H. Thomas	5-28-1863
355	1-207	E. T. Branch	B. J. Chambers	1838-1840
356	1-576	J. H. Singleton	J. E. Patton	7-18-1850
357	1-576	"	"	7-19-1850
358	1-1132	S. Shupe	R. M. Wyatt	4-20-1869
359	1-1132	"	"	4-20-1869
360	2-86	L. Ballard	B. J. Chambers	11-25-1841
361	2-375	J. Smith	J. E. Patton	1-28-1851
362	2-419	J. Ball	B. P. Hollingsworth	5-20-1853
363	2-631	S. Smith	R. M. Wyatt	4-8-1869
364	3-45	J. Douglass	B. J. Chambers	10-31-1841
365	3-446	E. Melton	D. R. Mitchell	6-11-1841
366	3-1115	D. Smith	C. C. Taylor	6-9-1844
367	3-1275	N. Billingsley[1]	J. E. Patton	1-30-1851
368	3-1476	B. F. Hawkins[1]	G. H. Cunningham	11-5-1850
370	3-1484	A. S. Jenkins[1]	J. E. Patton	9-18-1850
371	3-1498	D. Weaver[1]	"	2-11-1850
372	3-1504	A. M. Lavender	"	6-1-1852
373	3-1539	H. H. Bradford heirs[1]	R. A. Davis	9-24/25-1858
374	3-1644	M. E. Allen[1]	J. E. Patton	7-26-1850
375	3-1779	J. Nugent[1]		8- -1853
376	3-3754	E. Sherly[1]	R. A. Davis	4-20-1860
377	3-3805	E. Jordan[1]	I. Walker	3-31-1857
378	3-4235	J. Rielmas (J. James & J. H. Cole)	C. H. Cordan	5-14-1857
379	3-5188	A. Logsdan	R. M. Wyatt	1-24-1868
380	B&D54	W. Gibson	B. J. Chambers	1838-1840
381	B&D169	W. B. Hill	"	10-31-1841
382	B&D313	D. Davis	"	11-7-1841
383	B&D315	I. Thompson	"	1-5-1842
384	B&D336	J. Cooper	"	8-18-1848
385	B&D851	T. F. McCreary	I. Walker	4-28-1857
386	B&D1036	A. Reeves	R. M. Wyatt	2-28-1868
387	B&D266	M. B. Gray	C. C. Taylor	6-5-1844
388	B&D839	T. W. Bundick	G. W. Pierce	9-24-1857
389	PE402	B. J. Rhodes	C. K. Goodwyn	8-6-1872
390	1-344	M. Phelps	J. E. Patton	3-4-1847
391	1-886	J. Ferguson	J. H. Cole	3-9-1857
392	2-184	G. W. Hoover	B. J. Chambers	11-11-1841
393	2-502	E. O'Connor	J. H. Cole	3-9-1857
394	3-177	J. Hunter	B. J. Chambers	11-11-1841
395	3-281	W. C. Walker	"	11-11-1841
396a	3-796	R. Simonton	A. G. Walker	9-29-1847
396b	3-796	R. Simonton	J. H. Cole	2-23-1858

LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS AND DATES

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
397	3-1249	J. P. Cole[1]	"	2-9-1851
398	3-1347	J. Hall[1]	A. G. Walker	10-15-1851
399	3-1500	J. Chapman[1]	J. E. Patton	3-8-1853
400	3-1500	"[1]	A. G. Walker	3-6-1852
401	3-1536	J. C. Helms[1]		
402	3-1601	E. Sharrock Sr. (H. Hustad)	J. H. Cole	4-12-1852
403	3-1602	A. Slayback[1]	A. M. Keen	2-25-1853
404	3-1610	J. J. Metcalf[1]		
405	3-1640	H. Clark[1]		
406	3-1653	C. Treese[1]	J. H. Cole	1-28-1852
407	3-1653	S. A. McCommas[1]	F. G. Eakins	1-22-1852
408	3-1697	"[1]	"	1-7-1852
409	3-1758	R. Rawlins heirs[1]	A. G. Walker	1-10-1851
410	3-1768	J. Evans[1]	"	6-10-1851
411	3-2314	M Weatherford	J. H. Cole	12-4-1854
412	3-4412	E. D. Little	"	2-24-1850
413	B&D163	E. Bade (A. Eldrige)	B. J. Chambers	11-11-1841
414	N-1-129	D. Parker	W. A. Ferris	6- -1841
415	I-231	H. Heder	"	1-1842
416	1-255	J. D. Merchant	"	11- -1841
417	1-435	J. P. Anderson	R. A. Terrell	6-6-1844
418	1-439	J. Little	"	6-12-1844
419	1-449	D. Crist	W. A. Ferris	5-1841
420	1-814	J. Edmonds	A. G. Walker	9-4-1851
421	1-951	J. Stephenson	W. W. Barnes	8-7-1857
422	1-951	J. Stephenson	W. W. Barnes	4-15-1857
423	1-1026	J. L. Whitmar (J. T. Morehead)	J. H. Cole	3-25-1857
424	2-313	E. T. Gains (adm I. F. Pace)	R. A. Terrell	4-29-1847
425	2-462	Cordelia Bowen (R. J. West)	J. H. Cole	3-25-1857
426	2-519	J. T. Ault	R. B. Murphey	8-22-1871
427	3-78	J. L. Farquhar	W. A. Ferris	11- -1840
428	3-521	J. L. Beeman	A. G. Walker	1-2-1847
429	3-692	J. R. Reid	"	8-3-1849
430	3-1068	J. Evans	S. Huffer	5-13-1857
431	3-1068	"	"	5-13-1851
432	3-1260	V. Parnell (T. Box)	J. E. C. Tinnin	7-7-1849
433	3-3810	J. Davis	D. W. C. Smith	4-17-1857
434	B-411	G. Santos (J. Browsigs, M. Hatch)	R. A. Terrell	4-30-1847
435	B-617	J. W. Hayner (J. Aldridge)	J. W. H. Thomas	8-7-1836
436	S-6	C. A. Lovejoy	W. A. Ferris	10-1840
437	3-1268	J. Scott[2]	A. M. Keen	5-5-1850
438	3-1637	W. Lomax heirs	"	10-14-1850
439	3-1950	I. Park heirs[1]	A. G. Walker	1-23-1851
440	3-1976	S. Carver[1]	A. M. Keen	5-3-1850
441	3-1999	D. A. Badgley[1]	A. G. Walker	6-25-1851
442	3-2017	E. Fike[1]	"	4-30-1851
443	3-2018	J. A. Fondren[1]	"	11-1-1851
444	3-2022	M. P. Green[1]	"	6-17-1851
445	3-2033	W. Larner heirs Elizabeth[1]	"	5-10-1851
446	3-2043	F. Miller[1]	"	10-17-1851
447	3-2046	A. Perry[1]	"	10-17-1850
448	3-2056	S. Silkwood heirs[1]	"	10-22-1851
449	3-2067	F. Bowles heirs[1]	J. H. Cole	2-1-1855
450	3-2069	Lavina. McCommas[1]	A. G. Walker	12-24-1850
451	3-2098	R. McCullough[1]	A. M. Keen	1-14-1852
452	3-2102	T. C. Williams[1]	A. G. Walker	1-15-1851
453	3-2107	J. J. Moneyham[1]		
454	3-2114	A. Keen[1]	A. M. Keen	7-10-1850
455	3-2115	W. W. Cout heirs adm W. M. Cochran[1]		

LISTING OF GENERAL LAND OFFICE PATENTS, GRANTEES, SURVEYORS AND DATES

Map No.[3]	Certificate	Grantee (*asse*)	Surveyor	Date
456	3-2125	W. J. Snow[1]		
457	3-2128	B. Frost[1]	A. M. Keen	5-9-1850
458	3-2147	I. Elam[1]	"	4-11-1850
459	3-2147	"[1]	"	4-13-1850
460	3-2154	W. O. Abbott	"	2-3-1852
461	3-2156	N. Anderson[1]	"	4-11-1850
462	3-2157	J. Elam[1]	"	5-2-1850
463	3-2198	H. C. Davis[1]	"	6-13-1850
464	3-2384	T. Scott heirs adm. J. M. Bennett[1]	"	11-20-1850
465	3-2198	H. Davis[1]	"	5-27-1850
466	3-2489	P. McClary[1]	A. G. Walker	8-25-1854
467	3-2491	R. Bethurum	"	3-22-1850
468	3-2641	T. D. Coats	S. Coats	9-27-1859
469	3-2641	"	"	9-27-1859
470	3-2642	J. C. Hull[2]	A. M. Keen	7-27-1852
471	3-2642	"[2]	R. Ewin	11-1-1859
472	3-2749	T. Collins	A. G. Walker	2-21-1854
473	3-2899	J. Rovina hiers	C. D. Pierce	9-15-1855

1 Peters Colonialist

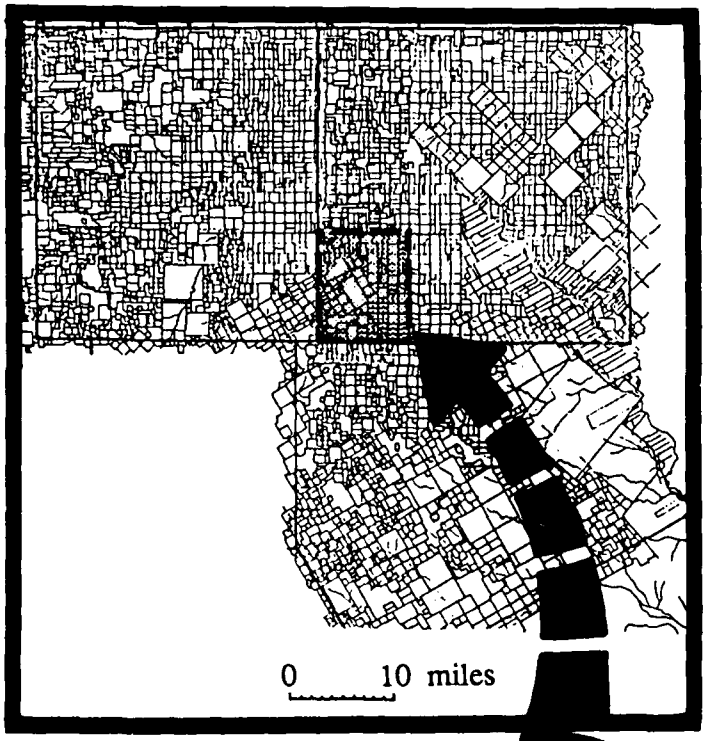
2 Mercers Colonialist

3 The map numbers are discussed in Chapter 26

Table B-1

PETERS COLONY BIOGRAPHIES, SETTLERS AND ABSENTEE LANDOWNERS

	Name	Birth Place	Previous Residence	1850 Age	Family Size	Occupation	Residence on Land	Residence Elsewhere	Sold Unlocated
1	William Clark				2	Farmer		Denton	
2	John S. Jones							Denton	
3	Hugh Robinson	NC	Ill	64	3			Ellis	
4	Robert Ground	KY	Ill	31	5			Tarrant	
5	Seborn J. Baggett	GA		23	3		Dallas		
6	Joshua McCombs	ARK		26	1			Tarrant	
7	Jacob G. Boydston	KY	Ill	38	10		Tarrant		
8	Elisha McCommas	OH		20	1		Dallas		yes
9	Henry Wand	England	ARK	32	3	Mason	Dallas		
10	J. Munden	IND		27	2			Ellis	yes
11	Benjamin Dye, Jr.	KY		21	1		Dallas		yes
12	James Coldiron	KY	MO	35				Ellis	
13	G. Syms	England		48		Shoemaker	Dallas		yes
14	U. Baggett	NC	ALA	53	7		Dallas		
15	J. B. Patton	NC	MO	52	5	Surveyor		Ellis	
16	J. H. Cole	TN		23	1	Surveyor / Farmer	Dallas		yes
17	H. McDowell	KY	MO	35	5		Dallas		
18	A. C Wampler	IND		22	1		Dallas		
19	W. R. Wampler	MO		23	1			Collin	
20	Thomas J. Crutchfield	KY		47	7	Innkeeper	Dallas		
21	Samuel B. Pryor	VA		30	4	Physician	Dallas		
22	J. Stevens	VA	MO	33	9			Navarro	
23	Sarah Ream				5				
24	P. Narboe	Norway		25	1		Dallas		
25	Carlos Wise	Ill		31	4		Dallas		
26	Valentine Wampler	VA	Ill	49	4		Dallas		
27	W. Sloan	IND		26	1		Dallas		
28	T. Langley	GA	MO	40	10			Gray	
29	W. R. Fletcher, Jr.				3			Navarro	
30	G. H. Fitzhugh	KY		29	1			Collin	
31	A. Cockrell	KY		32	3		Dallas		
32	P. Kimmel	Ill		24	1		Dallas		
33	L. Ledbetter	TN		16	1		Dallas		yes
34	E. C. Thomas	TN	MO	27	1		Dallas		
35	Meredith Myers	KY		21	1	Surveyor		Ellis	yes



1	William Clark	19	W. R. Wampler
2	John S. Jones	20	Thomas J. Crutchfield
3	Hugh Robinson	21	Samuel B. Pryor
4	Robert Ground	22	J. Stevens
5	Seborn J. Baggett	23	Sarah Ream
6	Joshua McCombs	24	P. Narboe
7	Jacob G. Boydston	25	Carlos Wise
8	Elisha McCommas	26	Valentine Wampler
9	Henry Wand	27	W. Sloan
10	J. Munden	28	T. Langley
11	Benjamin Dye, Jr.	29	W. R. Fletcher, Jr.
12	James Coldiron	30	G. H. Fitzhugh
13	G. Syms	31	A. Cockrell
14	U. Baggett	32	P. Kimmel
15	J. F. Patton	33	L. Ledbetter
16	J. H. Cole	34	E. C. Thomas
17	H. McDowell	35	Meredith Myers
18	A. C Wampler		

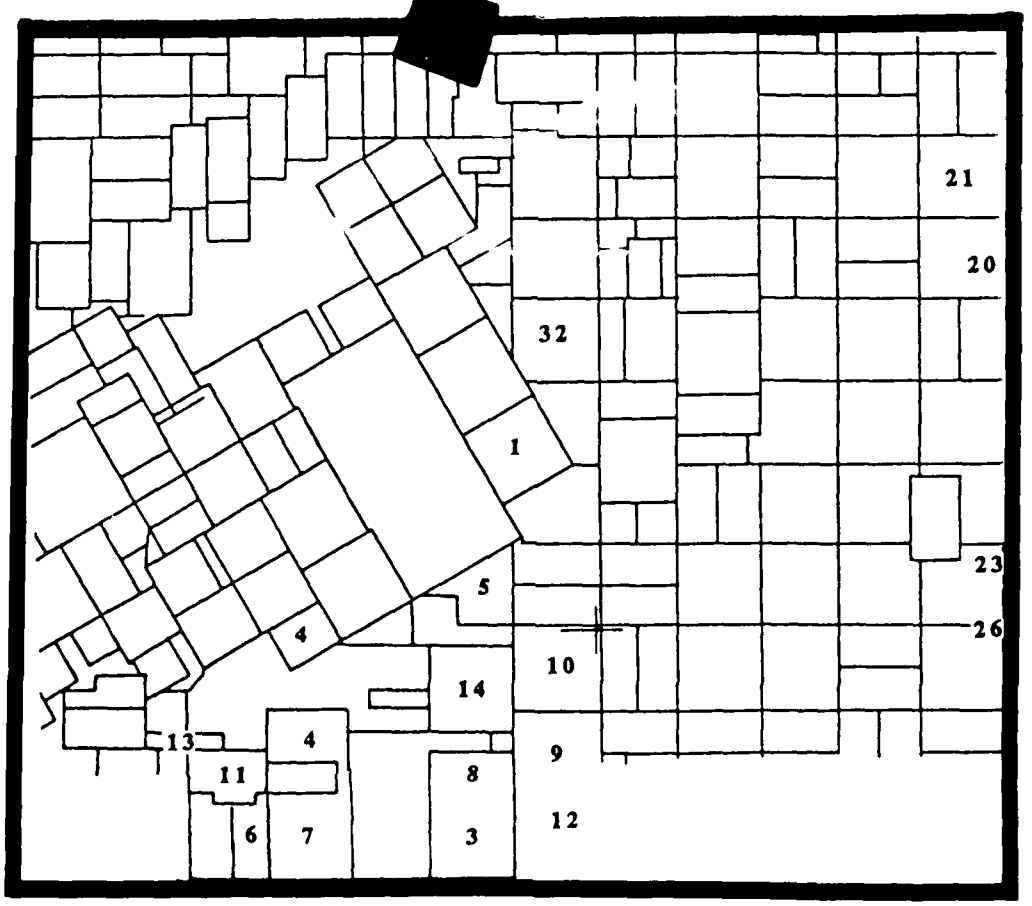
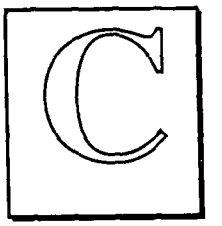


Figure B-1. The location of land tracts owned by individuals listed in Table B-1. The index lists those shown in the enlarged inset and those dispersed across the county. Not all Peters Colonists are listed. Chapter 26 offers additional details on early survey data.

APPENDIX



CEMETERY LISTINGS

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
Estes Cemetery				
1	Arthur D. son of Arthur & Ellen Mercer	8/251871/1-18-1918	Our baby is in Heaven	Marble block, lamb
4	Inf. Dau. of J. C. & Bettie G. Talley	12-15-1893/12-17-1893	Budded on Earth to bloom in Heaven	Ionic tablet, lamb under tree
6	Inf. son of P. T. & E. J. Woodward	9-9-1886/9-9-1886	Our little boy sleeps sweetly here	Marble Roman tablet
7	Wm. F. Husband of Harriet Davlin	4/3/1828/12-13-1869	Farewell my wife & children from you of folly Christ doth call. More not for me, its is vain to call me to you — again	Cross gable obelisk, marble
	Thomas son of W. F. & H. Davlin	/7-25-1889	" " "	
10	Isabelle Ragland	/6-21-1898	Our darling mother has gone before to await on the other shore	Obelisk-clasped hands
11	Joe H. Ragland	3-24-1852/6-4-1898	He was the sunshine of our home	Obelisk
12	Mary Eliza Perry wf. of J. H. Ragland	8-10-1859/12-14/1945		Granite block
13	PERRY (REL) Jane (mother) J. D. (father)	1893-1935 1854-1939 1845-1926		Granite block Concrete plot pad
16	Mable, Dau. of R. A. & J. P. Bowerman	5-27-1900/12-1-1904	Our darling one has gone before	Obelisk
17	Elizabeth wife of W. D. Perry	3-9-1854/3-11-1904	. . . Blessed are they	
2	Ellen Davlin Graves	/8-3-94	Mother	Modern beveled granite block
3	Mary T. Reed dau. of T. J. & Elizabeth Ragland	8-6-1847/7-1-1893	My mother gone from our home but not from our hearts	Beveled marble (pulpit) w/ lily (Heaven's gates)
5	Emma Ragland wife of B. F. Lowe	1-6-1861/7-2-1886		Cross gable obelisk w/Rose/ Daisy/Lily motif
8	PALMER Francis Marion (Fa) Bellezora Virginia (Mo)	 12-18-1855/02-08-1939 11-6-1861/11-22-1941		 Modern beveled block Granite (Palladian)
9	T. J. Ragland	4-5-1805/10-8-1897	An honest man. The noblest work of God	Cross gable obelisk clasped hands, marble
14	N. B. Perry	7-24-1820/12-11-1903	Father you are not dead to us but as a bright star unseen we hold that you are ever near though death intrudes between	Beveled obelisk marble
15	Margaret wf. of N. B. Perry	8-11-1839/3-7-1905	Gone from our home but not from our hearts God's will be done	Beveled obelisk marble
18	Raymond son of J. E. & Bessie Loyd	10-12-1907/1-27-1908	Sleep on sweet babe and take thy rest God called thee home He thought it best	Marble Palladian tablet
19	Infant Loyd	6-21-1906/6-30-1906	Our darling ones have gone	Roman arch-top marble
	Infant Loyd	6-21-1906/6-21-1906	before to greet us on the blissful shore	tablet
26	Jewell M. Palmer	12-6-1896/3-21-1977		Masonic low beveled granite (Palladian)
27	Claud Palmer	/6-1-32	Texas Pvt. 1cl Med Dept. Cross decoration	Arched marble tablet Roman

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
30	Carl Palmer	5-27-1894/10-15-1979	Father	Ground level granite
31	Mary Alice Ferell	1862 - 1867	Praying Angel	P. C. granite
20	Viola Wallander	4-7-1890/1-10/1918		Granite beveled tablet
	wf. R. E. Churchill			
21	Inf. of S. R. & L. E. Wallander			
22	Inf. of S. R. & L. E. Wallander			
23	Louverna E. Ferrel	3-17-1866/12-16-1902		Granite beveled tablet
	wf. of S.R. Wallander			
24	J. W. Lowe	12-6-1850/1-14-1919	No pain, no grief, no anxious	Marble block-scalloped
	Ellen Ragland	8-26-1850/	Fear can reach the peaceful sleeper here	Monument
25	Sarah T. Lowe	3-17-1844/9-26-1911		Marble obelisk
28	Lydia Palmer	5-13-1888/2-23-1906		Concrete tablet-whitewashed
29	Wiley Palmer	8-3-1884/2-3-1896		" " "
32	Grandmother Ferrel mo. S. L. Ferrell			Granite foot block
34	Les Maxey	1874/1921		Granite foot block
35	Florence Curry Mayey	1876/1934		" "
36	Vivian V. son of Chas B. & Eliz. L. Cornelius	2-8-1875/5-7-1891	Tread softly for an angel band doth guard the silent dust and we can safely leave our boy, our darling, in their trust.	Marble tablet, cross & crown
38	Ada E. Dau. of Chas B. & E. Cornelius	6-12-1868/7-14-1878	" " "	" " "
39	Ivan Estes Heard	1897/1933		Granite foot block
41	Leo Jack Heard	1899/1924		" " "
44	Sallie L. wf of S. J. Heard	3-28-1874/10-23-1903	A precious one from us is gone, her loving voice is stilled a place is vacant in our home, which never can be filled	Marble obelisk dupe
46	Texana T. Estes	12-7-1858/8-23-1861	Blooming in Heaven (Grizzle Smith, Dallas, TX)	Corbel tablet marble
47	Ben F. Estes	1-22-1862/6-5-1868	Blessed are the Dead that die in the lord	Roman tablet marble
50	Willis D. Estes	3-12-1870/3-21-1903	They who knew him best all bless his name, and keep his memory dear while life shall last	Draped obelisk marble
51	J. H. Estes	2-4-1866/8-2-1904	To live in the hearts we leave behind us is not to die	Draped obelisk marble Mason
33	W. H. Curry	1-18-1838/12-4-1901	FATHER, They are not lost but gone before	Modern granite block
	V. D. Curry	6-24-1847/1-23-1923	MOTHER	
37	Back			
	Chas. W. son of C. B. & A. Cornelius	/1-25-1878 aged 21yrs	Gone but not forgotten	Marble pulpit
	Front			
	Chas B. Cornelus	10-1-1827/1-21-1878	Sleep on dear/husband take thy rest/ God called called thee home, he thought it best	w/ Holy Bible open

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
40	Sidney J. Heard	1874-1936		Concrete perpetual care
42	Margaret A. Heard	1882-1967		" " "
43	W. H. Hare?	1868		Marble obelisk
45	Mary A. Estes	7-14-55/4-22-57	Gone but not forgotton (Hand pointing to Heaven) Tarrant Co., TX	Gothic arch
48	Silas Estes	6-2-1826/7-28-86		Masonic obelisk, Marble 7' tall
49	Elizabeth M. wife of Silas Estes	6-28-1835/1-31-1904	Tho lost to sight to memory dear	Draped Sq. top obelisk
52	Sina Loyd			Concrete
53	Ann Loyd	1853/1912		Small granite p.c.
54	John Loyd	1-21-1870/5-29-1934		Granite p.c.
55	S. L. Ferrel	1-7-1837/1-30-1923	At Rest	Modern granite block
58	W. R. (Bill) Rosier	5-27-1881/9-7-1941		Flat beveled granite
56	Mary E. Ferrel	4-6-1843/5-24-1931	At Rest	Granite block
57	Sallie Perry Rosier	6-16-1877/12-25-1935		Granite foot block Concrete plot
59	M. J. wife of I. R. Cottingham	10-20-1852/5-23-1901	There immortal spirts reign, there we shall meet again	Omega tablet dove
62	Marion Loyd	1835/1928		Granite foot block
63	Ann Loyd	2-21-1912/1-21-1921	Blessed are the dead which die in the Lord	Concrete tablet
66	James Kerwin	/2-29-1884 aged 43yrs	At Rest	Hand to Heaven
67	Mary C. Mckinley	12-6-1854/3-5-1895	Gone to rest	Concrete Roman Holy Bible
69	C. W. Bowman			Concrete round tablet hand chipped
70	Bertha J. Bowman	12-14-1889/5-11-1914		Granite Pulpit
72	Bud Canden	1924/1936		Drilled holes in marble
77	Addie Maude Forte	1894/1937	Mother	Granite foot
76	Joe W. Wails	4-21-1879/8-2-1930	Dad	Granite foot
80	Walter G. Bickerstaff	1892/1931		Marble block
81	Ida Alice Stinson	1871/1962		Marble foot block
83	John Wesley Stinson	/11-3-1933	TX Put 124 Inf 31 Div	Marble Military
84	Gladeth Stinson			Metal cross
86	Linsley Stinson			Wooden cross
87	Thelmal Alice Stinson	1921/1929	In Heaven there is one angel more	Marble foot block
89	Corbet Brackenridge		"Grand Prairie, TX"	Carved porceline shells and vases
93	Ellas I. Emmons	1-2-1809/6-11-1897	Weep not he is at rest-gone home	Tablet ornate Heaven's gate
96	Thomas Russell Hopson	8-5-1889/12-15-1893	" " "	Gable table marble
95	Johnnie Telithia Hopson	1-8-1892/6-20-1893	" " "	" " "
60	Florence Willis	8-22-1875/12-24-1912	Mother at Rest	Low curved top marble tablet
61	Jerry Richard inf. son of Bob & Cordie Loyd	8-5-1937/8-7-1937		P.c. granite
64	Tom Loyd	1848/4- -1873	At rest	
65	J.C. Loyd	2-27-1837/5-5-1922	I have fought a good fight,	Beveled granite
	Susan wife of	11-15-1847/7-31/1937	I have finished my course,	

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
	J. C. Loyd		I have kept the faith	
68	Isaac G. Bowman Front	10-15-1820 (back)		
	Mary Catharine Armstong wife of I. G. Bowman married 9-15-1840	2-17-1822/5-3-1899 77 yrs, 2mo, 16 days	FATHER and MOTHER, she died as she lived a devoted Christian	Marble obelisk
71	G. A. Bowman			Arched concrete tablet name cast in
73	Earl Carder	/1- -1921	Gone but not forgotten	Cast concrete tablet name inscribed by hand
74	Flake Waits	7-12-1912/7-12-1912	Daughter	Flat granite at angle
75	Alice L. Waits	12-31-1882/1-20-1949	Mom	Fl. granite at angle
78	Charlie Stinson			Wooden cross white w/ bl. hand-painted letters
79	Charlie Wilson Stinson	7-7-1906/11-19-1936		Flat modern granite P.c.
82	Giles T. Stinson	1869-1945		Flat marble
85	Fred Stinson			P.c. wooden cross white w/ bl. letters
88	Martha Stinson			White cross w/bl letters flattened galvanized pipe
3/4"				
89	William Lively	/8-15-1928	TX Pvt 1 cl 165 Depot Brig	Arch-top marble tablet cross in circles
91	John R. Emmons	10-3-1846/10-2-1870		Bronze short pulpit
92	Mildred H. Emmons	5-2-1809/6-4-1887		" "
94	Jacob B. Back	3-9-1819/8-6-1881	4th Sgt Mtd rifle gds Confederate States army	Flat p.c. marble
97	Jacob Back	3-9-1819/8-6-1881	On earth a father , our father lost and missed, in Heaven an angel gained.	Ornamental marble arched-top
103	Callie Ora Dau. of S. T. & M. C. Marrs	10-12-88/1-24/90	Sweet Ora unto earth a little while was given She plumed her wing for flight and scared away to Heaven	Carved top marble w/ lily
109	Anna Wanda Dau. of	4-14-99/4-18-99		Curved top marble tablet
	Fredrick and Mathilde Hintze			
112	Hulda wife of Ernest Hintze	2-11-1870/5-11-1901	We'll join thee in that heavenly land, No more to take the parting hand	Marble pulpit w/ open Bible
98	Nancy P. Back wf. Jacob	9-6-1818//5-9-1879	To earth a jewel lost, to Heaven an angel gained	Gable tablet
104	Nancy E. wf. Azariah K. Marrs	3-2-1838/1-22-1893		Obelisk marble
	Azariah K. Marrs	8-8-1833/		
106	S. J. inf. Dau. W. J. & J. H. Reed	6-18-1887/1-1-1888 aged 6 mo. 12 days	In memory	Corbel tablet Dove & barren tree marble
107	Jofine wf. of W. J. Reed	5- -1850/7-18-1897	Here is one who is sleeping w/ faith and love with hope that is treasured above.	Cross gable obelisk marble

Cemetery Listings

Map	Name	Birth/Death	Commemoration	Stone Type
105	Dellie M. wf. A. E. Capp	4-6-1874/10-4-1906	Asleep in Jesus	Pulpit w/ Bible marble
113	Fannie Carlton	1-1-1884/11-25-1926	Thy trials ended thy rest is won	
108	Otto J. Hintze	11-8-1885/9-17-1914	Blessed are the dead which die in the Lord.	Woodmen w/ Calas
110	Ida May dau. of F. & M. Hintze	3-17-1894/4-7-1894		Roman marble
111	Hintze			
	Bertha L wf. of E. L.	7-11-1851/9-2-1891		
	Henretta wf. of E. L.	8-1-1850/4-5-1894	Inf. Dau. 4-6-1894	
	Max M. E. L.&B. L.	8-7-1891 6 mo.		
114	E. I. hus. of L. E. Emmons		/1-21-1893 43yrs	Roman marble
117	Bertha A. dau. of J. D. & M. E. Curry	2 mos	Keep our sweet babe & finally rest God called her home, he thought it best	Ornamental tablet dove and flowers
119	Christine Wilhilmena Louise Annen	3-8-1867/5-7-1910		Obelisk marble
120	J.& L. Annen	Charlie Sares	7-21-1894/7-14-1903	
122	S. Emmett Bozarth	3-27-1885/8-20-1956		Granite foot
	Kate Palmer	8-22-1893/4-25-1973		
115	Earnest L. Hintze	8-25-1848/8-20-1926	Gone but not forgotten	Modern granite block square
116	Fredrick August Hintze	8-28-1851/12-15-1917	At rest	Arch top modern granite block
118	Annie dau. of John & Louis Annen	4-4-1896/10-30-1914		Cross gable obelisk marble
121	Elisabeth dau. of John & Louis Annen	11-25-1890/2-6-1894		Curved top marble table
123	Joseph Collier Barksdale	2-9-1868/3-3-1931	Great loves live on	Flat granite modern
124	ANNEN			
	Wilhelm	1-5-1885/1-19-1919	The gift of God	Large granite tablet w/ "FATHER," "MOTHER" foot stones
	Emma	9-7-1883/11-5-1934	is eternal life	
125	Inf. son of Mr. & Mrs. Will Annen	10-5-1936		
126	L. Neal (Dock) Myers	5-20-1903/1-3-1950		Low marble slab
127	Lovenna (Myers) Henry	11-6-1879/8-30-1920	In memoriam and loving remembrance. Supreme forest woodmen circle	Arched marble tablet
128	Baby Copland			4 x 10 flat hand inscribed concrete
129	MYERS			
	W. Baxter	7-20-1877/8-15-1944		Low angled
	Deliah Fry	9-19-1881/8-7-1968		Granite slab
130	Eva Rosier Fry wife of C. N. Fry	7-11-1879/9-14-1919	She died as she lived, at true and faithful wife mother and Christian.	Large granite tablet
131	Fry			
	Charles Newton	1879/1962	Engraved flowers and vines	Low, wide Palladian
	Lola Dell	1919/		Tablet ganite
132	Reitz		Bible with roses/carnations	Large square granite tablet
133	Joe R. Rutland	7-11-1933		Flat granite slab

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
146	Bowlin			
	H. J. Bowlin	6-25-1862/7-23-1933	In God we trust	Large granite
	Mrs. H. J. Bowlin	1-27-1863/7-23-1943		Tablet pulpit style w/ matching foot stones "L.B.", "H. J. B."
147	Father			
	J. H. Bowlin	1842-1922	Christians	Arched granite tablet
	Mother			
	J. A. Bowlin	1839-1925		
134	A. R. Myers husband of Molly Myers	5-17-1848/1-25-1908	Gone home rest father rest	Pulpit-Bible-flowers-dove, Mason
135	Molly wife of A. R. Myers	9-17-1857/11-27-1906	It was hard indeed to part with the but Christ's strong arm supported me	Pulpit-Bible flowers anchor
136	Alvin M. son of	7-31-1875/6-9-1894	Behold ye strangers passing by,	Narrow pulpit-closed
	A. R. & M. Myers		As you are now, so once was I As I am now so must you be Prepare for death and follow me	Bible, Heaven's gate globe-star-dove
137	Baby Unknown			Funeral marker concrete
137-138	Name plates torn off			Hugh M. Moore Arlington
140	John Fry?			Funeral-Concrete
141	Baby Vernie Fry	2 yrs		Hugh M. Moore & Sons Arlington, Ft. Worth
142	FRY			
	W. B.	1-13-1843/12-26-1915		Granite block
	Sarah R.	10-30-1848/1-8-1935		
143	William Fry	9-10-1911/12-20-1974	Pvt. U.S. Army	
144	Martha L. Bowlin	1-2-1876/1-24-1966	Gone but not forgotten	Foot block
	Father J. W. Bowlin	2-28-1867/3-24-1938	Gone but not forgotten	Foot block
148	CURRY			
	Father Asa	1872/1941		Foot block
	Mother Bettie	1874/1958		
149	Jewel (Curry?)	1915/1934		

Estes is located on the north margin of blackland prairie between Mountain and Walnut Creeks. North facing slope, old road runs to Lowe (41TR40).

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
Pleasant Valley				
2	John Emil Holveck	6-11-1895/6-29-1972	Texas Pvt. US Army WWI	Flat Granite, sleep
3	Illegible, broken	/1-15-1881?		Marble tablet
6	J. J. Holveck	2-2-1858/9-4-1895	Gone from our home but not from our hearts	At rest, Heaven's gate motif, pulpit w/ cross marble tablet
11	Charles E., son of C. E. and Laetitia Bedford Milton	1-7-1860		Modern granite slab
12	Sally Bedford	5-30-1799/7-28-1856	Watch, therefore/for ye know not/what hour your/Lord doth come	Cross gable marble obelisk names on two sides; ferns and cattails
	Benjamin Bedford	7-22-1798/10-25-1855	Be ye also ready;/ for in such an hour/as ye think not the/ Son of man cometh	Foot stones "B. B.", "S. B."
13	Eliza Bedford Snyder	2-6-1831/4-3-1855		Flat marble slab (modern)
1	Coline Honey	8-30-1863/6-26-1904	Our darling one hath gone before to greet us on the blissful shore	Gabled arch-tablet cross
4	David M. Lawson	11-13-1843/11-2-1903	Kind father of love, thou art gone to thy rest, Forever to bask mid the joys of the blest	Small pulpit
5	M. E. B.			Grave recently mounded, stone dragged down
7	Pearl dau. of T. W. and L. J. Pennington	12-28-1901/2-23-1903	Our darling one hath gone before to greet us on the blissful shore	
8	C. H.			
9	R. E. K.			
10	I. B.			
14	Lizzie Pendleton	1833/1863		
	Alex Cope	1842/1852		
15	Eld. J. Frank Simmons son of J. C. & S. J. Simmons	8-1-1864/6-28-1895	He was a faithful Baptis preacher to know him was to love him/ erected by his friends	Flat oblisk-closed Bible
21	Rhodae wf. of J.E. Kelly	7-16-1840/8-30-1876		Original bois d'arc posts ornamental wire enclosure brass doorknobs cross gable obelisk
16	Annie wf. of J. F. Simmons	7-15-1867/4-30-1891	In memory	Finger to Heaven, ferns
18	Two Individuals, stolen stone			Shrouded pulpit Bible Rose
19	Father and Mother			
	Robt Ground	6-7-1817/5-17-1879	Their toils are past, their work is done and they are fully blest. They fought the fight the victory won and enter into rest	Ornate door vase of roses
	Elizabeth	1-31-1820/10-11-1881		
21	S. A. R.			
22	J. G. Boydston	1-24-1812/5-25-1899	Gone from home, but not from our heart	Orb cross gable obelisk
23	Louisa Boydston	1824/1908	Mother	Foot block
25	Mordecai F. Ground	12-8-1839/2-20-1873		

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
26	E. A. H. and M. F. H.			
29	M. A. R.			
31	PARKER			
	Maria Mary	7-13-1871/8-12-1953		Foot block
	James Lacy	9-13-1870/5-11-1936		
32	Jessie James Parker	6-15-1900/7-14-1954	Our father	Foot block violin
33	??			
34	J. B. C.			
35	Louella Cope			
36	Hodges Cope			
40	M. M. McK.			
37	COPE			
	Mary A.	2-8-1840/10-6-1913	erected by Dau. Etta	Large block
	John B.	9-28-1837/12-8-1878		
38	??			
30	HOLLAND			
	Adaline	9-1-1823/1-1-1901	Mother, faithful to her trust even unto death	Arched columns orb clasped hands
	Mordica	3-10-1810/3-16-1862	Father, Father! let thy grace be given so that we may meet in Heaven	
42	Sarah C. wf. of James Robinson	9-17-1838/10-9-1899	Gone from our home, but not from our hearts	Pulpit
43	James Thomas son of Jas and Sarah C. Robinson	3-12-1870/1-3-1888	Gone but not forgotten	Ornate tablet clasped hands farewell
44	Rufus R. son of Jas. and S. C. Robinson	/11-30-1874		Foot block
47	William Boydstun	10-30-1801/5-24-1882		Ornate omega tablet
49	Martha E.Crenshaw	6-1-1836/3-22-1910		Small pulpit
51	David M. Savage	3-6-1845/11-10-1897	To him we trust a place is given among the saints with Christ in Heaven	Pulpit Bible
32	LOWE			
	Susan A.	1839/1921		Large block
	Benjamin H.	1830/1879		
53	Ezra Eddy, son of B. H. and S. A. Lowe	7-24-1866/7-13-1871		Roman
17	Socrates son of	12-20-1877/2-14-1877		Arched marble tablet
	B. F. and E. G. Wolcott			"S. W." foot stone
20	Henry, son of Jacob B.	1836/1848	"First grave in cemetery"	Angled granite tablet
	and Drusilla Boydston		"Killed by a kick from a horse and buried under an old oak tree. His parents on Aug. 1, 1870 gave the ground as the original tract for a new cemetery."	(modern)
24	HOLLAND			
	James Holland	4-19-1805/7-2-1882		Large granite tablet
	Malinda his wife	2-15-1807/10-31-1874		
	Anna his wife	12-28-1832/4-22-1915		
39	Infant son and Dau. of Robt and Elizabeth Ground		They sleep in Jesus	Arched marble tablet hand holding roses
27	Ralph L., son of	10-15-1882/11-14-1882		Palladian top marble

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
27	J. W. and M. A. Holland			tablet sleeping lamb "R.L.H." foot stone
28	Mary A. wife of I. W. Holland	11-7-1856/2-14-1885	Faith, Hope, and Charity	Cross gable obelisk w/ tower. "M.A.H." foot stone.
39	missing			"M.A.R." foot stone
41	James Robinson	12-24-1831/9-21-1898	Farewell my wife and children all. From you a father Christ doth call	Marble pulpit obelisk w/ Holy Bible on top
45	James Earl Tunnell	9-19-1893/8-10-1892	Gone but not forgotten	Arched marble tablet "J.E.T." foot stone
46	Georgie E. dau. of W. M. and S. M. Tunnell	2-4-1887/3-10-1887	Baby, Budded on earth to bloom in Heaven	Arched marble tablet w/ beveled edges
48	Nancy H. wife of Wm. Boydstun	7-15-1803/4-16-1878		Palladian top marble tablet "N.H.B. foot stone
50	Columbus France (Broken) Savage?	11-11-1859/11-24-1883	A faithful friend a husband dear a tender parent is buried here great is the loss we here sustain but hope in heaven to meet again	Marble tablet
54	Mrs. America L. Hart	3-29-1837/11-18-1893	Our mother! Gone from our house, but not from our hearts	Pulpit, Bible, Heaven's Gate
55	M. J. Blessing and Inf Dau		2-7-1854/5-25-1878	Cross gable obelisk
56	Sarah F. wf. of A. Bratton	1-31-1856/10-10-1878	She's gone in her beauty, in silence in rest, and a grave will make her, adorn in our breast. Her robe must be spotless with to accord for blest are the sleepers who die in the lord, we part to meet again	Ornate door roses
57	Emma Sue dau of I. W. and M. J. Lowe	1-17-1866/1-23-1866		Roman sleeping lambs
58	G. W. (Groud)?	6-27-18??/5-20-1868		
59	Mary inf. of I. W. Lowe	10-10-1805/9-18-1867	Gone Home	Tablet Hand to Heaven
60	Isaac Lowe	9-21-1806/4-12-1890	Blessed are the dead that die in the Lord thy shall rest from their labors and their works do follow them	Orb-Obelisk
61	Amada C. wf. of	4-20-1833/9-24-1895	We trust our loss will be her	Holy Bible book divine
	William C. Lowe	3-28-1827/7-16-1885	gain and that precious treasure that thou art mine with Christ she's gone to reign	
62	Mary A. Cope	2-8-1840/10-6-1913	But God will redeem my soul from the power of the grave for he shall receive me. Psalm XIIX 15	Orb-Obelisk
75	Ed Carberry	9-14-1868/12-6-1928		Block
76	Cathern Carberry		Born in Ireland died in America	
77	Inf. Son of L. W. and Annie Ricketts	2-7-1882/2-7-1882	Suffer little children to come unto me	Small pulpit
78	WESSON			
	Annie Pearle	2-19-1888/11-7-1977		Foot block
	Andrew M.	8-6-1880/12-4-1956		

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
79	Mary V. Dollar	7-27-1861/3-25-1907		Block
63	MILTON			
	Joyce Annie Ray	3-19-1904/1-4-1971		
	John Henry	9-23-1888/2-22-1971		Low granite slab
64	Cassie dau. of S. P. and M. L. Mitchell	9-24-1891/1-16-1892	Our little girl sleeps sweetly here	Cross gable tablet w/ roses
65	C. F. Milton	1-27-1817/8-17-1891		Cast metal obelisk 6' tall Jesus w/ children, anchor, boat w/ dead man, Jesus w/ Bible shock of grain, flowers
66	L. C. Milton wf. of C. F. Milton	11-2-1821/7-28-1868		Similar to # 65 above
67	N. G. Milton	7-3-1846/9-14-1868		Similar to # 65 above
68	R. R. Milton	1-2-1848/5-31-1884		
69	Laetitia F. dau of J. M. D. and Sarah W. Pearson	1- -1880/1- -1880		Lily motif, arched marble tablet
70	Sarah M. Pearson	1821/10-30-1881	Born in Bedford Co. VA.	Square marble obelisk lilies in urn S.M.P. foot stone
71	Inf. dau. of J. M. D. and Sarah W. Pearson	2-10-1884/2-16-1884		
72	Sarah W. wf. of J. M. D. Pearson	4-13-1850/2-16-1884		Square marble obelisk obelisk lilies? in urn w/ banner. S.W.P. foot stone
73	W. W. and N. D. PEARSON			
	Hilory B. son of	12-10-1889/6-20-1890		Double arched marble
	Fannie B. dau. of	12-10-1889/6-22-1890		Tablet, double foot stone "H.B.P., F.B.P."
74	J. M. D. Pearson	2-4-1845/1-30-1891		Square marble obelisk
80	Sarah A. wf. of W. S. Ricketts (broken)	1-29-1833/4-20-1870		Marble tablet
82	Mary A. wf. of W. S. Ricketts (broken)	12-19-1841/3-30-1888		Marble tablet
81	W.S. Ricketts	11-19-1824/7-20-1910	Behold I came quickly. Rev. 22:7	Block
83	Louella F. wf of L. B. Ricketts	9-19-1883/1-23-1907	On that bright immortal shore we shall meet to part no more	Pulpit, Heaven's gate anchor
84	Stone overturned			
87	Joe Edgar Cooper	1895-1952		Foot block
88	Isaac Jones	10-14-1810/10-23-1880	aged 70 yrs. 9 days	Shrouded pulpit
	wife Katherine	9-6-1813/7-19-1886	aged 72 yrs. 13 days	Bible
90	Millie M. wf. of H.G. McKinney	8-10-1848/12-20-1886		orb-obelisk
	inf. son	2-20-1885/2-20-1885		
91	RAPE			
	P. E.	1848-1927	Thy will be done	Gable block pulpit
	Sarah E. Baggett	1854/1921		Heaven's gate, dove, at rest

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
92	Mary Isabella Rape	1-28-1848/2-27-1874	Here lies one who in this life was a kind mother, a true wife, she was by many virtures blest and piety among the best.	
93	Inf. son of P. E. and M. I. Rape	2-26-1874	Budded on earth to bloom in Heaven	Roman, dove
94	Samuel R. Rape	8-5-1840/2-15-1902	Another link is broken in our household band, but a better chain is forming in a better land	Cross gable obelisk
95	Nannie V. dau of J. and M. M. Rape	1892-1906		
96	John Rape	1842-1926		Block
	Julia A.	1843-1883	The leaves of life	
	Mary M.	1864-1906	fall one by one	
	Also present L. M. Rape	11-7-1858/4-14-1891		Roman
85	James Edgar Cooper	1861/1948		Pink granite slab
86	Addie Cooper	1874/1967		Pink granite slab
87	Joe Edgar Cooper	1895/1952		Pink granite slab
89	Mary wf. of W. T. Jones	2-22-1837/11-5-1888	Not lost blest thought but gone before/Where we shall meet to part no more	Arched marble Tablet w/ Bible "M.J. Foot stone"
99	J. Maud wf. of G. W. Hamil	7-21-1867/10-15-1891	Her trust was in the lord	Square marble obelisk w/ closed Bible on top
100	Inf. Martin Wayne Hayes	5-16-1933		Flat granite slab
101	Tempie McCormac	6-2-1845/7-26-1910	Kind angels watch her sleeping dust till Jesus comes to raise the just	Cross gable tablet Marble Heaven's Gate
102	R. B. son of A. W. and Lizzie Ford	12-8-1904/1-17-1909	He carries the lambs in his bosom	Marble tablet
97	Robert son of J. and J. A. Rape	1869/1872		Granite slab
98	Lila A. dau of J. and M. M. Rape	5-11-1885/11-16-1885		
	ANDERSON			
	N. B.	11-30-1826/1-28-1892	In loving memory of my dear husband a loving father and kind friend. Thou didst give and thou hast taken away. Blessed Lord thou will be done	Granite block, Mason
	Mary J. (nee Penn)	3-9-1842/9-10-1911	It is sad that one we cherish should be taken from our home. But the joys that do not perish live in memory alone. All the years we've spent together in the happy golden hours shall be cherished to remember, fragrant sweets from memory's flowers.	
	Laura J.	10-6-1868/10-11-1886	Dau. N. B. and M. J.	Cross gable, marble
	Martha J.	12-20-1864/5-9-1888	Dau. N. B. and M. J.	Cross gable, marble
	Robert C.	2-13-1861/10-1-1889	Son N. B. and M. J.	Cross gable, marble
	Mary Lee			Double gable tablet, with lily and lamb
	Infant son			
	Andrew J.	6-3-1876/10-10-1936		Palladian block
	Phena E.	10-23-1898/9-26-1959		Palladian block

The Pleasant Valley Cemetery is located on the Cedar Escarpment, near the water transmission line to Midlothian. It was formerly associated with a church, but has been heavily vandalized in recent years. This has accelerated with recent construction activities. This is a partial listing, including the more prominent and older sections, and those associated with archaeological sites.

CEMETERY LISTINGS

Map	Name	Birth/Death	Commemoration	Stone Type
Little Bethel Cemetery				
	PENN			
	J. W.	6-19-1833/6-23-1888	Husband dear take thy rest the summer flowers will bloom while you the purest and best doth wither in the tomb	Cross gable obelisk finger to Heaven
	Lucinda	8-23-1827/1-13-1928		Granite block
	Frances L.	12-21-1867/8-30-1872	Budded on earth to bloom in Heaven	Small cross gable
	Laura E.	11-1-1865/8-21-1867		Small cross gable
	Morrison M.	4-18-1874/9-3-1890		
	Ella Charlotte	5-20-1870/8-21-1892	Amiable she won all Intelligent she charmed all Fervent she loved all and dead she saddened all	Cross gable
	Andrew Jackson	1-14-1876/8-21-1964	The gateway of life is the entrance to Heaven	Palladian marble
	Dee Etta Hoffard	3-4-1905		

The Little Bethel Cemetery is located within the Duncanville City limits. This partial listing was collected for information on the occupants of 41DL192.

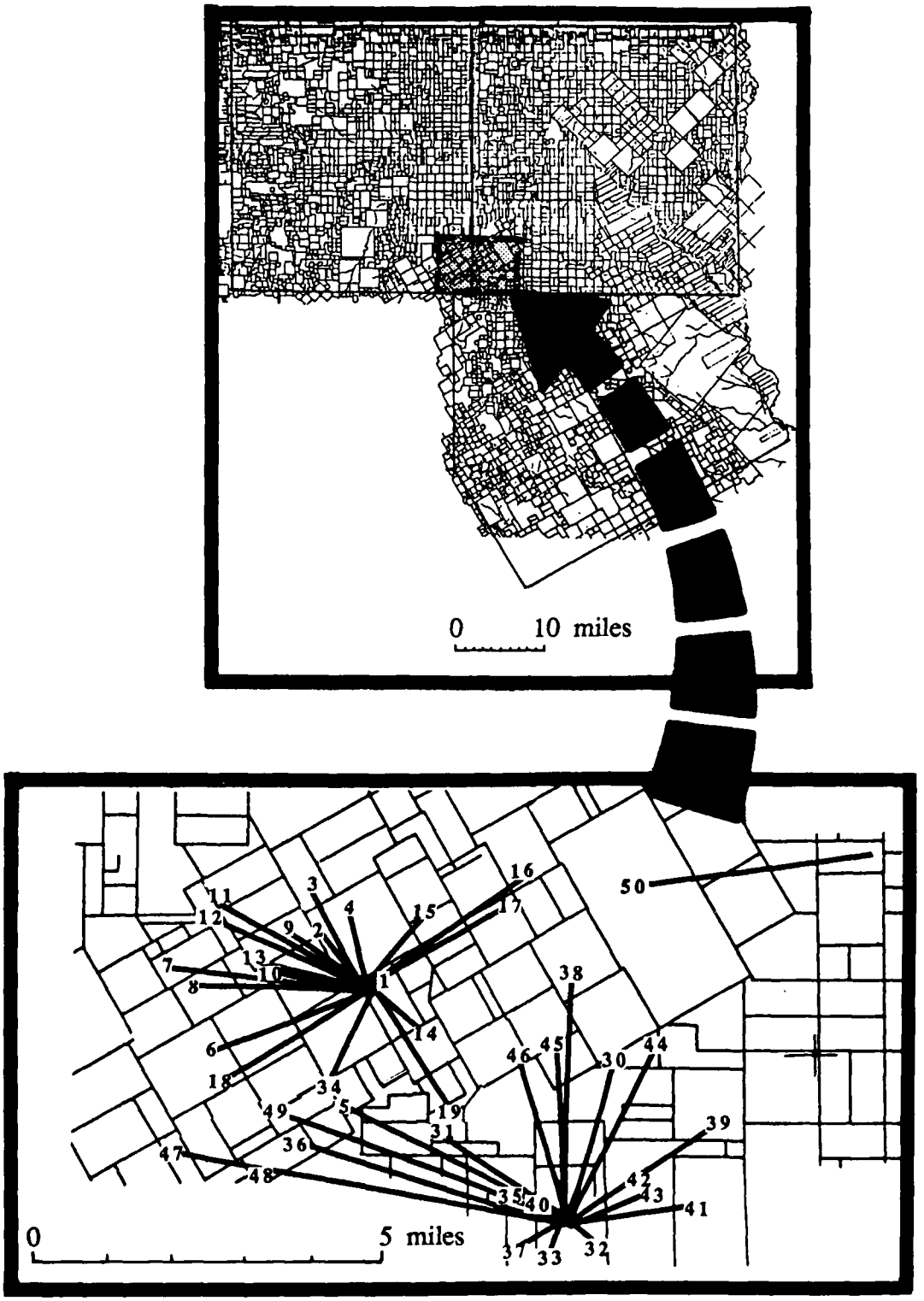


Figure C-1. Scatterplot of individual families interred in Estes, Pleasant Valley, and Little Bethel cemeteries showing the distrnces to their dwellings as shown on the Sam Street Maps of Tarrant (1895) and Dallas (1900) Counties.

KEY TO FIGURE C-1

Estes Cemetery

1	Bowman	
	C. W.	
	Bertha J.	12-14-1889/5-11-1914
2	Loyd	
	Marion	1835/1928
	Ann	2-21-1912/1-21-1921
3	Bowman	
	Issac G.	10-15-1820
	Mary Catherine Armstrong	2-17-1822/5-3-1899
	G. A.	
4	Palmer	
	Francis Marion	12-18-1855/2-8-1939
	Bellezora Virginia	11-6-1861/11-22-1941
6	Davlin	
	William F.	4-3-1828/12-13-1869
	Harriet	
7	Ragland	
	T. J.	4-5-1805/10-8-1897
	Mary T. Reed	8-6-1847/7-1-1893
8	Ragland	
	Isabelle	/6-21-1898
	Joe H.	3-24-1852/6-4-1898
	Mary Eliza Perry	8-10-1859/12-14-1945
9	Ferrel	
	Grandmother	
	S. L.	17-1837/1-30-1923
	Mary E.	4-6-1843/5-24-1931
10	Perry	
	N. B.	7-24-1820/12-11-1903
11	Cornelius	
	Vivian V.	2-8-1875/5-7-1891
	Ada E.	6-12-1868/7-14-1878
	Charles W.	/1-25-1878
	Charles B.	10-1-1827/1-21-1878
12	Estes	
	Texana T.	12-701858/8-23-1861
	Ben F.	1-22-1862/6-5-1868
	Willis D.	3-12-1870/3-21-1903
	J. H.	2-4-1866/8-2-1904
	W. H.	1-18-1838/12-4-1901
	V. D	6-24-1847/1-23-1923
	Mary A.	7-14-55/4-22-57
	Silas	6-2-1826/7-28-86
	Elizabeth M.	6-28-1835/1-31-1904
13	Loyd	
	Sina	
	Ann	1853/1912
	John	1-21-1870/5-29-1934
14	Annen	
	Christine Wilhilmena Louise	3-8-1867/5-7-1910
	Charlie Sares	7-21-1894/7-14-1903
	J. & L.	
	Annie	4-4-1896/10-30-1914
	Elisabeth	11-25-1890/2-6-1894
	Wilhelm	1-5-1885/1-19-1919
	Emma	9-7-1883/11-5-1934
	Infant Son	10-5-1936
15	Reitz	
16	Hintze	
	Anna Wanda	4-14-99/4-18-99
	Otto J.	11-8-1885/9-17-1914
	Ida May	3-17-1894/4-7-1894
	Bertha L.	7-11-1851/9-2-1891
	Henretta	8-1-1850/4-5-1894
	Max M.	8-7-1891
17	Hintze	
	Hulda	2-11-1870/5-11-1901
18	Talley	
	Infant Daughter	12-15-1893/12-17-1893
19	Perry	
	Elizabeth	3-9-1854/3-11-1904

Pleasant Valley

5	Lowe	
	Emma Ragland	1-6-1861/7-2-1886
30	Holveck	
	J. J.	2-2-1858/9-4-1895
	(Broken, illegible)	/1-15-1881?
31	Cope	
	Alex	1842/1852
	Louella Hodges	
	Mary A.	2-8-1840/10-6-1913
	John B.	9-28-1837/12-8-1878
32	Boydston	
	J. G.	1-24-1812/5-25-1899
	Louisa	1824/1908
	Henry	1836/1848
33	Holland	
	Adaline	9-1-1823/1-1-1901
	Mordica	3-10-1810/3-16-1862
34	Lowe	
	Susan A.	1839/1821
	Benjamin H.	1830/1879
	Ezra Eddy	7-24-1866/7-13-1871
35	Holland	
	James	4-19-1805/7-2-1882
	Malinda	2-15-1807/10-13-1874
	Anna	12-28-1832/4-22-1915
	Ralph L.	10-15-1882/11-14-1882
36	Lowe	
	William C.	3-28-1827/7-16-1885
	Amada C.	4-20-1833/9-24-1895
37	Ricketts	
	Sarah A.	1-29-1833/4-20-1870
	Mary A.	12-19-1841/3-30-1888
	W. S.	11-19-1825/7-20-1910
	Louella F.	9-19-1883/1-23-1907
38	Rape	
	P. E.	1848/1927
	Sarah E.	1854/1921
	Mary Isabella	1-23-1848/2-27-1874
	Infant Son	2-26-1874
	Samuel R.	8-5-1840/2-15-1902
39	Rape	
	Nannie V.	1892-1906

	M. M.	
	John	1842-1926
	Julia A.	1843-1883
	Mary M.	1864-1906
	L. M.	11-7-1858/4-14-1891
	Robert	1869/1872
	Lila A.	5-11-1885/11-16-1885
40	Holland	
	Mary A.	11-7-1856/2-14-1885
41	Robinson	
	James	12-24-1831/9-21-1898
42	Carberry	
	Ed	9-14-1868/12-6-1928
	Cathern	
43	Robinson	
	Sarah C.	9-17-1838/10-9-1899
	James Thomas	3-12-1870/1-3-1888
	Rufus R.	/11-30-1874
44	Tunnell	
	James Earl	9-19-1893/8-10-1892
	Georgie E.	2-4-1887/3-10-1887
45	Anderson	
	N. B.	11-30-1826/1-28-1892
	Mary J. Penn	3-9-1842/9-10-1911
46	Holveck	
	John Emil	6-11-1895/6-29-1972
47	Bratton	
	Sarah F.	1-31-1856/10-10-1878
48	Lowe	
	J. W.	12-6-1850/1-14-1919
	Ellen Ragland	8-26-1850/
	Sarah T.	3-17-1844/9-26-1911
49	Marrs	
	Callie Ora	10-12-88/1-24-90
	Nancy E.	3-2-1838/1-22-1893
	Azariah K.	8-[illegible]-1833/

Little Bethel Cemetery

50	Penn	
	J. W.	6-19-1833/6-23-1888
	Lucinda	8-23-1827/1-13-1928
	Frances L.	12-21-1867/8-30-1872
	Laura E.	11-1-1865/8-21-1867
	Morrison M.	4-18-1874/9-3-1890
	Ella Charlotte	5-20-1870/8-21-1892
	Andrew Jackson	1-14-1876/8-21-1964
	Dee Etta Hoffard	3-4-1905