THE SUTTON (13MA266) SITE AND THE TOWNSITES OF PERCY (13MA347) AND DUNREATH (13MA449): DATA RECOVERY AT THREE HISTORIC SITES, LAKE RED ROCK, IOWA

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BCA No. 1
July 1989

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Contract No. DACW25-88-C-0060

Submitted to:

U. S. Army Engineers District, Rock Island
P. O. Box 2004
Rock Island, Illinois 61204-2004

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ABSTRACT

In the summer of 1988, a phase III data recovery investigation was conducted at three historic sites in Lake Red Rock, Iowa. These included one farmstead and two townsites known as the Sutton site, Dunreath townsite, and Percy townsite, or sites 13MA266, 449, and 347, respectively. All three sites had been previously evaluated and found to be eligible for nomination to the National Register of Historic Places (NRHP). Data recovery was necessitated by the anticipated impacts from the proposed pool raise at Lake Red Rock.

Data recovery was designed to recover the greatest amount of archaeological and documentary data possible within the confines of the given time limitations. Research and analysis focused on the development of farmsteads and towns; possible socioeconomic variation among Lake Red Rock and other farmsteads; effect of early settlers' region of origin on the configuration of farmsteads; correlations of oral historical, documentary, architectural, archaeological, and dietary data with possible socioeconomic variation within and between the townsites; and evidence of the local stoneware industry at farmsteads and townsites. Research consisted of a multidisciplinary integrative approach involving archaeological, archival, oral historical, architectural, botanical, and faunal data sets.

It was found that the Sutton site contained the remains of a small farmstead that was occupied from ca. 1855 to ca. 1883. The archaeological remains of this farmstead had been impacted by erosion and intensive cultivation, but several major structural features were in evidence. Comparative analysis indicated that the early occupation of this farmstead was operating at a nearly subsistence level of farming, with the later occupations moving progressively into market production. Ceramic data indicated a higher socioeconomic level approaching that of the nearby Stortes/Crookham site, but documentary data indicated a more moderate or middle level closer to that of the Ratcliff site (both of these sites were previously reported in Rogers et al. 1988).

The townsites were both established along the Wabash railroad in 1882. Dunreath experienced early growth because of the coal mining operations centered at this location. Its dependence on this industry was reflected in its inability to survive once the mines had shut down. In contrast, Percy was slow to develop and did not peak until the second decade of the twentieth century. It always functioned solely as a community trading center and railroad shipping point.

Socioeconomic analysis of the two townsites indicated that overall, Percy ranked at a somewhat higher level than the investigated area of Dunreath (i.e., suspected coal miner habitation sites). This appeared to have correlations with profession and income potential, with merchants, farmers, and professionals consistently ranking at the higher level and laborers, railroad workers, and coal miners ranking at the low end of the scale.

ACKNOWLEDGMENTS

The authors wish to thank the following: the field crew--Clark Rogers, Arthur Hoppin, Tracey Sandefur, and Jane Johnston--for their hard work and perseverance through a very long, hot, dry summer; the lab crew--Clark Rogers, Tracey Sandefur, and Jane Johnston for the processing of a tremendously large quantity of artifact and flotation materials; and Jane Johnston for aiding in the artifact analysis.

Thanks also to Brian Betteridge for the masonry analysis. Special thanks to the staff of Key Connections and Graphically Speaking of Carbondale, Illinois--Linda Ober, Joan Listen, and Jim Balsitis--for the editing and report and graphics reproduction. Thanks also to the members of the field crew for their excellent map drawings from which the graphics were reproduced and to Dave Naesth of Decorah, Iowa, for the artifact photographs and reproductions of the old photographs from Dunreath.

Deep appreciation goes to the oral history informants, without whom it would have been impossible to fully understand or appreciate the former towns of Percy and Dunreath: Ernest Cochran, Warren Cowman, William (Ike) Findlow, Roland and Pauline Herwehe, Kenneth Hughes, Clyde Kain, Rev. Arthur Nichols, Carl Mohler, and Roy Schrader. Their enthusiasm and friendship was inspiring. The added contributions and interest of the informants' spouses was also appreciated.

Thanks also to John LeGrand for his interest in the project and for allowing the use of family documents; Vernon Bruce for his contributions to the archival research; John Van Eck for his interest and cooperation in the excavation of site 266; Faye Clark and Jane Friedman for providing a historical photograph and information; Van Ryswyk Heating and Plumbing and John Fales of Monroe, Iowa, for the excellent mechanical excavations; Rick Trine and the Iowa Department of Natural Resources for their cooperation and help in protecting the excavations; Sue Gade for her help and cooperation in sharing information; and to Floyd Cowman, Donna Willis, Carl Merry, and the numerous other visitors to the sites for their interest and information.

Finally, appreciation is extended to Ken Barr and Ron Deiss of the Environmental Analysis Branch (Planning Division) and the personnel of the Contracting Office of the RICOE for their cooperation and guidance, and to David Stanley and Karla Presler of Bear Creek Archeology, Inc., for their help in the administration of this project.

TABLE OF CONTENTS

List of Figures

List of Tables

CHAPTER I. INTRODUCTION

General Project Description

The following data recovery investigation at Lake Red Rock, Iowa, was conducted by Bear Creek Archeology, Inc., under contract No. DACW25-88-C-0060 for the U. S. Army Corps of Engineers, Rock Island District (RICOE) during the summer of 1988. Excavations were conducted at two townsites and one farmstead to mitigate the adverse effects of the proposed raising of the conservation pool level at Lake Red Rock.

The townsites of Percy (13MA347) and Dunreath (13MA449) and the Sutton site (13MA266) had been evaluated by a previous investigation (Rogers 1988) and found to be significant according to the criteria of the National Register of Historic Places (NRHP). All three sites were recommended for nomination to the NRHP. They were further recommended for data recovery because of the ongoing and anticipated impacts associated with the fluctuating level of Lake Red Rock. The Sutton site had been impacted by cultivation and slope erosion, and these destructive processes would have persisted with continued flood pool raises and cultivation. The townsite of Percy had been only minimally impacted by scour and siltation from periodic lake inundations, but it would have become a marshland as a result of the proposed pool raise. Only the lower elevations of the townsite of Dunreath had been impacted by scour, slope erosion, and siltation from the fluctuating lake level

and cultivation. This was also the only area of the townsite that would have been impacted by the proposed pool raises. It was determined that the most effective means of mitigating these adverse impacts was data recovery by excavation.

The excavations began on June 7, 1988, and were completed on September 3, 1988. The excavation data were supplemented with further archival research, architectural analysis of foundation remains and photographic evidence, and oral history interviews with former residents and neighbors of the two townsites.

The principal investigator was Leah D. Rogers, who also served as field director and conducted the archival research and oral history interviews. The archival research was assisted by previous work conducted during the phase II investigation by Mary R. McCorvie of American Resources Group, Ltd., of Carbondale, Illinois, and by Vernon Bruce of Knoxville, Iowa. The field crew consisted of G. Clark Rogers, Arthur E. Hoppin, Tracey Sandefur, and Jane K. Johnston. Artifacts and flotation samples were processed by members of the field crew.

Overall analysis was conducted by Leah D. Rogers, with assistance in the historic artifact analysis provided by Jane K. Johnston. The following special analyses were conducted and authored by these individuals: Botanical--Candace J. Lutzow of the Department of Botany, University of Hawaii at Manoa; Faunal--Terrance J. Martin of the Illinois State Museum, Springfield; and Architectural--Robert C. Vogel of R. C. Vogel and Associates, Cottage Grove, Minnesota. Additional architectural analysis concerning the foundation remains was conducted by Brian Betteridge of rural Decorah, Iowa. Report editing and

reproduction was provided by Key Connections of Carbondale, Illinois. Graphics were prepared by Graphically Speaking of Carterville, Illinois, from maps drawn by staff members of Bear Creek Archeology, Inc., of Decorah, Iowa.

Previous Investigations

The Sutton site is located in the Ballard Creek drainage on the south side of the Des Moines River (Figure 1). It was recorded in 1984 by Gilbert/Commonwealth, Inc., Jackson, Michigan. At that time the historic component of this site was described as consisting of artifacts "which had probably washed down from 13MA268 located 40 m upslope to the south" (Roper et al. 1986:91). Site 13MA268 was described as the possible remains of a highly disturbed sandstone foundation and a moderately dense scatter of historic artifacts dating from 1860 (Roper et al. 1986:91). These were viewed as separate sites; however, the phase II investigation found that the historic components of both sites represented the remains of one habitation site. It was recommended that site number 13MA268 be deleted and the two site descriptions combined for management purposes (Rogers 1988:29, 64).

The Sutton site was fully evaluated by American Resources Group, Ltd., in 1987. The phase II investigation consisted of general surface collection of diagnostic artifacts, shovel testing to determine the horizontal and vertical limits of the site, and test excavations to examine subsurface features located by shovel testing and probing (Rogers 1988:29-45).

A total of 17 shovel tests and 5 test units was excavated. Three

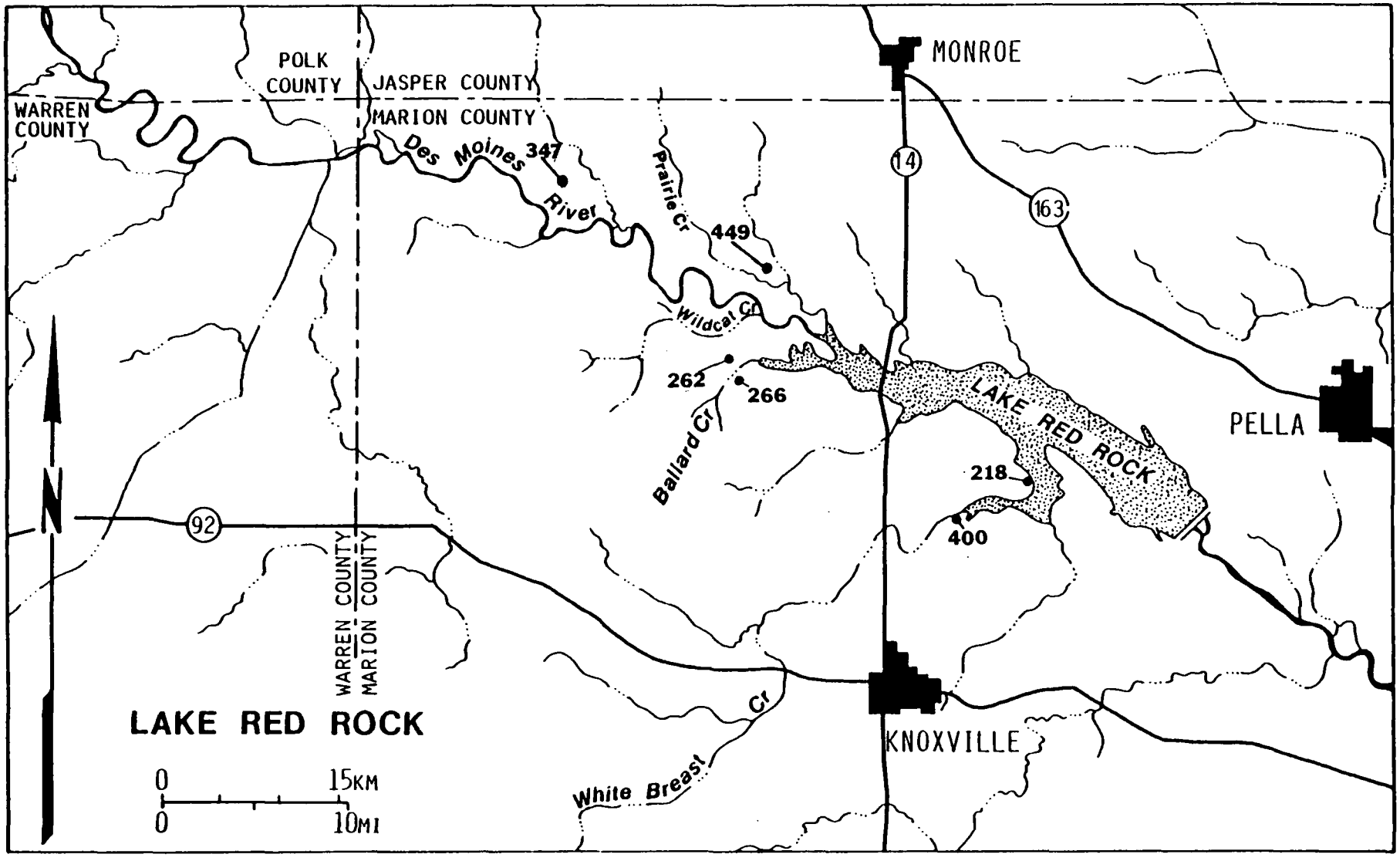


Figure 1. Site locations, Lake Red Rock (from Rogers et al. 1988: 3).

subsurface features were recorded including a shallow cellar, a possible cistern or cellar, and a midden remnant. Archival research provided the land transfer history of the site as well as census and biographical data concerning possible former occupants (Rogers 1988:29-63).

The townsite of Percy is located on a terrace north of the Des Moines River (Figure 1). It was recorded in 1985 by Gilbert/ Commonwealth. A surface reconnaissance conducted at the time indicated the presence of at least seven foundations on either side of a road north and south of an abandoned railroad grade. An additional site (13MA358) was recorded as a separate site but was found during the phase II investigation to be associated with the townsite of Percy (Rogers 1988:196-202; Roper et al. 1986:109).

The site was fully evaluated by American Resources Group, Ltd., in 1987. The surface visibility was substantially improved over the conditions of the 1985 survey. Surface reconnaissance, general surface collection, shovel testing, and test excavations revealed the remains of "20 major structures; 8 outbuildings; 10 depressions, cisterns, wells, or possible privies; 3 cellars; 3 dump areas; 1 large depression; and several concentrations of building rubble" (Rogers 1988:112). The majority of the features were situated on the north side of the railroad grade within the platted town of Percy, while five structures and one cellar were located on the south side. Those features on the north side were predominantly on either side of the main north-south road (Rogers 1988:112-113).

The shovel test (n=165), test trench (n=6), and test unit (n=1) excavations revealed a high artifact density and seven major features

including two intact structural foundations not visible on the surface, a bottle dump, two sandpoint wells, a board sidewalk also not visible on the surface, and a concrete basin. It was also noted that the site had not been plowed or heavily disturbed and contained intact sheet middens associated with the structural remains. Archival research revealed the land transfer history of the site as well as census and documentary data concerning its history. An oral history interview with a former resident provided unpublished data concerning the twentieth century history of the town (Rogers 1988:139-184).

The townsite of Dunreath is located on an upland ridge and slope on the north side of the Des Moines River (Figure 1). It was recorded in 1985 by Gilbert/Commonwealth. Surface reconnaissance indicated the presence of at least three foundations, a well, the abandoned railroad grade, a large slag pile, and a gravestone. Two other historic sites recorded as 13MA259 and 260 were later found to be part of the townsite. These consisted of the remains of two additional habitation sites. It was recommended that the site descriptions for these sites either be revised or deleted (Rogers 1988:297-298; Roper et al. 1986:89).

The site was fully evaluated by American Resources Group, Ltd., in 1987. Surface reconnaissance, general surface collection, shovel testing, and test excavations revealed the remains of 20 structures, 8 possible structural locations, 9 wells, 2 cellars, 1 large slag pile, several abandoned roads, and the abandoned railroad grade. The gravestone could not be relocated (Rogers 1988:298-357).

The shovel test (n=204), test trench (n=2), and test unit (n=22) excavations revealed 5 subsurface features including possible post holes

and wall trenches, a builder's trench, and a refuse-filled basin. Archival research provided the land transfer history of the site as well as census and documentary data concerning its history. Oral history interviews provided unpublished data concerning the early twentieth century history of the site (Rogers 1988:316-375).

These three sites were part of an investigation which consisted of the evaluation of 59 sites (prehistoric and historic) in the Lake Red Rock area (Stanley et al. 1988). Of these, only four prehistoric and the above three historic sites were found to be NRHP eligible. All of these sites have now been mitigated.

In addition, two historic farmstead sites, the Ratcliff (13MA400) and Stortes/Crookham (13MA262) sites were mitigated in the fall of 1987. The results of that investigation are reported in Rogers et al. (1988). These sites will be discussed in more detail in this report as part of the comparative farmstead analysis.

For more detailed information concerning the previous investigations in the Lake Red Rock area, the reader is referred to Roper (1984), Roper et al. (1986), Rogers and Koldehoff (1987), and Stanley et al. (1988).

Site Evaluation Criteria

The specific criteria utilized in the NRHP evaluation of the historic farmstead sites in this and previous studies (Rogers 1988; Rogers et al. 1988) included the following:

1. The presence of intact structural remains dating from the nineteenth century occupation. These include intact foundations and/or substantial subsurface structural features such as cellars and builder's trenches. Because

nineteenth century structural remains (especially outbuildings) are a rarity on the farmstead sites studied to date in the project area, their presence and state of preservation substantially adds to a site's significance (Rogers et al. 1988:6).

2. The integrity of the cultural deposits and their ability to provide significant data concerning patterns in early agriculture, farmstead evolution and/or marketing networks and chronological data concerning the local stoneware industry. Because little is known archaeologically of the historic occupation of the central Des Moines River valley, these all are important research concerns in the region. The ability to address other factors such as ethnicity (e.g., the Dutch farmsteads of the area), socioeconomics, subsistence, and regional cultural traditions and adaptations also adds to the significance of a site (Rogers et al. 1988:6).

Taken together, these criteria are applicable to NRHP criterion d, which deals with the ability of a site to yield information important to history (Federal Register 1981:50189).

The townsites were found to be NRHP eligible on the basis of the potential of the archaeological, archival, and oral historical components of these sites to yield data significant to the culture history of the region. This potential included examination of "the patterning, socioeconomics, social stratification and interactions, and adaptations" of small, rural trading centers and communities (Rogers 1988:185). The townsite of Dunreath had the further potential to examine the "patterning of coal mining communities, subsistence practices, socioeconomics, and possibly ethnicity" associated with this industry (Rogers 1988:370).

CHAPTER II. ENVIRONMENTAL AND HISTORICAL SETTING

Environmental Setting

The environmental setting of the project area already has been reported in detail by previous investigations (see Rogers et al. 1988:7-13; Rogers and Koldehoff 1987:7-26; Stanley et al. 1988:9-20). The following is a brief summation of these more detailed discussions.

Lake Red Rock is situated in southcentral Iowa along the Des Moines River (Figure 2). The specific project area is located in that portion of Lake Red Rock within the legal boundaries of Marion County. The lake was formed in 1969 by the U. S. Army Corps of Engineers for the purpose of downstream flood control and recreational activities. The requirements of both flood control and recreation have resulted in a cycle of raising and lowering the lake level, accelerating the processes of erosion and siltation. Archaeological sites situated along the shoreline of the main conservation pool have received the most serious impacts.

The project area is situated near the juncture of the Small Lakes Section and Dissected Till Plain of the Central Lowland Province (Hunt 1974). Prior (1976) refers to this area as the Southern Iowa Drift Plain (Figure 2). It is characterized by generally level upland divides and steeply rolling hills and valleys.

The biotic landscape of the area at the time of initial Euro-

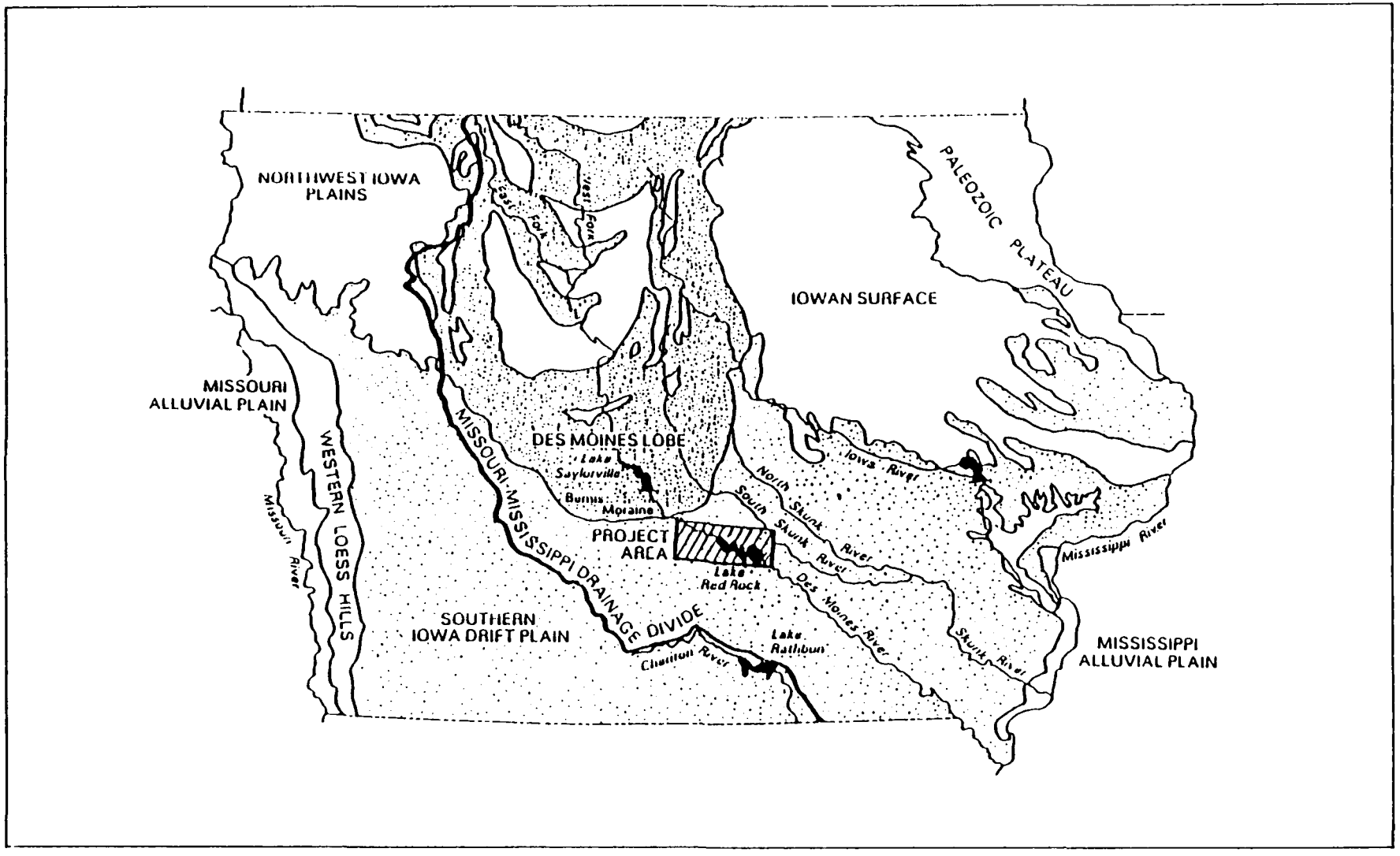


Figure 2. Location of Lake Red Rock (after Roper 1984).

American settlement was previously summarized by Roper et al. (1986) and reconstructed from U. S. General Land Office (GLO) plats and notes. Six botanical zones were identified: floodplain; prairie; floodplain forest; sloping upland prairie; sloping upland forest; level upland prairie; and level upland forest. The resulting landscape was a mosaic of forest and prairie habitats with numerous edge areas (Rogers et al. 1988). The project area is also within the tall grass prairie biome referred to as the Prairie Peninsula (Bryson and Baerreis 1968).

Historically, the dominant vegetational species included elm, bur oak, hackberry, and black walnut in the floodplain forest and bur oak, other oaks, hickory, and elms in the valley slopes and upland forest (Roper and Bastian 1986:7). Faunal species included deer, coyote, wolf, bison, elk, black bear, bobcat, fox, woodchuck, squirrel, opossum, raccoon, mink, otter, skunk, gopher, beaver, muskrat, rabbit, turkey, prairie chicken, pheasant, duck, geese, turtle, fish, and freshwater mussels. Of these, the bison, elk, black bear, and wolf were becoming scarce by the time of initial Euro-American settlement (Roper et al. 1986:53-67; Wright 1915:134). The wolf, in particular, was considered a threat and a nuisance to the early settlers and became the focus of a concerted effort to eradicate them from the area in the late 1840s and 1850s (Welsh n.d.:21-22; Wright 1915:134).

The previous archaeological and oral historical investigations conducted on historic sites in the project area have provided data on the faunal and botanical resources exploited during the late nineteenth and twentieth century occupations (Rogers et al. 1988; Stanley et al. 1988). Specifically, fox, mink, muskrat, opossum, and raccoon were

hunted primarily for their fur, while duck, geese, fish, and, to a lesser extent, deer were utilized for consumption. The deer population had been greatly reduced during the nineteenth century to the point that their numbers did not begin to reach proportions sufficient for hunting until the late 1930s (Rogers et al. 1988:365; Stanley et al. 1988: Appendix D, Interviews 2 and 3). Specific fish species that were exploited included smallmouth/black buffalo, channel catfish, black bullhead, quillback, and carp (Rogers et al. 1988:364-371).

Botanical resources that were exploited for consumption included raspberries, blackberries, gooseberries, mulberries, elderberries, wild grapes, mushrooms, hazelnuts, walnuts, and hickory nuts (DeMoss, personal communication 1988; Rogers et al. 1988:339-341).

The climate of the project area is characterized by cold, humid winters and hot summers. Precipitation is low in the winter, with higher but more variable precipitation in the summer. The prevailing winds are from the south and southwest during the summer, changing to the north and northwest in winter (Roper and Bastian 1986:8).

Geological deposits exploited historically in the project area include sandstone, fire clay, and coal. The predominant sandstone is characterized by a brick red color, although there are outcrops of a gray or buff color. The two most notable exposures of the red sandstone are located near the former town of Red Rock and at Elk Cliff. A large quarry operated at Red Rock in the late nineteenth and early twentieth centuries. The primary outcrop of the gray or buff sandstone is at Eagle Rock near the Ratcliff site (Miller 1901:153-156, 187). Previous investigations have noted the utilization of both the red and buff

colored sandstone in foundation construction, with the proximity to an outcrop being the primary determinant in the choice of stone color (Rogers et al. 1988:12-13).

The extraction of coal for the steamboat trade during the mid-nineteenth century often resulted in the exposure of fire clay deposits of sufficient quality for the production of stoneware. One of the earliest stoneware potteries in the project area was situated near the former town of Coalport. Later potteries operated in the White Breast Creek area and in the towns of Coalport, Knoxville, and Attica. Previous investigations of Lake Red Rock historic farmsteads have indicated the widespread utilization of local stonewares (Rogers et al. 1988:453-460).

While substantial coal deposits were discovered in the Lake Red Rock area in the mid-nineteenth century, it was not until the advent of railroads into the area that extensive commercial coal mining got underway. In the project area, coal deposits were mined in the vicinity of the former towns of Swan, Morgan Valley, Dunreath, and Otley during the late nineteenth and early twentieth centuries (Lufkin and Long 1980:13; Keyes 1894:317-334).

Historical Setting

Detailed discussions of the historical background of the Lake Red Rock area have been presented by previous investigations (see Rogers and Koldehoff 1987; Rogers et al. 1988; Roper 1984; Roper et al. 1986; Roper and Bastian 1986; Stanley et al. 1988). The following discussion will summarize aspects of these various reports but will focus on those factors of historical development specifically related to the history of

the sites under investigation. These include agriculture and town development and the stoneware and coal mining industries.

Early Settlement/Subsistence Agriculture

Euro-American settlement in the project area did not begin until the 1840s following the purchase of the territory from the Sauk and Fox Indians in 1842. The government surveys were completed by 1848, and legal land sales began shortly thereafter. Actual settlement, however, had begun as early as 1843, with a trading post established at the future town of Red Rock (Figure 3). John Welch (n.d.:5) noted in his memoirs that his family established a homestead in Marion County in 1843 when the "nearest post office and store was at Oskaloosa, twenty five miles distant."

Welch (n.d.:17) further described the early settlement of the county as follows:

> The prevailing idea among the early settlers was that settlements would be confined to localities either in or near the timbered tracts. As a result of this opinion, the first settlers were usually found in neighborhoods, often with many miles of unoccupied land between them.

The county seat of Knoxville was selected in 1845 following county organization. Other early towns in the area included Red Rock, Pella (1848), Bennington (1848), Amsterdam (1848), Rousseau (1850), and Coalport (1857). Many of these were situated either along or near the Des Moines River in anticipation of booming steamboat trade (Roper 1984; Roper et al. 1986). However, the river trade never lived up to the initial expectations because of the unreliability of navigation on the Des Moines River. As a result, the river towns gradually either died out or decreased in importance. With the arrival of the railroad in Marion

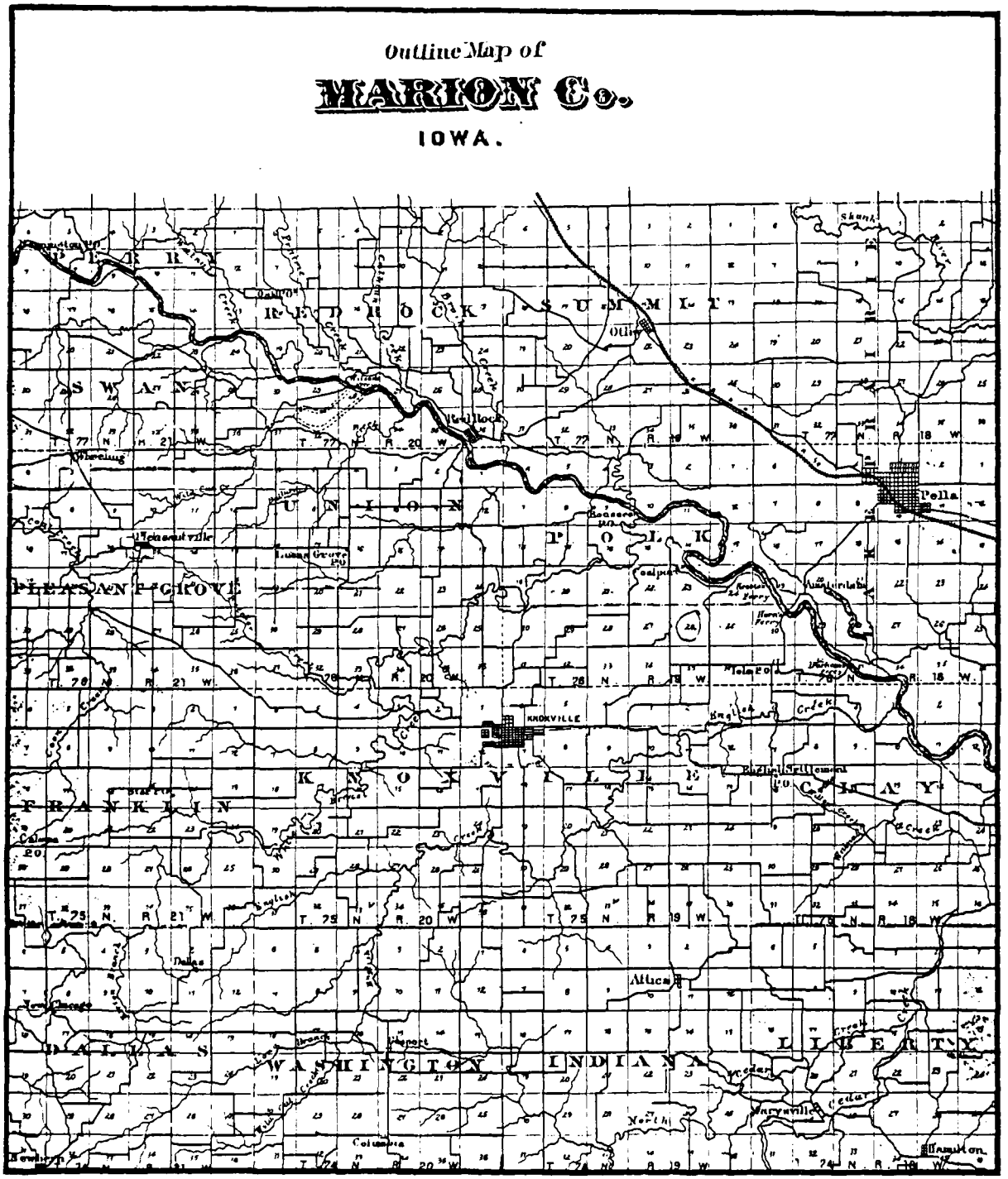


Figure 3. 1875 map of Marion County, Iowa.

County in 1866, the river trade never rebounded. While the railroad represented the end of river transportation domination, it served to greatly improve agricultural marketing (Rogers et al. 1988:17).

The early river town of Coalport was situated near a coal vein in order to supply the steamboats with fuel. As noted previously, this geological formation also contained a good quality deposit of fire clay. A kiln was established near the future town location in the late 1840s. This kiln is known archaeologically as the Coalport Kiln (site 13MA103). It was replaced in the late 1860s by the kiln evidenced as the Gidel Kiln (site 13MA106) (Reynolds 1970). The earlier kiln was part of the so-called "early stage" of the local stoneware industry and produced wheel-thrown stoneware items that were primarily salt glazed. Ware types included simple bowls, jugs, crocks, lidded jars, grease lamps, and churns. The later kiln, which operated into the 1880s, was part of the "middle stage" of the local industry and produced more uniform wares predominated by milk skimming bowls, jugs, jars, feeder or watering pans, and tiling. Two other middle stage kilns included the Whitebreast Kiln (13MA104) and the Wright Kiln (13MA105) (Reynolds 1970:40, 51, 89-90, 204; Stoltz and Brooks 1966:329-332).

Later stage kilns included the King Pottery near Knoxville and several kilns in Attica dating from the early to mid-1870s into the early 1900s. These kilns produced jugs, jars, churns, flower pots, brick, and drain tile (Reynolds 1970:204; Stoltz and Brooks 1966:322-327). Industrial census data indicated that by 1880, many of the local kilns were producing primarily brick and tile (Rogers et al. 1988:460). One tile and brick factory was operating west of Monroe, Iowa, in Jasper

County during the late nineteenth century (Chamberlain 1976:52). This would have been in close proximity to both Dunreath and Percy.

The settlement of Marion County postdated the initial settlement of the state of Iowa by nearly two decades. The increasing encroachment of white settlers into the Iowa territory in the early nineteenth century had precipitated conflicts with the native inhabitants. The first purchase of Indian land came in 1832 following the Black Hawk War. By 1833 settlers were streaming into the new territory. The rectangular land survey was started in 1836, and legal land sales began in 1838. It was not long before the press was on to open new land for settlement, resulting in the steady westward progression of the Iowa frontier. Statehood was achieved in 1846. Northwest Iowa proved to be the final settlement frontier in the state, with homesteading persisting into the 1870s and early 1880s (Benn 1987:110-114; Henning 1985; Murray 1946:5; Ross 1951:11).

During the initial years of the early settlement period in Iowa, agriculture was characterized by subsistence level farming with emphasis on a few planted crops such as corn, wheat, buckwheat, and/or rye, supplemented with garden produce, fish, and wild game and plants. Geise (1946:250) noted that "poor transportation and few cash markets required that practically all necessities be produced on the farm."

While it is likely that truly subsistence level agriculture did not persist long on the Iowa frontier, several studies have indicated that improvements in Iowa agriculture were slow to come in the decades before 1870 (Marcus 1985; Throne 1973). Increasing agitation and education through agricultural societies, farm journals, newspapers, and farmers'

clubs eventually helped to guide Iowa agriculture into better and more efficient farming techniques.

Recent studies utilizing census data have indicated that by 1860 Iowa farmers were participating to some extent in market production. Some factors effecting the degree of participation might have been duration of occupation, individual experience, and economic level (Atack and Bateman 1987:201-224; Rogers et al. 1988:385-388).

Settlement Boom/Agricultural Change

After 1870, agriculture in Marion County and the state continued to become increasingly commercial in orientation. Improvements in seed, livestock, drainage, machinery, and farming practices, in addition to improved prices for better livestock, served to stimulate increased production and specialization. The overall emphasis became one of corn and livestock production, a trend which persists to the present day (Lufkin and Long 1980:4; Roper et al. 1986:374-376; Throne 1973:128).

During Iowa's early settlement period, settlers frequently claimed a half a section, or 320 acres; however, when it came to actual purchase from the government, "they found the amount of land they could farm was more nearly 160 than 320 acres" in size (Murray 1946:4). In the late nineteenth century it was found that the cost of the hired labor required to develop larger holdings was too high, and the number of large-scale farms (i.e., over 1,000 acres) peaked by 1880. The average size of the individual family-operated farm remained ca. 160 acres. In Marion County, however, nearly half of the farms were 20 to 50 acres in size in 1870, with the next highest percentage between 50 to 100 acres in size. By the early 1900s, 46.5% of Marion County farms were still

between 50 to 100 acres in size, with 31.4% between 100 to 174 acres in size (Heusinkveld 1958:49, 108; Murray 1946:10).

Farm tenancy was also common in Iowa during the early settlement period but persisted into the late nineteenth and early twentieth centuries as a result of the increasing costs of improving farms, the passage of farms from father to sons and sons-in-law who often rented first before buying, and the frequent use of mortgaging for the improvement of and additions to landholdings. There were also periods of depression throughout Iowa's history when, in general, the low prices for farm products versus the increasingly high cost of farming forced numerous foreclosures on farm mortgages. Two of the most severe depressions occurred in the 1890s and the 1930s (Murray 1946:13, 15, 17; Ross 1951:107). One side-effect of these depressions was that while the number of tenants increased through foreclosure, it was easier for tenants to become farm owners when the economy stabilized (Murray 1946:17).

By 1870, the two largest towns in Marion County were Pella and Knoxville. The remaining towns all had populations of less than 500. Knoxville had attained a greater population primarily due to its position as the county seat. Pella, on the other hand, was three times as large as Knoxville and owed much of its growth to its position on an important transportation route. During the early settlement period, Pella was situated on a trail between Keokuk and Fort Des Moines. This position was strengthened in 1866 with the completion of the Des Moines Valley Railroad through Pella. Knoxville did not receive rail service until the 1870s (Heusinkveld 1958:72-80).

The addition of more rail lines in the county improved access to regional, state, and national networks. The establishment of the Des Moines and St. Louis (later the Wabash) Railroad in 1882 was the final link in the project area's railroad network. A number of small community trading centers were established along this rail line, including Fifield, Percy, Dunreath, Cordova, and Howell (Figure 4). The establishment of Dunreath had the added impetus of known coal deposits in its vicinity.

Agricultural and Industrial Intensification

Iowa agriculture in the 1890s and into the twentieth century became increasingly specialized on corn, hog, and cattle production. Motorized farm machinery gradually replaced horse-powered machinery. This resulted in increased productivity and served to release more acreage for production that had previously been utilized solely for the growing of horse feed. Iowa farms became fully mechanized and modernized by the 1950s. Along with increased mechanization and commercialization came the need for more farm buildings with more specialized functions (Geise 1946:260; Ross 1951:178).

Continued improvements during the early twentieth century included new innovations in the breeding of livestock and crop production, improved roadways, consolidated schools, telephone service, and eventually rural electrification. In the 1920s and 1930s, with the improvement of the roadways, market transport began to shift from rail to truck. Thompson (1946:235) noted that

> Increase in truck transport has resulted in abandonment of some railroad lines. By 1940 nearly all of Iowa's livestock was moved from the farm by truck, mainly by common carriers.

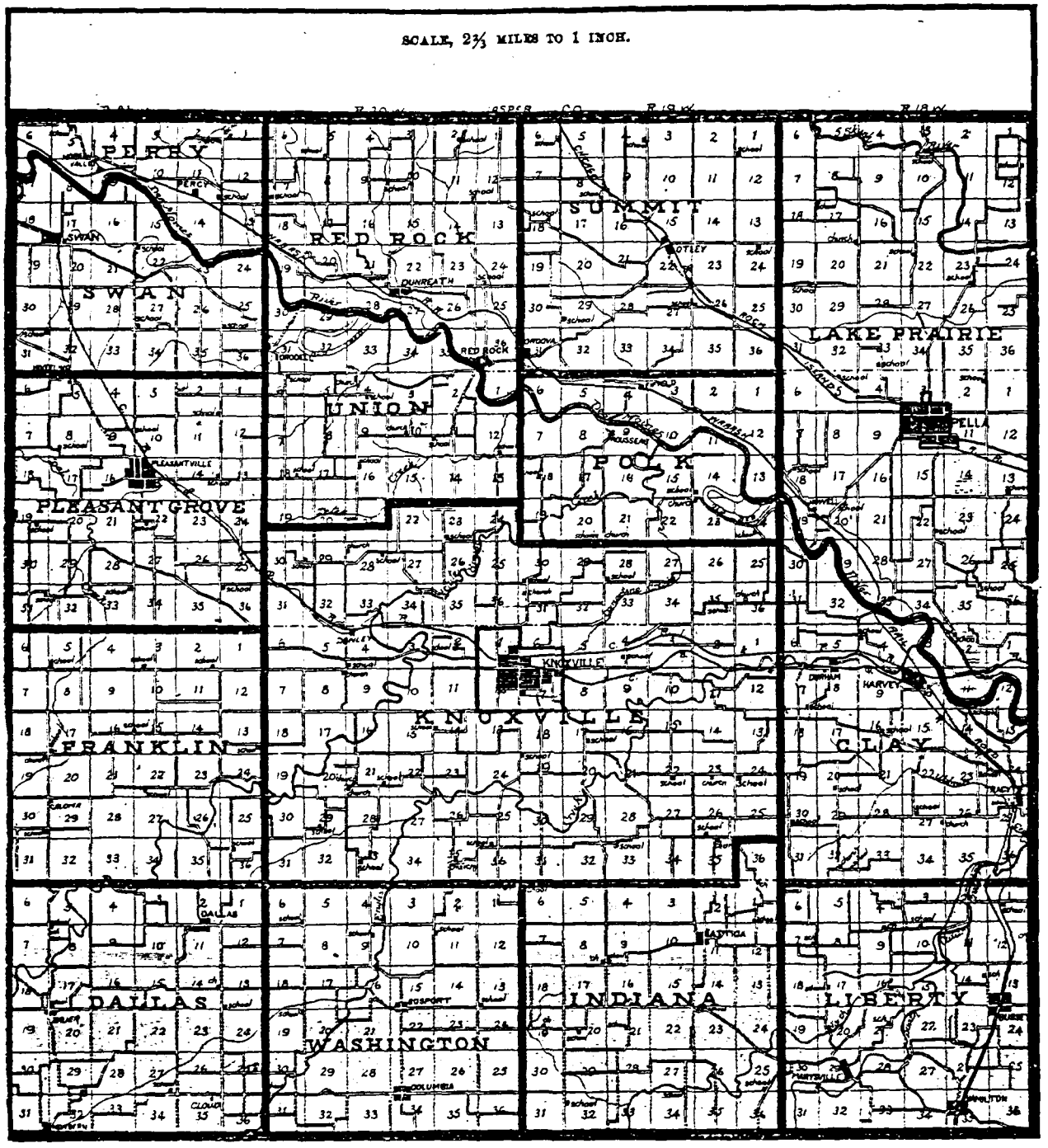


Figure 4. 1901 map of Marion County, Iowa.

> Farmers themselves trucked only 5 per cent of their cattle and sheep, 12 per cent of their hogs, and 31 per cent of their veal calves. For grain, dairy products, and poultry the bulk of hauling from the farm also is done by truck chiefly by common carriers although much milk and cream is hauled by contract haulers.

The development of Marion County farms followed much the same pattern as that described above for the state, with the area becoming increasingly tied to the national markets and society. The county and its immediate neighbors did lag in urban growth and remained more rural longer than many other areas in the state. In 1910 Marion County "had a larger percentage of its people in agriculture than the state as a whole" (Heusinkveld 1958:121). One reason for the sizable rural population in the neighboring counties of Mahaska and Monroe was not so much due to agriculture as it was to the large numbers engaged in coal mining in these areas in the 1890s and early 1900s (Heusinkveld 1958:121).

Although the average farm size in Marion County was slightly higher in 1910 than it had been in 1870, the majority of the farms were still smaller than the state average of 156.3 acres. By the 1950s the average farm size in the county had risen to 162.9 acres but was still 7.7% smaller than the state average (Heusinkveld 1958:107, 197).

The coal mining industry played an important role in the development of the region. Coal had been discovered early in Marion County's history, but it was not until the advent of the railroad that intensive commercial mining was begun. The railroad not only provided the necessary transportation for the coal to the markets, but it also represented one of the major coal consumers. The first systematic mining

in the vicinity of the project area was near Knoxville in 1870. This operation eventually grew into the mining settlement of Flagler. Another area being mined during this period was near Marysville (Heusinkveld 1958:63, 68; Lufkin and Long 1980:13).

Commercial mining in the 1880s was centered at the White Breast Coal Company's mines at Flagler and Swan; however, both operations had closed down by 1890. It was at this time that J. H. A. Powers opened the OK Mine near Bussey in southeast Marion County. He later opened large mines at Everist and Marysville, the former being strictly a mining camp. In the 1890s and early 1900s the majority of the larger shipping mines in Marion County were located in the vicinity of Marysville, Hamilton, and Bussey, with smaller mines located near Dunreath, Pella, Otley, and Harvey. It should be noted that during this period, coal production in Marion County was below that of the neighboring counties of Mahaska and Monroe (Heusinkveld 1958:68, 139-140; Lufkin and Long 1980:13-14).

Many areas in the region had been mined out by 1910, and numerous mining camps were abandoned. However, with the advent of strip mining in the late 1920s into the 1950s, Marion County became the leading coal mining county in Iowa (Heusinkveld 1958:141, 228-229).

By 1910 the town of Knoxville had slightly surpassed Pella in total population, primarily due to its continued position as the county's seat of government as well as the addition of several rail lines into this community. Pella had not received another rail line since 1870, and that line had decreased in importance and was not as heavily traveled. Of the incorporated towns in Marion County in 1910, the largest remained

Knoxville and Pella followed by Pleasantville with a population of 691, Bussey at 669, Hamilton at 391, Harvey at 346, Marysville at 319, and Swan at 292 (Heusinkveld 1958:158-162).

The previous investigation of the towns of Percy and Dunreath indicated that their peak populations were approximately 100 and 500, respectively. These totals were based on census data, with Percy peaking in 1900 and Dunreath in the 1890s. Historical accounts indicated a peak population closer to 1,000 for Dunreath and between 200-400 for Percy. It is likely that the population of Dunreath was greater at various times due to the fluctuating nature of the coal mining operations situated at and near this community. Percy may have reached a higher population ca. 1918-1920 which is not reflected in the available census data. Percy managed to survive into the 1960s as a community trading center and shipping point, although the latter was not a major function in the 1950s or 1960s. Dunreath, on the other hand, could not survive the decline in the coal mining industry and ceased to exist as a town in the 1940s (Stanley and Rogers 1988).

By the 1950s the percentage of rural population in the Marion County region had decreased, and "many more people were living in towns and villages than in 1910" (Heusinkveld 1958:188). A further trend was found in the increasing number of services offered by the larger towns including Knoxville and Pella, with the smaller community centers becoming smaller. The improved road system had the eventual consequence of making it easier to by-pass smaller centers to shop and trade in the larger towns (Heusinkveld 1958:278). The greatest impact to the immediate project area was the building of Lake Red Rock, a process

which began in the 1940s and continued until the closing of the floodgates in 1969. Numerous farmsteads and entire towns were bought and dismantled by the federal government (Rogers et al. 1988:23).

CHAPTER III. RESEARCH DESIGN AND METHODOLOGY

Research Design

The research design was guided by previous studies conducted in the Lake Red Rock area as well as the objectives of the Iowa Resource Protection Planning Process (RP3) (Henning 1985) and the Lake Red Rock Cultural Resource Management Plan (CRMP) (Roper and Bastian 1986). The primary goal of this project was to mitigate the adverse impacts to the three historic sites from the proposed Lake Red Rock pool raise project. Data recovery by excavation, archival research, and oral history was proposed as the most effective means to mitigate these impacts.

Problem Orientation

The primary focus of this research is on potential intra- and intersite socioeconomic variability. This type of study has been the focus of much of the recent research conducted in historic sites archaeology and is considered to be of importance to behavioral studies in general. Studies have specifically examined socioeconomic stratification and its effects on consumer behavior as reflected in the documentary and archaeological records.

Consumer behavior is one of the cultural formation processes which creates the archaeological record. An understanding of this behavior and the complex variables which influence its manifestation is important to archaeological interpretation. Studies of consumer behavior such as

those presented in Spencer-Wood (1987a) have demonstrated the utility of examining the relationship between material culture and socioeconomic status, with the greatest utility found in the examination of converging lines of evidence.

Numerous socioeconomic studies have been conducted concerning the archaeological and documentary manifestation of the rigid class structure of the ante-bellum South; however, the focus of many recent studies has shifted to urban and rural sites in areas such as the Midwest where a rigid class structure did not exist (e.g., see McCorvie 1987; Mansberger 1987; Rogers et al. 1988; Spencer-Wood 1987a). Questions of importance include whether or not there are recognizable socioeconomic differences in the archaeological record of landowners and tenants, rural and urban residents, farmers and community residents, or within and between rural communities themselves.

The recent data recovery investigations at the Stortes/Crookham and Ratcliff farmstead sites at Lake Red Rock examined socioeconomic variability between successive occupations of the farmsteads and between comparable sites in the project area and other regions (Rogers et al. 1988). It was found that the Ratcliff site and another site, designated as 13MA218, ranked within a moderate or middle socioeconomic level, while the Stortes/Crookham site ranked consistently higher. This study compared socioeconomic data obtained from ceramic economic scaling techniques; personal, real, and farm estimated valuations from population and agricultural censuses; artifact patterns; and dietary remains (Rogers et al. 1988). However, it could only provide tentative conclusions because of the lack of comparative data from this region.

The addition of the present study, as well as that from another farmstead data recovery investigation recently conducted by Louis Berger and Associates in southeast Iowa (Gade, personal communication 1989), will serve to broaden the comparative data base and provide more conclusive socioeconomic evidence.

While the focus of the problem orientation is on socioeconomic variability, the present investigation will generate additional data applicable to a number of different studies. These include the nature of farmstead development in the region, the distribution networks of the local stoneware industry as manifested in the assemblages found on habitation and town sites, and subsistence and refuse disposal patterning.

Site Specific Research

The Sutton Site (13MA266). This site represents the remains of a small farmstead dating from the mid-1850s to the 1880s. It was occupied by at least three known owners, one of whom also practiced medicine. The latter was the first resident, and he hailed from Virginia. The last two known residents came from Indiana and Ohio (Rogers 1988:47).

Specific research questions to be examined in the present study concerning the Sutton site include the following:

1. Did farmsteads in the region progressively develop from subsistence-level farming to market production orientation, or were there differing adaptations related to region of origin, socioeconomics, and/or differing microenvironments? It is known that the first settler at the Sutton site was from Virginia, with the later residents from the Midwest. How did the cultural traditions of the settlers' region of

origin adapt to the Iowa prairie? The data recovery investigations of the Stortes/Crookham and Ratcliff sites indicated little discernible influence from the region of origin in the archaeological and dietary remains of these farmsteads (Rogers et al. 1988). Does this hold true at the Sutton site?

2. Data from the Stortes/Crookham and Ratcliff sites suggested that socioeconomic variation is present among the mid- to late nineteenth century farmsteads in the region, although the majority fell within a moderate or middle range. What socioeconomic level (or levels) is represented by the occupations of the Sutton site, and how does it relate to comparable sites?

3. As noted previously, the available data suggest that farmsteads initially settled in the mid- to late 1850s were more involved early on in market production and had developed to varying degrees beyond subsistence-level frontier farming. Does this pattern hold true for the Sutton site, or was it more typical of a subsistence-level frontier farmstead?

4. A further question which arose from the Stortes/Crookham and Ratcliff sites investigation concerned the patterning of refuse disposal on farmstead sites in the region. A related concern involved the nature of resource exploitation, particularly wild game and plant food. Specifically, it was found that faunal remains generally were only sparsely represented throughout the mid-nineteenth to mid-twentieth century occupations. Wild game was conspicuously sparse in the entire faunal assemblage. Wild plant foods were present but were of selected varieties. This pattern of selective plant exploitation prevailed into

the late nineteenth and twentieth centuries "with the selections becoming more specialized over time as the occupants' reliance on a cash economy and commercial goods increased" (Rogers et al. 1988:400). Do these patterns prevail in the assemblages of the Sutton site? Or, were there differing patterns of resource exploitation and/or refuse disposal which resulted in different patterning in the archaeological record?

Percy Townsite (13MA347). This site represents the remains of the former town of Percy. The town was established in 1882 along the Wabash railroad. It functioned as a small community trading and shipping center that peaked during the early 1900s but survived into the late 1960s (Rogers 1988:142-152).

The following are specific research questions pertaining to the townsite to be examined in this investigation:

1. The phase II investigation of the townsite of Percy indicated some variation in the size of house structures. These were separated into large, medium, and small categories. It was postulated that this size variation might be indicative of socioeconomic variation within this community (Rogers 1988:186-187). It is also known that there was variation in the occupations of the town residents including laborers, carpenters, blacksmiths, businessmen, and merchants (Rogers 1988:147-148). Other studies have indicated that occupation type can be examined as a socioeconomic variable with certain occupations having a higher status association than others (e.g., Hauser and Featherman 1977; McBride and McBride 1987). It should be noted, however, that the association is a complex one, with many other variables such as race and religion also having an effect (Hauser and Featherman 1977:48-50).

Was there socioeconomic stratification or variation within the community of Percy? How is this manifested in the archaeological, documentary, dietary, architectural, and oral historical records? Does the variation in house size represent social and economic stratification, or were the differences the result of residential differences, with smaller houses representing rental properties occupied until a larger house could be procured? Is there a correlation between the residents' occupations and socioeconomic variation at the townsite of Percy? If socioeconomic variation exists within this community, how does it compare to other communities in the region and elsewhere?

2. It is known that there was once a variety of businesses in this community situated on either side of the main street (Rogers 1988:146). Some of these were railroad-related, but the greater number were involved in the provision of the daily commercial and social services of the community. Do the material culture and documentary records associated with these businesses indicate socioeconomic variation in the community and/or its participation in, and degree of reliance on, local versus imported goods and foodstuffs? Do the dietary patterns of the town residents, as reflected in the material culture and archaeological remains of the house sites, indicate a reliance on local products and resources or a reliance on imported and commercially produced items and foodstuffs?

Dunreath Townsite (13MA449). This site consists of the remains of the former town of Dunreath. It was also established in 1882 along the Wabash railroad, although its history is somewhat divergent from that of nearby Percy. Specifically, the town location was in an area of

relatively good coal deposits, the potential of which had a bearing on the establishment of a community at this location. The late nineteenth and early twentieth century history of this town was predominated by the coal mining activity in this area. The decline of the coal industry in the early 1900s proved to be too great an obstacle for the town to overcome. Unlike Percy, it failed to survive into the mid-twentieth century.

As noted previously, only a portion of the townsite of Dunreath was recommended for data recovery. Oral and archival data had suggested that this area was a possible location for coal miner residences in the late nineteenth and early twentieth centuries (Rogers 1988:316-336). Because only a small portion of the actual townsite was included in the data recovery investigation, the primary objective of the excavations was to examine the area of suspected coal miner residences. Therefore, the primary research question concerned whether or not this area was in fact occupied by coal miners. If this question is answered positively, then the following research questions potentially could be addressed:

1. Coal companies often constructed communities for their miners. The houses were usually of similar design and construction, with the town store owned and operated by the company. As a result, the daily life of the residents was governed by the parent coal company. It is not known what influence the coal companies had over the Dunreath community or to what extent they were involved in its construction. Two oral history informants indicated that there may have been a coal company store in Dunreath in the early twentieth century; however, it is not known whether this store operated in a monopolistic fashion similar to

company stores in other coal mining communities. Does the archaeological record of Dunreath reflect a conformity in house site patterning and material culture, and if so, can this be related to the coal mining companies that operated in this area?

2. A further aspect of the Dunreath coal mining community was a diversity in nationality and ethnic backgrounds (Rogers 1988). Oral historical data indicated that the differing groups mixed both socially and residentially, although some were still strongly identified by their nationality. Are the differing ethnic backgrounds reflected in the archaeological record, or was there a conformity in material culture, subsistence practices, and habitation patterns reflective of social and cultural interaction?

3. Aside from specific research questions concerning the nature of the coal mining community, is the possibility of socioeconomic variation within the community as a whole. If variation did exist, then how does the stratification compare to that of other communities such as Percy? Was the stratification related to varying occupations? Did the coal miners occupy a lower level economically and socially than the other residents of this community, especially those who were permanent residents and were businessmen or professionals?

Methods

Historical Research

Extensive archival research for all three sites had already been conducted by the phase II investigation (Rogers 1988). Sources examined included the land and town lot transfer histories; historical accounts

and maps; aerial photographs; and biographical, census, and RICOE acquisition data. For the present investigation, additional research focused on oral history; tax, probate, and obituary records; historic photographs; coal company records; store account books; historic newspapers; and agricultural censuses.

Several historic photographs of structures in the Dunreath townsite were located in private collections, and copies are included in Appendix B. In addition, some of the previously unpublished RICOE acquisition photographs are included in this appendix.

A search of the local and state archives for coal company records from the Dunreath mining operations proved futile, but a 1911 account book from the general store in Percy was found in a descendant's collection.

Tax records were fairly extensive and covered a number of key years in the growth and decline of both towns. Probate and obituary records were located for some key individuals, but provided little applicable data. The Knoxville Journal provided brief news items about both towns. The publication years examined included 1880-1888, 1890, 1900, and 1913-1914.

Oral history interviews were conducted with former residents and neighbors of Percy and Dunreath. Interviews were conducted either at the informants' homes or at the townsites. Many informants visited the sites more than once during the course of the excavations. All interviews were recorded on microcassettes supplemented with notations. Informal discussions were also held with other visitors to the sites who often

had remembrances of the towns. There were no known oral history informants familiar with the Sutton site.

Excavation Methods

The excavation methodology for data recovery was geared to provide sufficient data to address the above described research questions. Excavation was achieved by both mechanical and hand excavation. A controlled surface collection was conducted at the Sutton site prior to mechanical removal of the plow zone. This procedure was necessary in order to obtain a larger, more representative sample of artifacts from this small, plow-disturbed site. Surface collections were not conducted at the two townsites because of the large areal extent of the cultural deposits. Detailed site-specific methodologies are presented in the individual site descriptions to follow (see Chapters IV-VI).

The mechanical stripping of the topsoil on all three sites facilitated the examination of extensive horizontal areas and in the definition of subsurface features. A small, tractor-driven belly-loading scraper was utilized in the topsoil removal. A backhoe was utilized at Percy in the excavation of test trenches within structural foundations, to excavate deep features such as wells, and to remove the topsoil from hard-to-reach places around and within existing foundations. The backhoe was also utilized at Dunreath in the excavation of deep test trenches.

Individual features were first mapped in plan view on a systematic site grid. The stains were then cross-sectioned as close to half as possible. One-half was then removed as a single level to achieve a profile of the feature. This half was not screened, but observed artifacts were collected. The profile was then photographed and mapped.

The second half of the feature was removed in natural stratigraphic levels or arbitrary 10 cm levels depending on the nature of the deposits. The exceptions to this rule were shallow features lacking stratigraphy and post holes. The fill from the second half of each feature was screened through 1/2 in. mesh. Five liter samples of feature fill were collected from each level or natural zone for flotation to recover botanical, faunal, and small artifact material.

A few large features at Percy were only quarter-sectioned by hand excavation or were cross-sectioned by the backhoe. These types of features included sandpoint wells and large cellars filled in the 1960s, lime-filled privies, and one cellar filled with large pieces of concrete rubble. The fill from the hand excavations was removed in arbitrary 10 cm levels and screened through 1/2 in. mesh. Those features cross-sectioned by the backhoe were mapped and photographed in profile and their remaining fill sampled but not fully excavated.

In general, all types of artifacts were collected with the exception of dense construction rubble. Representative samples were collected from these deposits. In the specific case of a dense deposit of metal items found in the basement of the early store at Percy, the largest pieces were photographed and noted in the field but were not collected. Dense deposits of metal fragments from this feature were weighed in the field and also not collected.

At Percy, test trenches were excavated by backhoe along foundation walls to facilitate examination of these structural remains. The walls of each trench were cleaned, photographed, and mapped. Additional hand-

excavated shovel tests were excavated at other points of interest along the foundations in order to better understand structural changes.

Analytical Methods

All artifacts and flotation samples were processed at the laboratory facilities of Bear Creek Archeology, Inc., in Decorah, Iowa, where they were washed, sorted, cataloged, and labeled.

Artifact Analysis. The artifacts were identified according to material, manufacture, function, and other diagnostic attributes. Diagnostic material was identified and dated by the use of appropriate references. For ceramics, these included classifications and chronologies formulated by Brown (1982), Lofstrom (1976), Miller (1987), Price (1982), and Wegars and Carley (1982). Glass identification and temporal affiliation utilized studies by Deiss (1981) and Lorrain (1968).

The stonewares were examined with reference to local and regional studies including Reynolds (1970), Schroeder (1979), Schulte (1974), and Stoltz and Brooks (1966). The previous data recovery at the Stortes/Crookham and Ratcliff sites also included a comparative study of the stoneware collections from Lake Red Rock kilns housed at Iowa State University in Ames (Rogers et al. 1988). The diagnostic characteristics noted during that study were applied to the stoneware analysis in the present investigation.

Other references were utilized to aid in the determination of manufacture, functional, and temporal identifications; these are referenced in the text where utilized. The following categories were employed for the artifact analysis.

Ceramics. The initial identification was of ware type such as

pearlware, whiteware, ironstone, porcelain, yellow ware, stoneware, coarse earthenware, or redware. Ironstone was identified by a lack of porosity and a white paste. Pearlwares were separated from whitewares based on the decorative type and a bluish cast to the glaze color.

Decorative treatment and vessel morphology were noted. Where possible, temporal ranges and Mean Ceramic Dates were determined. The latter were calculated using South's (1977:217) formula and the temporal ranges listed in Table 1. Where more specific ranges were available (e.g., from identifiable maker's marks), mean dates were derived from those ranges. For those ceramics with terminal dates extending beyond the termination dates for the occupations of the sites, the mean dates were derived by utilizing 1969 as the terminal date for Percy and Dunreath and 1890 for the Sutton site. These dates were considered to be the final end dates to which these sites possibly could have been occupied based on all known data.

Stonewares were identified as to glaze type, paste color, decorative treatment, vessel type, method of manufacture, and place of manufacture. Specific attention was paid to the identification of locally versus nonlocally produced stonewares and possible associations with specific local kilns.

Glass. These items were identified according to method of manufacture, color, morphology, and function. Table 2 presents temporal ranges and mean dates utilized to calculate mean glass dates, an adaptation of South's (1977) ceramic formula that is patterned after a study by McBride (1984). Bottle glass, in particular, was analyzed

Table 1. Ceramic Temporal Ranges and Mean Dates.*

Attribute	Range	Mean	Reference
Whiteware			
Undecorated	1830-1969**	1899.5	Price 1982
	1830-1890***	1860	"
Blue shell edge	1830-1860	1845	Lofstrom et al. 1982
Handpainted-floral	1840-1860	1850	"
Sponged, spatter and stamped	1840-1860	1850	"
Blue transfer print	1830-1860	1845	"
Flow blue	1844-1860	1852	"
Embossed	1850-1900	1875	Price 1982; Wetherbee 1980
Decalcomania	1900-1969**	1934.5	Haskel 1981
Colored glaze	1930-1969**	1949.5	Wegars & Carley 1982
Ivory tint	1870-1969**	1919.5	Miller 1987
Gilded	1880-1969**	1924.5	"
Embossed flow blue	1890-1920	1905	Price 1982
Indeterminate decorated	1830-1969**	1899.5	"
Ironstone			
Undecorated	1840-1969**	1904.5	Brown 1982
	1840-1890***	1865	"
Embossed flow blue	1890-1920	1905	Price 1982
Embossed	1866-1907	1886.5	Gates & Ormerod 1982
Ivory tint	1870-1969**	1919.5	Miller 1987
Tea leaf	1880-1910	1895	Kamm 1951
Gilded	1880-1969**	1924.5	Miller 1987
Decalcomania	1900-1969**	1934.5	Haskel 1981
Gilded/decalcomania	1900-1969**	1934.5	"
Yellow Ware			
Undecorated	1827-1940	1884	Ketchum 1987
Annular	1840-1940	1890	"
Porcelain			
Decalcomania	1890-1969**	1929.5	Haskel 1981
Gilded	1880-1969**	1924.5	Miller 1987
Iridescent	1920-1969**	1944.5	Wegars & Carley 1982
"Made in Japan"	1921-1940	1930.5	Stitt 1974

* taken from Rogers et al. (1988:34)
** 1969 represents the terminal date for the occupation of Percy and Dunreath
*** 1890 represents the terminal date for the occupation of the Sutton site

Table 2. Glass Temporal Ranges and Mean Dates.*

Attribute	Range	Mean	Reference
Two-pc. mold blown	1818-1875	1846.5	Deiss 1981
" " " " -blowpipe	1818-1860	1839	"
" " " " -improved	1840-1875	1857.5	"
" " " " -snap case	1860-1875	1867.5	"
Three pc. dip-bottom	1830-1905	1867.5	"
" " " " -blowpipe	1830-1860	1845	"
" " " " -snap case	1860-1905	1882.5	"
Three pc. plate-bottom	1858-1915	1886.5	"
" " " " -blowpipe	1858-1860	1859	"
" " " " -improved	1858-1875	1866.5	"
" " " " -snap case	1860-1915	1887.5	"
Turnmold	1880-1905	1892.5	"
Applied tooled-cork	1825-1875	1850	"
" " -wax seal**	1855-1880	1867.5	"
" " -Hutchinson	1879-1895	1887	"
" " -lightning	1875-1895	1885	"
" " -crown	1892-1910	1901	"
Ground rim w/screw threads	1858-1915	1886.5	"
Improved tooled-cork	1870-1915	1892.5	"
" " -Hutchinson	1885-1915	1900	"
" " -lightning	1875-1915	1895	"
" " -crown	1905-1920	1912.5	"
Machine made	1903-1969***	1936	"
" " -cork	1903-1915	1909	"
" " -crown	1903-1969***	1936	"
" " -lightning	1904-1969***	1936.5	Toulouse 1969
" " -lug	1906-1969***	1937.5	Deiss 1981
" " -continuous thread	1919-1969***	1944	"
Manganese oxide (amethyst tint)	1880-1918	1899	"
"Federal law prohibits sale or reuse of this bottle"	1933-1969***	1951	"
Figured flasks	1840-1875	1857.5	"
Carnival glass tableware	1890-1935	1912.5	"
Depression glass tableware	1925-1940	1932.5	Florence 1988
Applied color label	1934-1969***	1951.5	Munsey 1970

* taken from Rogers et al. (1988:35)
** can also occur with a ground rim
*** 1969 represents the terminal date for the occupation of Percy and Dunreath

according to Deiss's (1981) classification, terminology, and definitions.

Metal. These items were identified as to type of material, manufacture, morphology, and function. The terminology and chronology utilized in the identification of nail types follows that found in Nelson (1968).

Other. This category included construction materials and those items made of materials other than ceramic, glass, and metal. Construction materials include brick, mortar, concrete, sandstone, limestone, and other stone. Other possible material types include cinders, synthetics, rubber, leather, and items made of bone and shell.

Socioeconomic Analysis. The primary objective of the research design was to examine possible socioeconomic variation on an intra- and intersite basis. To accomplish this goal, the present investigation focused on selected variables from more than one line of evidence in order to examine possible socioeconomic variability. The variables were determined by the presence of sufficient data recovered from these sites as well as the ability to make comparisons with similar archaeological and historical studies in this and other regions.

The selected variables included archaeological, oral historical, documentary, and architectural data. Specifically, these included former residents' perceptions of status and economic levels; tax record valuations of personal property; real/personal property valuations and identification of occupation types from the population censuses; agriculture census farm valuations; potential variations in

architectural forms and size; ceramic economic scaling; artifact patterns; and dietary remains.

Both real estate and personal property estimations were recorded in the 1860 and 1870 U. S. population censuses. The 1850 census only recorded real estate valuations, while the post-1870 censuses provided neither. The 1890 census is not even available. Therefore, the census valuations could only be applied to the farmstead analysis concerning the Sutton site. For the analysis of this site, agricultural census data from 1856-1880 were also available. These censuses provided information on the cash value of farms, implements, livestock, orchard products, market garden produce, homemade manufactures, animals slaughtered, and (for the 1870 and 1880 censuses) the total value of farm production, betterments, and additions to stock.

The post-1880 state and federal population censuses provided identifications of the occupations of the residents of both townsites. These data were then compared to other variables including ceramic scaling, artifact patterns, tax valuations, oral historical perceptions, and architectural data to further define possible socioeconomic variation. These data were then evaluated in light of a recent study by McBride and McBride (1987) concerning socioeconomic variation in a small town in Mississippi and general historical and population studies which utilize occupation as a variable of social and economic status (e.g., see Hauser and Featherman 1977; Jackman and Jackman 1983; Reiss et al. 1962).

The refined ceramics were analyzed according to the general methodology formulated by Miller (1980) to examine ceramic economic

scaling. This technique is based on a four-level scale wherein the first or lowest level is undecorated wares; the second level is minimally decorated wares such as shell edge, sponge, and annular; the third level is handpainted wares; and the fourth or highest level is transfer printing and flowing. This scale is based upon the price of these wares, with those of the first level being the cheapest, the second level the cheapest decorated ceramics, the third level a more expensive decoration type because it required greater skill, and the fourth level being the most expensive decorative type (Miller 1980:3-4). A fifth level can be added on sites occupied into the 1850s or later; this consists of ironstone which often had a price equal to that of transfer print (Miller 1980:40). Porcelain also appears to represent one of the most expensive ware types and would occupy a higher level above transfer printing and ironstone (Miller 1980:32).

Miller's (1980) formulations are not without shortcomings, the major one being the lack of price indices extending into the late nineteenth and early twentieth centuries. Recent studies by Thomas (1987) and Henry (1987) have attempted to expand the application of the economic scaling technique into these more recent periods. Both studies utilized ceramic prices listed in reprints of mail order catalogs dating from 1895-1927 resulting in three key index periods: the late 1890s, the early 1900s, and the 1920s (Henry 1987:369; Thomas 1987). These studies proved useful in the examination of ceramic scaling in the refined ceramic assemblages from Percy and Dunreath, both of which post-dated 1882.

Another factor in Miller's (1980) technique was the utilization of minimum vessel counts in the calculations. Several recent studies have been conducted utilizing an adaptation of Miller's (1980) study based on sherd counts rather than vessel counts (see Lees and Kimery-Lees 1984; McBride and McBride 1987; Rogers et al. 1988; Spencer-Wood 1987b). It was found that the sherd count adaptation appeared to have validity when the results were compared to other socioeconomic variables. It was noted, however, that the sherd count adaptation required testing against minimum vessel count calculations from the same assemblages in order to fully access this technique's validity (Rogers et al. 1988). Where possible, the present investigation utilized both sherd and minimum vessel counts. However, the large size of the ceramic assemblage from Percy prohibited a full-scale minimum vessel count study at this time. The results of the ceramic economic scaling were compared with the study by Rogers et al. (1988) and a recent study by Gade (personal communication 1989).

The analysis of artifact patterning was based on recent studies by Mansberger (1987) and Rogers et al. (1988) which utilized a methodology developed from South's (1977) artifact patterning studies, with adaptations by Otto (1977) and Heitzman (1980). Many of these studies hypothesized that certain functional categories of artifacts would be represented in differing proportions relative to socioeconomic variations. For example, it was hypothesized that households of upper-class status would have higher percentages of architectural remains, furniture-related items, clothing parts, and personal items, while there would be lower percentages of kitchen items and tools. The study by

Mansberger (1987:201-205) indicated that the hypotheses concerning kitchen, architectural, furniture, and personal items were substantiated. The study by Rogers et al. (1988:438-450) indicated that the hypotheses concerning architectural, clothing, and kitchen items were substantiated.

In order to conduct the artifact patterning analysis, the artifacts were categorized by functional types. The general categories included architectural (any materials utilized in the construction of structures including nails, window glass, hinges, drainage tile); kitchen (any artifacts utilized for food preparation, consumption, or storage); furnishings (such as lamps, furniture parts, vases); clothing (including buttons, snaps, shoe parts, pins); personal (such as pipes, toys, doll parts, coins); transportation (such as wagon, carriage, and automobile parts, harness furnishings); arms (gun parts, ammunition); tools/ activities (machinery parts, tools, any non-household related activity items); and other (unidentifiable items, cinders/coal, non-architectural stone, unmodified faunal and botanical material). For the purposes of the artifact patterning analysis, construction rubble including brick, mortar, concrete, and building stone was not included in the architectural category because only samples of these materials were collected.

Faunal Analysis. The faunal remains from both sites were identified and analyzed by Terrance J. Martin of the Illinois State Museum in Springfield, Illinois. The analyzed samples included material recovered from flotation samples and screening during excavation. Because of the large extent of the Percy townsite excavations and the recent nature of

some of the excavated features, only a sample of the faunal material from selected features was analyzed.

In addition to identifying as many specimens as possible, information was routinely recorded on anatomical portions, side of the body, bone weights, and presence of modifications such as burning, cut marks, and damage by rodents and carnivores. Identified fish bones were compared to skeletons of modern individuals curated at the Illinois State Museum in order to obtain an estimate of the size of individuals represented by archaeological specimens. Summary tables on the various contexts investigated present quantitative data on (1) the number of identified specimens, (2) the minimum number of individual animals represented by those specimens, (3) the total weight of all bones identified as a particular taxon, and (4) the amount of biomass that may have been obtained from the various animals as predicted by allometric formulae applied to the weight of the archaeological bones (see Reitz et al. 1987). The interpretive value of the various measures of species abundance is the relative importance of each taxa, not the absolute quantities projected. In addition, attention to the composition of skeleton portions and butchering units from cattle and pigs (Lyman 1979; Schulz and Gust 1983) recovered at particular sites as well as at particular contexts within a site has the potential to contribute to assessments of socioeconomic status of site inhabitants and recognition of refuse disposal patterns and specific activity areas (see discussion by Jolley [1983] and case studies by Price [1985] and Schulz and Gust [1983]).

Botanical Analysis. The botanical remains were identified and

analyzed by Candace J. Lutzow of the Department of Botany, University of Hawaii at Manoa. Samples were recovered from flotation and screening processes. For the Percy townsite, only the botanical material from selected features was analyzed; however, all recovered wood samples were examined. The sample features were the same ones selected for the faunal analysis.

Each sample was initially scanned for seeds and seed remnants, all of which were removed for identification and counted. Remaining material was sorted into the general categories of nutshell, charcoal, and residue. Residue is an indistinguishable class of botanical material averaging less than 2 mm in size; this material was simply weighed. Nutshell and charcoal fragments were weighed, counted, and identified to species, genus, or familial level where possible. Unidentifiable fragments were simply weighed and counted.

Identification of botanical remnants was facilitated by use of an American Scientist stereozoom dissecting microscope with magnification potential ranging from 7x to 42x. Light was provided by an American Scientist external fiber optic illuminator. Samples were weighed to within 0.05 g on a Mettler P1200 top-loading balance.

Flotation samples which yielded thousands of seeds were split into subsamples using a geologic riffle sampler. The riffle sampler splits a sample randomly into units theoretically representative of the entire sample. Subsamples representing either 25% or 12.5% of the total sample were obtained. Seed identifications determined were then multiplied by either four or eight to obtain an estimate of total seeds present in the samples. The subsamples which were not subjected to identification were

scanned for material which may not have been represented in the identified subsample. Since these large samples nearly exclusively contained seeds, all other categories of botanical material such as charcoal and nutshell were culled from the subsamples for identification.

Seed identifications were aided by the use of seed identification manuals by Martin and Barkley (1961), Montgomery (1977), and the USDA (1974). A seed type collection was consulted to verify identifications.

Identification of nutshell fragments at the general level was aided by use of the USDA manual, Seeds of the Woody Plants in the United States (1974). Identification to a more specific level was determined by comparison of the sample materials with the nut type collection.

Wood samples are generally identified based on the unique pattern of cell type deposition and distribution within the annual growth ring increments. Hardwoods typically consist of distinctive heterocellular components and generally are readily identified to the genus level if a fragment consists of a minimum of one growth ring. Hardwood specimens which could not be identified to familial level were grouped into the general categories of ring-porous wood or diffuse-porous wood, differentiation based upon pore or vessel distribution within a growth ring. Softwoods (generally all of the coniferous woods) consist of a rather homogeneous unit of cells within the growth ring increments and are thus difficult to identify unless a thin section of material is placed under a light microscope at magnification levels of 100x or more. Genera within the pine family (Pinaceace) contain distinctive resin canals which facilitate specific identification. Fragments determined

not to be of the pine family were simply placed into a general category of nonresinous conifers. Identification could be theoretically determined by noting the potentially available coniferous wood within the ambient environment. Wood identification manuals by Core et al. (1976) and Panshin and de Zeeuw (1980) were indispensible aids to identifications. Comparisons of wood fragments with the wood type collection confirmed identifications.

Interpretation of identified flora in terms of potential availability (i.e., abundance, habitat, and maturation time) and function within site context was aided by a number of historic and technical manuals which are cited where used.

Architectural Analysis. The architectural analysis was conducted by Robert C. Vogel of R. C. Vogel and Associates of Cottage Grove, Minnesota. The purpose of the architectural survey was to describe and analyze houses, outbuildings, and other structures photographed by government real estate appraisers as part of the Lake Red Rock land acquisitions in the 1960s. Because there are no standing structures extant at either Percy or Dunreath, the survey consisted of intensive archival research in the RICOE land acquisition records and substituted careful inspection of tract file photographs for field work.

The research plan for the architectural survey was designed to achieve five major objectives:

1. Description and evaluation of all buildings and structures photographed by government real estate appraisers in tracts associated with archaeological sites at Dunreath and Percy.

2. Identification of notable examples of architectural style-types or methods of construction.

3. Identification of architectural curiosities (i.e., one-of-a-kind buildings).

4. Identification of agricultural structures (i.e., barns, corn cribs, and sheds).

5. Analysis of the buildings and structures at Dunreath and Percy in the context of regional architectural history.

It has become common to distinguish between two general levels of survey: reconnaissance and intensive. The architectural survey of Dunreath and Percy was conducted at the reconnaissance level of documentation and involved a careful and systematic study of photographs, house plats (i.e., floor plans), and maps in the RICOE archives as the basis for extrapolation about the architectural history of these townsites. The level of specificity and effort involved was comparable to a "windshield survey" except, of course, there was no opportunity for field work.

The architectural survey involved three elements or phases of research activities. The background research or start-up phase consisted of organizing information about the architecture of the towns and incorporated the results of historical and archaeological research conducted during the phase II investigation (Rogers 1988) to develop a research design and goals. As a preliminary step, the architectural consultant visited both townsites while archaeological excavations were underway and conducted a cursory walkover inspection of the specific features that were the focus of this investigation.

In the descriptive element or archival phase, RICOE real estate records were examined in the vault at Rock Island. When the RICOE acquired the lands, government appraisers were sent to inspect the affected properties and negotiate their acquisition. The appraisers documented their work with written reports that described each property in considerable detail. These appraisal reports included elevation photographs and house plats or floor plans and constituted the primary sources for the architectural survey.

The descriptive element of the survey was based on a three-step process. These steps were:

Step 1. Application of primary diagnostic elements based on dividing three-dimensional structures into two separate two-dimensional components: ground plan and elevation. Ground plans are essentially bird's eye views of the building interior to define the configuration of rooms or units. In architectural parlance, elevations are straight-on views at ground level and address wall height, roof shape, and the relative proportions of the roof and wall. Ground plan and elevation combine to form families of shapes.

Step 2. Application of secondary diagnostic elements based on the basic structural components and the walls and roofs, including the orientation of the facade, the pattern of fenestration, and the wall cladding and roofing materials.

Step 3. Identify other character-defining elements such as architectural stylistic details, type and location of porches, chimneys, and additions to the core structure.

Descriptive data were entered on standard architectural survey forms. Supplementary notes in relation to specific properties were also compiled and later correlated with the survey forms.

The final element of the survey was the analysis or evaluation phase, which consisted of organizing and interpreting survey data. This process commenced while the descriptive element was in process, with the transcription of data from the survey forms into a series of narrative descriptions. Analysis followed a morphological approach (cf. Wyatt 1987) and involved the assessment of each structure's physical characteristics as the basis for comparing groups of buildings. Wherever possible, houses and other buildings were identified according to standard architectural style-type classifications adapted from McAlester and McAlester (1984), McKee (1970), Rapoport (1969), and Whiffen (1981).

The methodological underpinnings for the survey can be found in the writings of Bastian (1977), Glassie (1969), Hudson (1975), Kniffen (1965, 1936), Newton (1977), Perrin (1967), and Wyatt (1987). The research design parallels a strategy for identifying and evaluating rural architecture being employed in Cottage Grove, Minnesota (Vogel 1986, 1988; Vogel and Rothweiler 1985).

Additional architectural analysis was provided by Brian Betteridge of rural Decorah, Iowa. He is a stonemason experienced in the analysis of historic structures. This aspect of the architectural analysis involved an on-site inspection of foundation remains at the townsite of Percy. The construction methods and materials were identified for each foundation in the investigated portion of the townsite.

The results of the architectural analysis were utilized as a variable in the socioeconomic analysis of the two townsites. Other studies have found that various house forms have socioeconomic associations (see Mansberger 1987:226). One research question involved whether or not the house sizes at Percy, in particular, were correlated with socioeconomic variation.

CHAPTER IV. THE SUTTON SITE (13MA266)

Data Recovery Results

Introduction

Site 13MA266 has been named the Sutton site after the first probable settler of this site. It is located on the southeast side of Ballard Creek south of the Des Moines River. The legal location is in Section 4, Township 76N, Range 20W (Figure 5). It is further situated on a bench sideslope at an elevation of 745-770 ft National Geodetic Vertical Datum (NGVD). The site area has been intensively cultivated for a number of years and has been further impacted by slope erosion. A portion of the site was covered with dense brush and driftwood piles. This area was investigated by shovel testing and test unit excavation during the phase II investigation (Rogers 1988:28-68). At the time of the present investigation, the majority of the site area was planted with soybeans.

The previous archaeological investigations of this site are summarized in Chapter I. For more specific details of these investigations, the reader is referred to Roper et al. (1986:91) and Rogers (1988:28-68).

Historical Background

The original entrant for this property in 1850 was William Ballard, for whom the nearby creek was named. It is unlikely that he actually

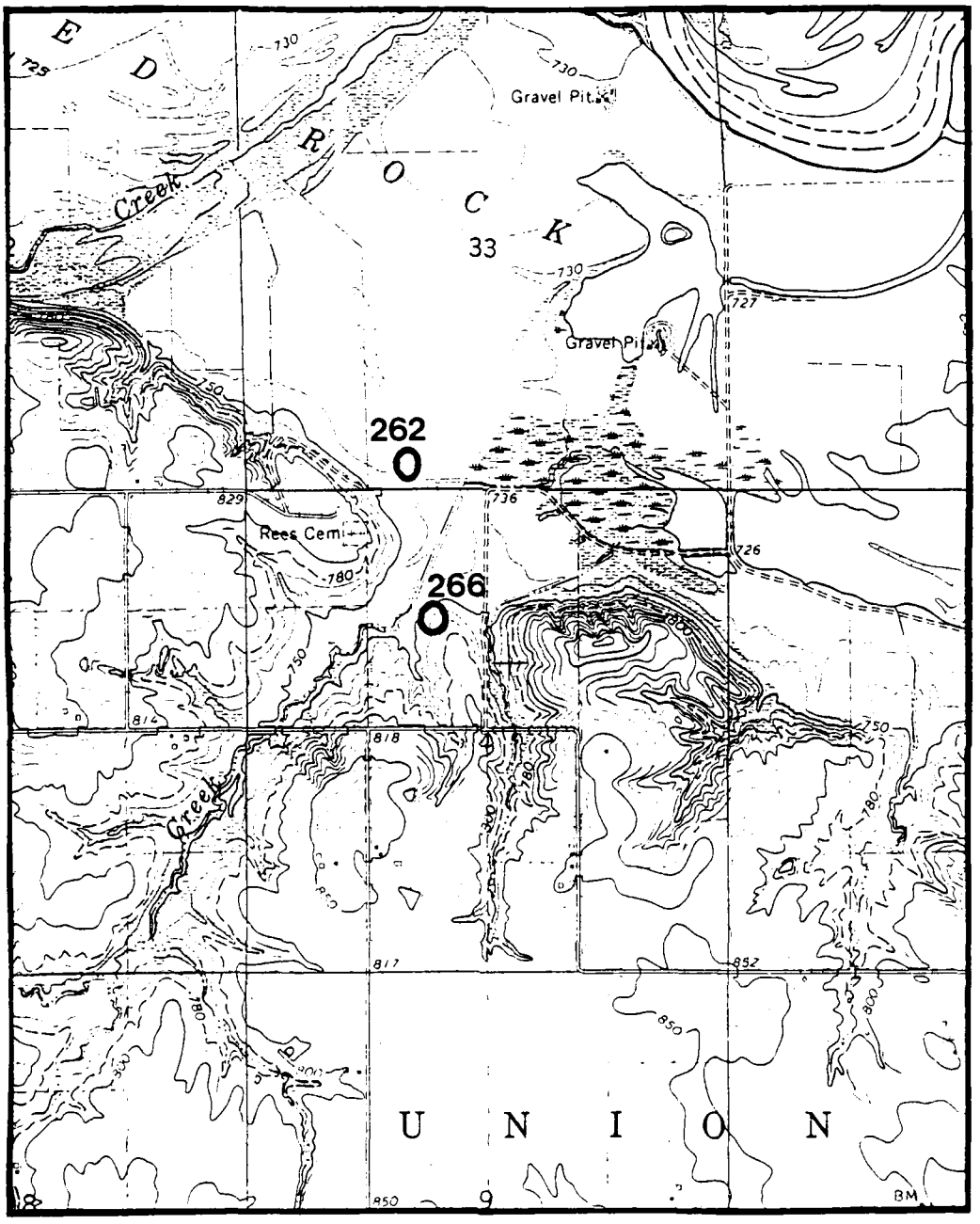


Figure 5. Topographic location of sites 13MA262 and 266.

resided at the site location because the 1875 plat showed his house site southwest of the Sutton site location (Figure 6).

The most likely candidate for the original occupancy of this site is Levi Sutton, who purchased this property sometime between 1850 and 1858. The exact purchase date could not be located in the deed records; however, biographical information suggests a date ca. 1855 (Rogers 1988:50-51). His biography specifically stated the following.

> Sutton, Levi--retired farmer. P. O. Pleasantville. Is a native of Harrison county, Virginia, and was born on the fourteenth day of November, 1811. There he lived until the year 1839, when he removed to Pike county, Ohio. After some time he removed to Tipton, Indiana. Remaining here for four years he came to Marion county, settling in Union township, three miles from Red Rock. Although in early life he was engaged in agricultural pursuits, still he found time to enter upon the study of medicine, and at the age of thirty-four he commenced to practice. He was probably the first physician to settle in Union township. After a few year's residence in this township he went to Kansas, where he lived six years. In the fall of 1864 he again returned to Pleasant Grove township, where he now lives, and although his active days of life are over, he is still a useful member of society. He was married to Miss Sarah Brown on the fourteenth day of April, 1833, and from this union is the father of nine [sic] children: Margaret, William, and Robert F. are living, and Mary J., Rachel, Lawrence, Fidelia, and Lewis are dead (Union Historical Company 1881:740).

The 1864 date of his return from Kansas minus the six years he lived in that state indicates that he left his residence in Union Township in 1858--the very year he sold the site property to Levi Horsman (see Rogers 1988:47 for a detailed listing of the land transfer history of the site). The "few year's residence" in Union Township subtracted from 1858 would indicate an original occupation date ca. 1855.

According to the 1856 Iowa State Census, Levi Sutton was a 45-year-old farmer then residing in Union Township. His wife's name was listed

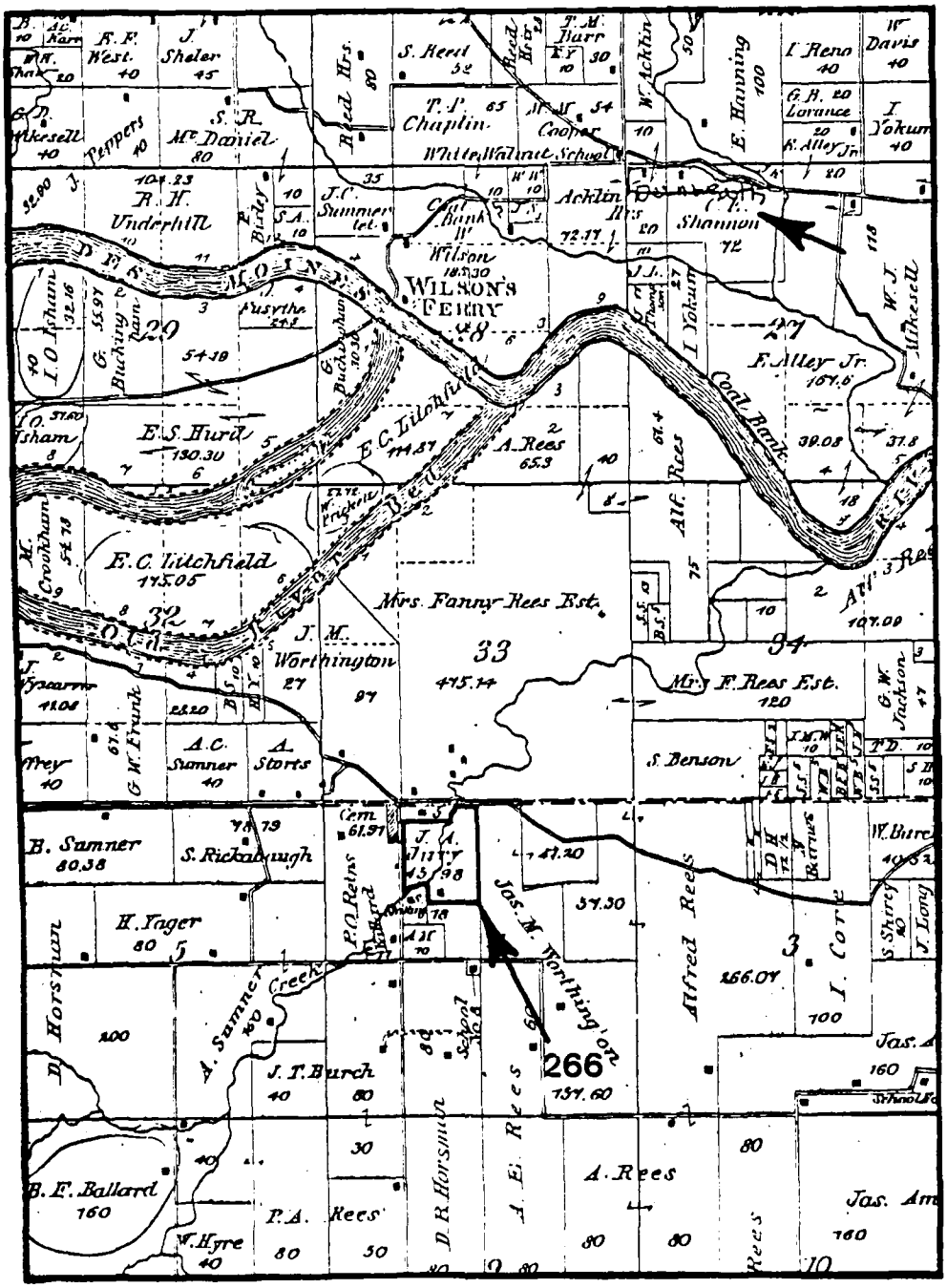


Figure 6. 1875 plat map showing site 13MA266 and future location of Dunreath.

as "Sally," and the children included Alexander J. (22 years old), Mary Jane (15), "R." (a 13-year-old female), "L." (a 10-year-old-female), William (8), "Phildelia" (5), and Franklin (1). Although some of the names have spellings different from those in the biography, census listings were generally of an uneven quality, related to the literacy of both the census takers and the individuals reporting these data.

The 1856 census also indicated that Levi, his wife, and their eldest son were born in Virginia. Five of the other children had been born in Ohio, and the youngest had been born in Iowa. The family was listed as having been in the state three years. These data correspond to the biographical data; however, the three years residence in Iowa compared to the biographical data that they moved from Indiana to Marion County, Iowa, would suggest an original occupancy date of site 266 in 1853.

In 1858 Sutton sold the 120 acre parcel including the site location to Levi Horsman for $2,000. The nearly $17/acre price suggests that some improvements had been made to this property. Horsman retained possession for six years before he sold it to Elijah Benson, who sold it three years later to Edwin Lutz. In 1871, four years following Lutz's purchase, he sold 42 acres including the site location to James Jury for $1,600, or $38/acre. This had gone up slightly from the $22.50/acre price that Lutz had paid in 1867 (Rogers 1988:46-47).

Biographical data concerning Levi Horsman suggested that the Marion County farm on which he actually lived was not that represented by site 266. Specifically, it was noted that Levi and Sidney (Bonecutter) Horsman were natives of Virginia and had been married in Ohio.

> They started west in 1844 and spent ten years in Shelby county, Illinois, whence they removed to Iowa in 1854, casting in their lot with the pioneer settlers of this county [i.e., Marion County]. The father here engaged in farming after entering land from the government in Union township. Not a furrow had been turned nor an improvement made upon his place, but with characteristic energy he began its development and transformed the tract into richly cultivated fields to which he added from time to time until he became the owner of an extensive farm property, in the conduct and management of which he was very successful. He resided upon that farm until his death, which occurred in 1873 when he was sixty-five years of age (Wright 1915:350).

The actual date of his death was March 15, 1877, at the age of 60. He was buried in Rees Cemetery located on the hill west of Ballard Creek (Figure 5). This correction aside, the above biography correlated with the known land transfer history of site 266 would indicate that the farm described above was not that represented by this site. It is possible, however, that it was a rental property under his ownership. Horsman was listed as a resident of Union Township in both the 1856 Iowa State Census and in the 1860 U. S. Population Census.

Unfortunately, the ownership of site 266 by Elijah Benson, from 1864 to 1867, did not fall within a census period. Therefore, there are no known vital statistics concerning this owner.

Edwin Lutz, who owned site 266 from 1867-1871, was listed in the 1870 U. S. Population Census as a 36-year-old farmer who had been born in Indiana. His wife, M. J., was 34 years old and was a native of Ohio. Their five children, ranging in age from eight years to five months, had all been born in Iowa. They included four boys and one girl. Lutz had also been listed in the 1856 Iowa State Census as a single man then living with the John Roush family in Red Rock Township.

James A. Jury, who owned site 266 from 1871 to 1883, was listed in

the 1880 U. S. Population Census as a 37-year-old farmer who had been born in Ohio. His wife, Sarah A., was 36 years old and was also a native of Ohio. They had 5 children ranging from 10 years to 7 months of age who had all been born in Iowa. These included three boys and two girls. Jury died on May 22, 1920, and is buried in Rees Cemetery. His obituary noted that he had been born in Highland County, Ohio, on January 19, 1847. He married (Sarah) Amanda Anderson in 1867, and they had six children. During the Civil War he served with the 168th Ohio Volunteers. The Jury family moved from Ohio to Marion County, Iowa, in 1868 where they remained until his death, although in later years their farmstead was located southwest of site 266 (Knoxville Journal 1920).

The 1875 plat map of Union Township (Figure 6) showed a house structure at the approximate location of site 266, with the notation that the property was owned by J. A. Jury. Therefore, it can be stated that the house structure represented archaeologically by site 266 was built by 1875, although it was most likely built ca. 1855 when the site was occupied by Levi Sutton.

James Jury sold the property to Mary Crookham in 1883. It is known that she was then residing at either the farmstead represented by the Stortes/Crookham site (13MA262) (Figure 5) or that represented by site 13MA209 (Rogers et al. 1988:138). It is possible that the farm at site 266 was rented out during the Crookham ownership period from 1883-1891 and the subsequent ownership period by James Rees from 1891-1916. However, the 1901 plat of Union Township (Figure 7) showed no evidence of a house structure at site 266 but did show a house structure in the

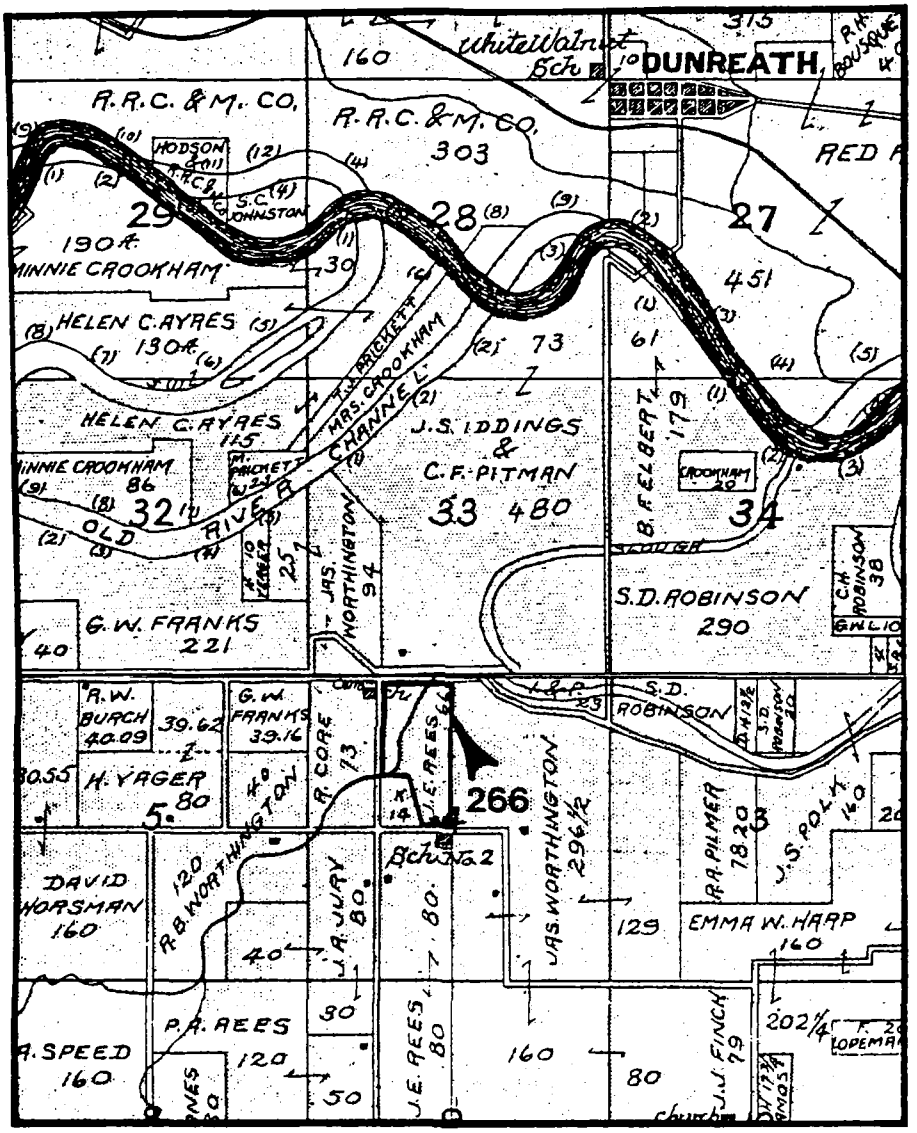


Figure 7. 1901 plat map showing site 13MA266 and Dunreath.

southeast corner of the property. This is the location of the known twentieth century occupation of this property (RICOE acquisition file, Tract No. 865, 865E; RICOE plane table map, RR-PT-K8). The current tenants, Earl and John Van Eck, noted that their family had owned this land since the 1930s and had been in the area since the late nineteenth century. Neither had any recollection of structures at the location of site 266 (Rogers 1988:48).

In summary, it is likely that site 266 was first occupied by Levi Sutton and his family in the mid-1850s. He was both a farmer and a physician. Other possible owner/occupants included Elijah Benson, Edwin Lutz, and James Jury, most of whom are known to have been farmers. Table 3 presents a summary of the occupation history of the Sutton site. Unfortunately, none of the owners died while in possession of this property. Therefore, all available probate data contain no references to this site. The site was either abandoned or rented out from 1883 to 1901, when it is positively known that the house was no longer occupied and likely not standing. By that time, the occupation of this property had shifted to the southeast corner along a section line road.

Excavation Methods

The surface layer covering the Sutton site had been intensively cultivated over the past 80-90 years. The site area had been plowed and cultivated prior to the field investigation. The beans had sprouted, but surface visibility remained close to 100%. A surface collection was conducted from a grid system of 5 m x 5 m units in order to obtain a more representative sample of the artifacts and to clearly define the horizontal boundaries of the cultural deposits. All artifacts were

Table 3. Occupation History of the Sutton Site (13MA266).

Owner of Record	Period of Ownership	Potential Site Occupant
William Ballard	1850-ca. 1855	-
Levi Sutton	ca. 1855-1858	X
Levi Horsman	1858-1864	-
Elijah Benson	1864-1867	X
Edwin Lutz	1867-1871	X
James Jury	1871-1883	X
Mary Crookham	1883-1891	-
James Rees	1891-1916	-
William Phipps	1916	-
John Dickerson	1916-1923	-
Union Central Life Ins.	1923-1934	-
Art Van Eck & family	1934-1961	-

collected except for rocks, which were only noted as to size and composition. These data were then plotted and artifact concentrations noted. From this information, the specific area to be mechanically stripped was selected.

Surface reconnaissance was also conducted over the adjacent field areas to locate possible dump areas or isolated features. The cutbanks of the creek drainage in the site vicinity were also examined for evidence of refuse dumping areas.

The mechanical stripping of the plow zone from the majority of the site area resulted in the relatively easy definition of intact subplow zone cultural features (Appendix A, Figure 1a and b). The removal of the plow zone was accomplished by the use of a belly-loading scraper. Approximately 20 cm of plow zone was removed to expose the subsoil.

Excavation Results

Controlled Surface Collection. The controlled surface collection grid system consisted of 5 m x 5 m units (n=129), with some units 2 m x 5 m (n=6) in size along the north edge of the field. Figure 8 shows the distribution of all artifacts, historic ceramics, glass, brick, and sandstone. The datum shown is the same as that for the entire site (see Figure 9). A total of 845 items was collected and noted, including 21 prehistoric artifacts. The historic material was densely concentrated in the west-central portion of the collection grid, particularly in the vicinity of feature 2 which was likely a pit cellar underneath a house structure (Figure 8). The remaining scatter of historic material was widely broadcast, the combined result of site utilization and post-occupation plowing.

The historic artifact assemblage was predominated by ceramics, bottle and window glass, and nails (see Appendix D, Table 1). A substantial amount of sandstone was also noted, the majority of which was in the vicinity of feature 2 and likely represents the scattered remains of a foundation (Figure 8). It should be noted that some of the sandstone may be associated with the prehistoric component; however, the fact that this material was concentrated in the vicinity of the major historic features suggests a stronger association with that occupation.

The ceramic assemblage had a Mean Ceramic Date of 1864.4, while the glass assemblage had a mean date of 1861. Some twentieth century items were collected, including machine-made bottles and plastic. The recent nature of these items as well as their sole presence in surface

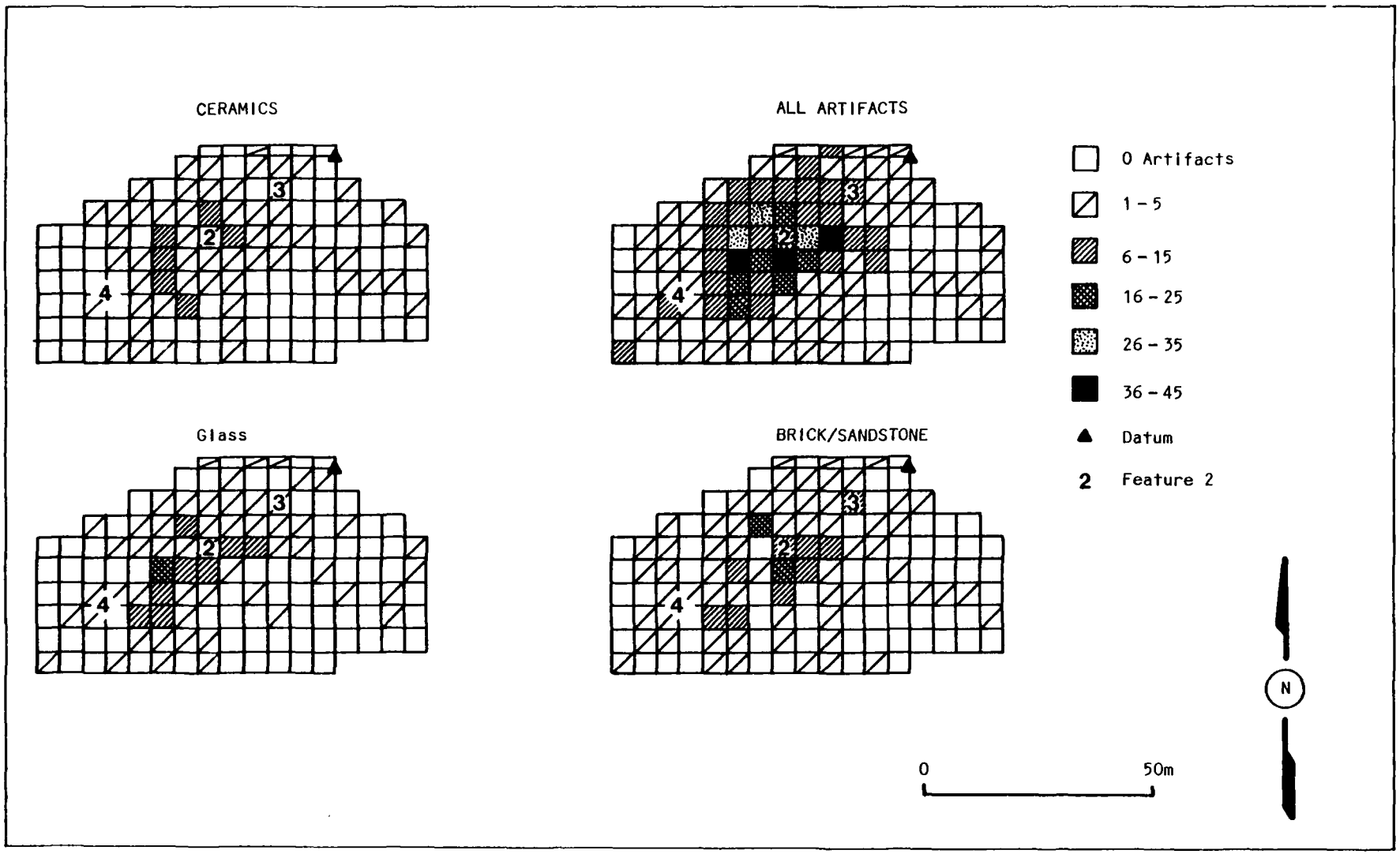


Figure 8. Controlled surface collection, site 13MA266.

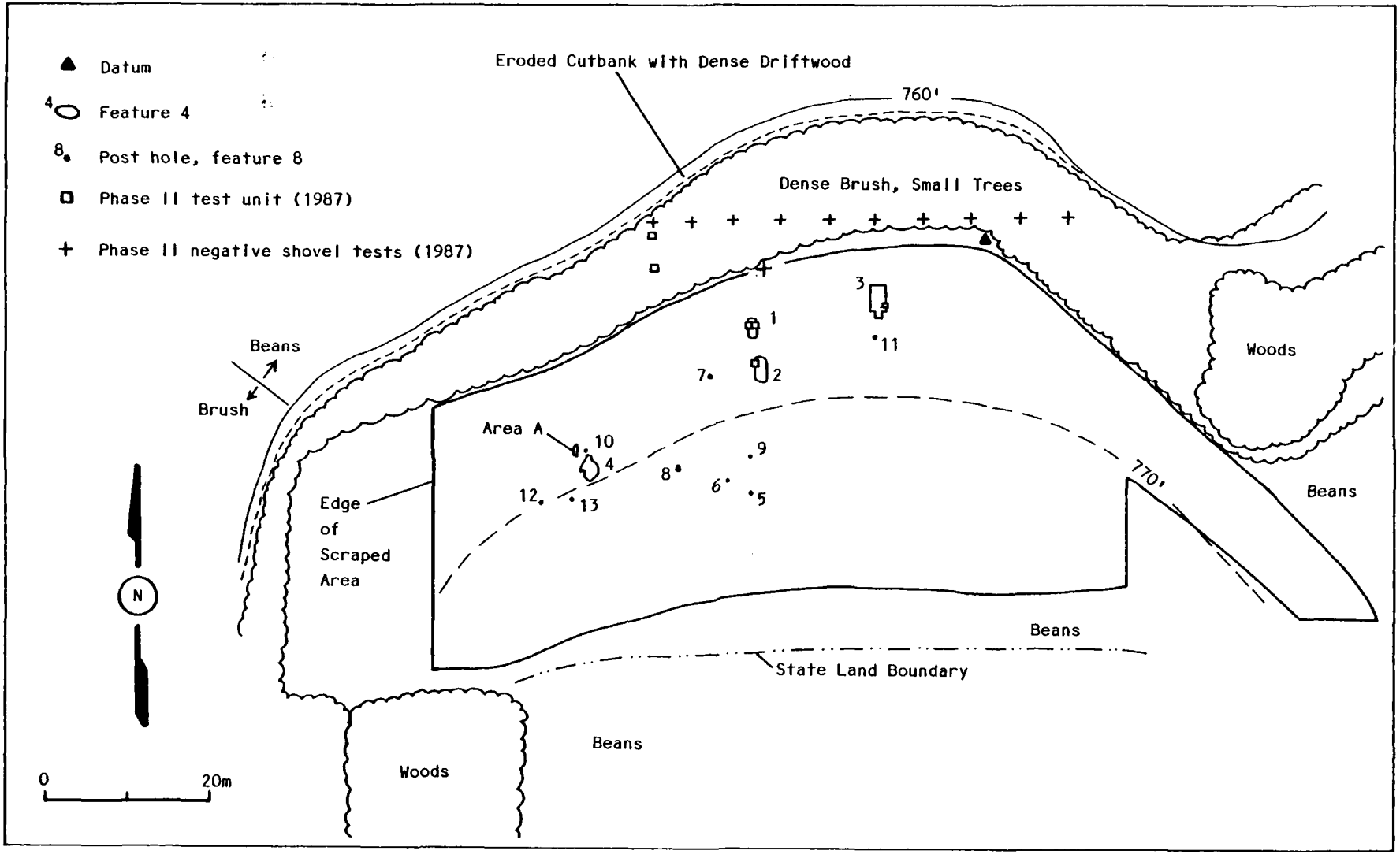


Figure 9. Site plan, the Sutton site (13MA266).

collected material indicates post-occupation deposition. For that reason, these items were not included in mean date calculations.

In addition to the controlled surface collection within the designated grid, the adjacent field areas were examined by pedestrian survey, and artifact concentrations were noted. Only one concentration located to the east of the collection grid appeared to be related to the site occupation (Figure 8). It was decided to include this location in the area to be mechanically stripped.

Mechanical Plow Zone Removal. From these data, it was decided to strip the plow zone from the entire collection grid area and that portion to the east where artifacts were noted in a concentration (Figure 9). An estimated total of 3,500 m^2 was stripped of the plow zone by the scraper (Figure 9). This total comprised 87.5% of the intact portion of the site noted during the phase II investigation (Rogers 1988:31).

During the mechanical stripping process, numerous artifacts were uncovered in disturbed contexts. A total of 213 artifacts was collected including 2 prehistoric items (Appendix D, Table 1). The majority (i.e., 64%) consisted of ceramics which had a Mean Ceramic Date of 1864.1. One identifiable maker's mark was from the Clementson Brothers Ltd., of Hanley, Staffordshire, England, dating from 1865-1916 (Kovel and Kovel 1986:69) (Appendix C, Figure 1a). This mark was on ironstone, indicating a temporal range within the late nineteenth century. The glass assemblage had a mean date of 1861.9.

Feature Excavation. A total of 13 features was uncovered by the plow zone removal. Table 4 presents a summary of the feature types and

their respective measurements. The major structural features were numbers 2 and 3, a pit cellar and keyhole cellar, respectively. The remaining features included a midden remnant, firepit, several small pits, and post holes.

Post Holes. Table 5 summarizes the post hole morphology. The seven post holes and possible post holes were situated in no discernible structural or fenceline pattern. The majority were clustered in the vicinity of feature 4 and to the east of this feature (Figure 9). Some may have been structural supports; however, their randomness suggests functions similar to that described for animal butchering and meat processing activities in house yard areas (see Rogers et al. 1988:278-279; Taylor 1970:37-38). As such, they may have been supporting posts for the hanging of carcasses while they cooled down.

A further possibility is that the slope erosion and severe surface deflation that has occurred at this site has obliterated some shallow features such as post holes. Therefore, the original patterning may be artificially obscured.

Pits. The three pits and one possible pit or post hole included features 4, 8, 10, and 13 (Table 4). Feature 4 was amorphous but somewhat oval shaped in plan view and basin shaped in profile. It was situated along the west edge of the site approximately 24 m southwest and slightly upslope of feature 2 (Figure 9). The profile showed four major zones, the bottommost being a fire-baked layer (Figure 10). The fill was rodent disturbed and contained both historic and prehistoric artifacts (Appendix D, Table 1). Sandstone comprised 40.5%

Table 4. Feature Morphology, the Sutton Site (13MA266).

Feature Number	Function	Length	Width	Maximum Depth*
1	midden remnant	2.85 m	1.47 m	0.15 m**
2	pit cellar	3.10 m	1.50 m	0.65 m
3	keyhole cellar	4.20 m	1.90 m	0.84 m
4	firepit	0.68 m	0.80 m	0.30 m
5	poss. post hole	0.20 m	0.20 m	0.10 m
6	post hole	0.25 m	0.25 m	0.15 m
7	post hole	0.27 m	0.26 m	0.09 m
8	small pit	0.75 m	0.65 m	0.10 m
9	post hole	0.26 m	0.21 m	0.12 m
10	small pit	0.58 m	0.42 m	0.07 m
11	poss. post hole	0.16 m	0.15 m	0.10 m
12	poss. post hole	0.47 m	0.36 m	0.30 m
13	post hole/pit	0.50 m	0.50 m	0.24 m

* = depth below scraped surface
** = depth below ground surface

Table 5. Post Hole Morphology, the Sutton Site (13MA266).

Feature Number	Plan View	Profile	Dimensions
5	squarish	round	20 cm x 20 cm
6	circular	round	25 cm x 25 cm
7	circular	round	27 cm x 26 cm
9	circular	round	26 cm x 21 cm
11	circular	round to pointed	16 cm x 15 cm
12	rectangular	flat-bottomed	47 cm x 36 cm
13	circular	round	50 cm x 50 cm

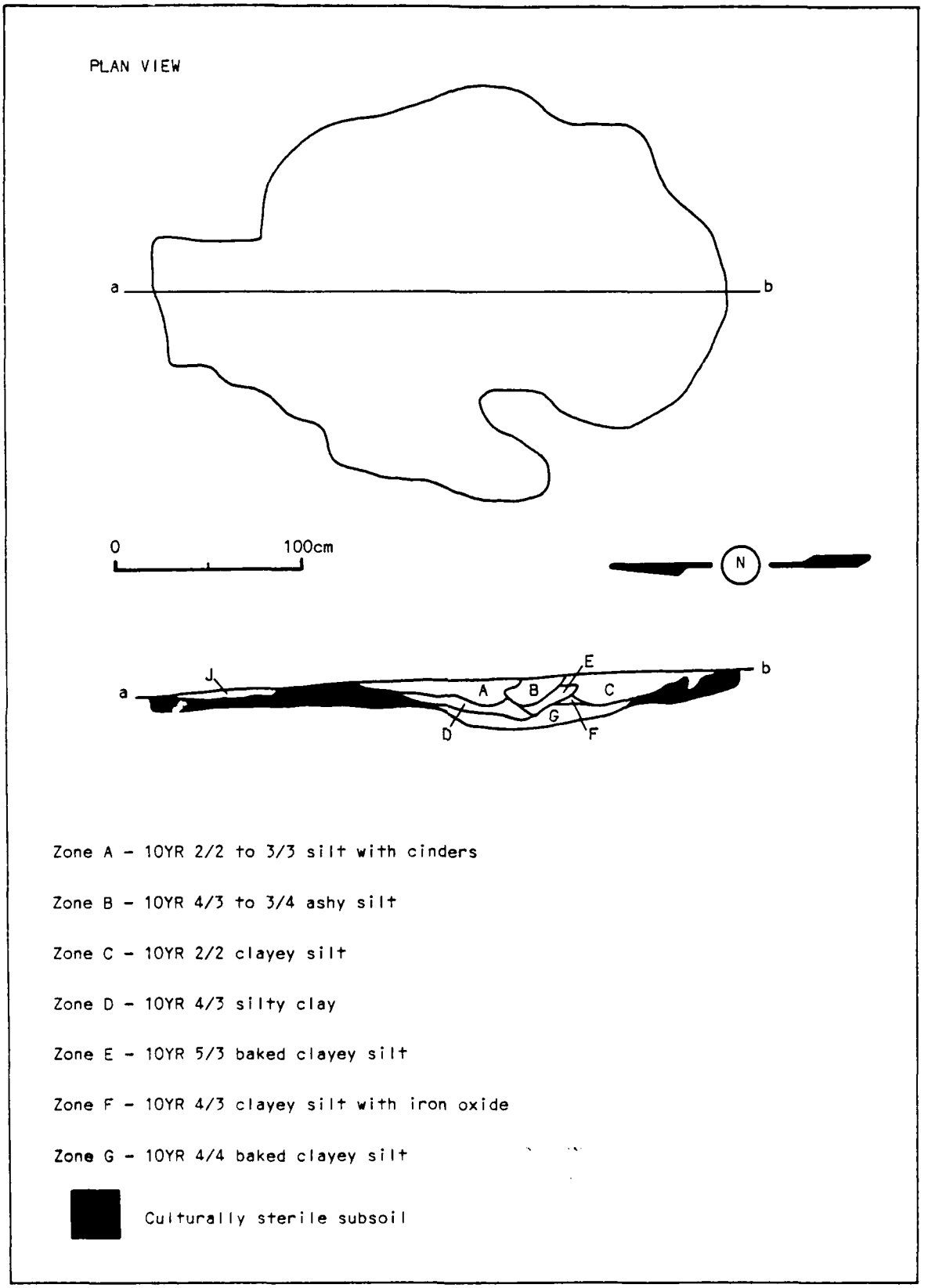


Figure 10. Plan view and profile of feature 4, site 13MA266.

of the feature assemblage, with some showing evidence of burning. The prehistoric material consisted of one chert flake and one potsherd. Unfortunately, the bottommost layer (zone G) did not contain any artifactual material, thereby making a positive identification of a prehistoric origin indeterminate.

It is possible that feature 4 represents a prehistoric firepit with intrusive historic utilization; however, the prehistoric material may in fact be intrusive into a historic feature. The proximity of definite historic features (i.e., features 10, 12, and 13) suggests an activity area related to the historic occupation of this site. It is possible that this grouping of features represents a food processing activity area.

Feature 10 was an oval-shaped shallow basin located off the north side of feature 4 (Figure 9). It contained a total of four historic and two prehistoric artifacts in two fill zones, one of which was a burned sandy layer (Appendix D, Table 1). The shallowness of this pit feature precludes a positive identification of its original function; however, as noted above it may be part of a historic food processing activity area. Area A was an elongated shallow basin situated west of feature 10 (Figure 9). It appeared to be a plow scar remnant or erosional rill. It contained a wire-cut spike likely of a post-occupation origin (Appendix D, Table 1).

The final pit feature (#8) was located 11 m east of feature 4 (Figure 9). This feature had an oval-shaped plan view but was rodent disturbed. The profile was shallow and basin shaped. The fill contained eight historic and one prehistoric artifacts (Appendix D, Table 1). Once

again, the shallowness of the feature precludes a positive identification of original function.

Features 12 and 13 were situated southwest of feature 4 and were approximately 4 m apart (Figure 9). Feature 12 was a flat-bottomed post hole, while feature 13 was a possible post hole or pit (Figure 11). Feature 13 was circular in plan view and had a round, basin-shaped profile. The fill consisted of two zones and contained a total of 25 historic artifacts, although 22 pieces were from a single three-piece plate bottom, snap case finished, improved tooled cork closure bottle (Appendix C, Figure 1b) (Appendix D, Table 1).

Midden Remnant. Feature 1 was originally examined during the phase II investigation. At that time, it was speculated to be a midden remnant (Rogers 1988:34-36). It did appear as a well-defined long, oval-shaped deposit measuring 2.85 m x 1.47 m reaching a maximum depth of 15 cm below the ground surface. The fill and the plow zone layer above the intact feature contained historic artifacts including a concentration of brick and sandstone which was not collected (Rogers 1988:32, 54).

The present investigation uncovered the remainder of the south portion of feature 1 (Figure 9). The fill was found to be extremely shallow as the feature extended upslope, indicating impact from slope erosion. A total of 70 historic artifacts was recovered including 32 pieces of brick and 15 pieces of sandstone (Appendix D, Table 1). Other items included refined ceramics, stoneware, moldblown bottle glass, and

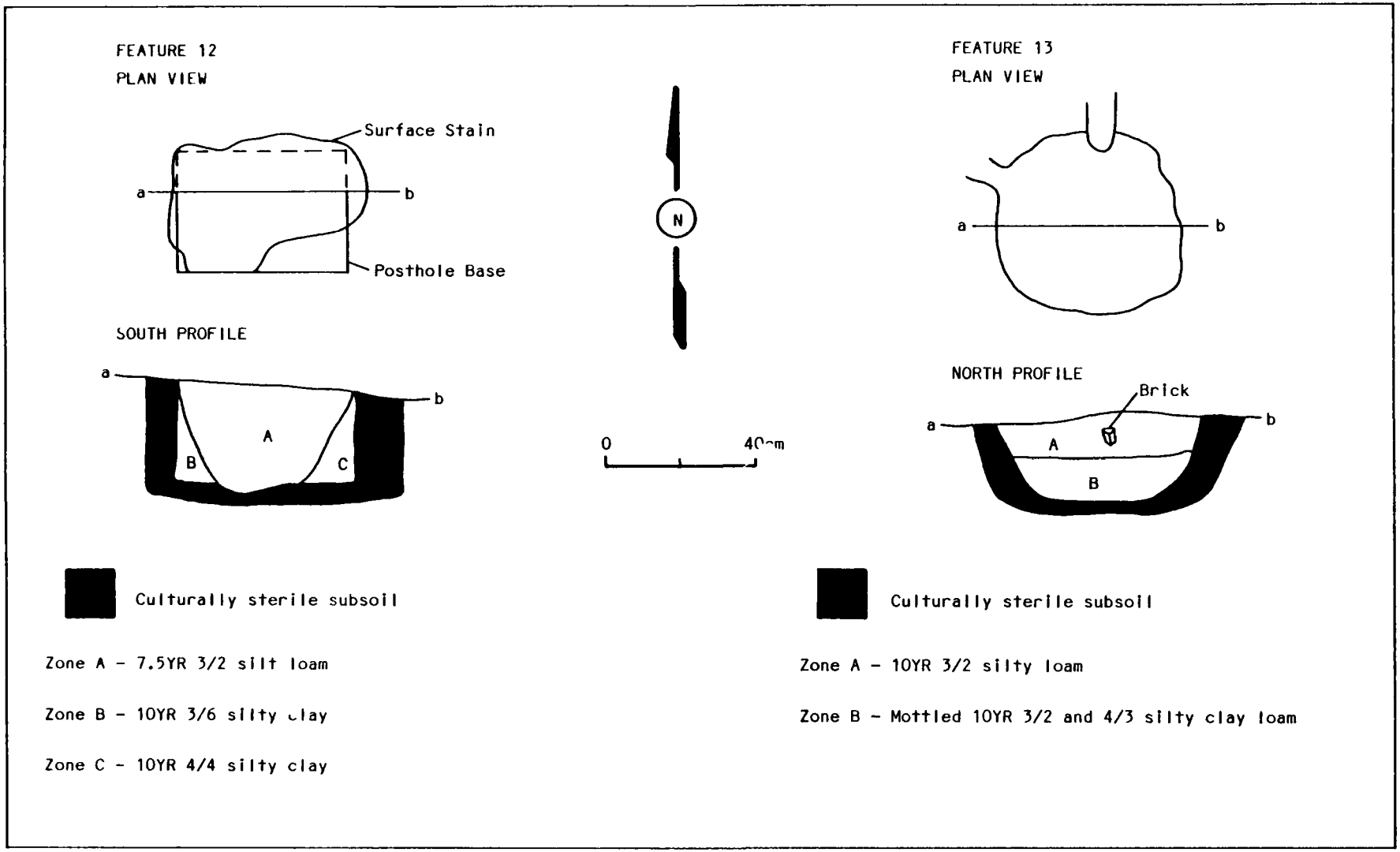


Figure 11. Plan views and profiles of features 12 and 13, site 13MA266.

machine cut nails. A Mean Ceramic Date of 1864.1 was calculated, with a mean glass date of 1860.5.

The location of feature 1 within 2-3 m of feature 2 suggests an association related to the house structure occupation. The concentration of brick and sandstone in feature 1 further suggests an architectural association. If feature 2 represents a pit cellar underneath a log cabin structure, then feature 1 may represent the remains of a chimney/hearth structure. The concentration of artifacts in the feature fill may be the result of downslope erosion filling the depression left by the destruction of the chimney structure.

Cellars. The two major structural features were both cellars and were designated as features 2 and 3. Both had also been partially excavated during the phase II investigation. Feature 2 had been cross-sectioned and one-half removed during that investigation. The base of the west half was exposed, including a step in the extreme southwest corner of the cellar cut into the sterile subsoil. The profile of the feature showed two major zones (designated herein as zones A and D) (see Rogers 1988:41). Zone A was a mixed very dark grayish brown (10YR 3/2) silt loam with brown to dark brown (10YR 4/3) clay mottles. Zone D was the bottommost layer and consisted of a less mixed very dark grayish brown (10YR 3/2) silt loam with brown to dark brown (10YR 4/3) clay mottles (Rogers 1988:41).

Feature 2 was located south and upslope of feature 1 (Figure 9). The present investigation excavated the remainder of this feature, exposing a shallow, rectangular cellar (Figure 12) (see also Appendix A, Figure 2a). A buff-colored sandstone slab was uncovered on the floor of

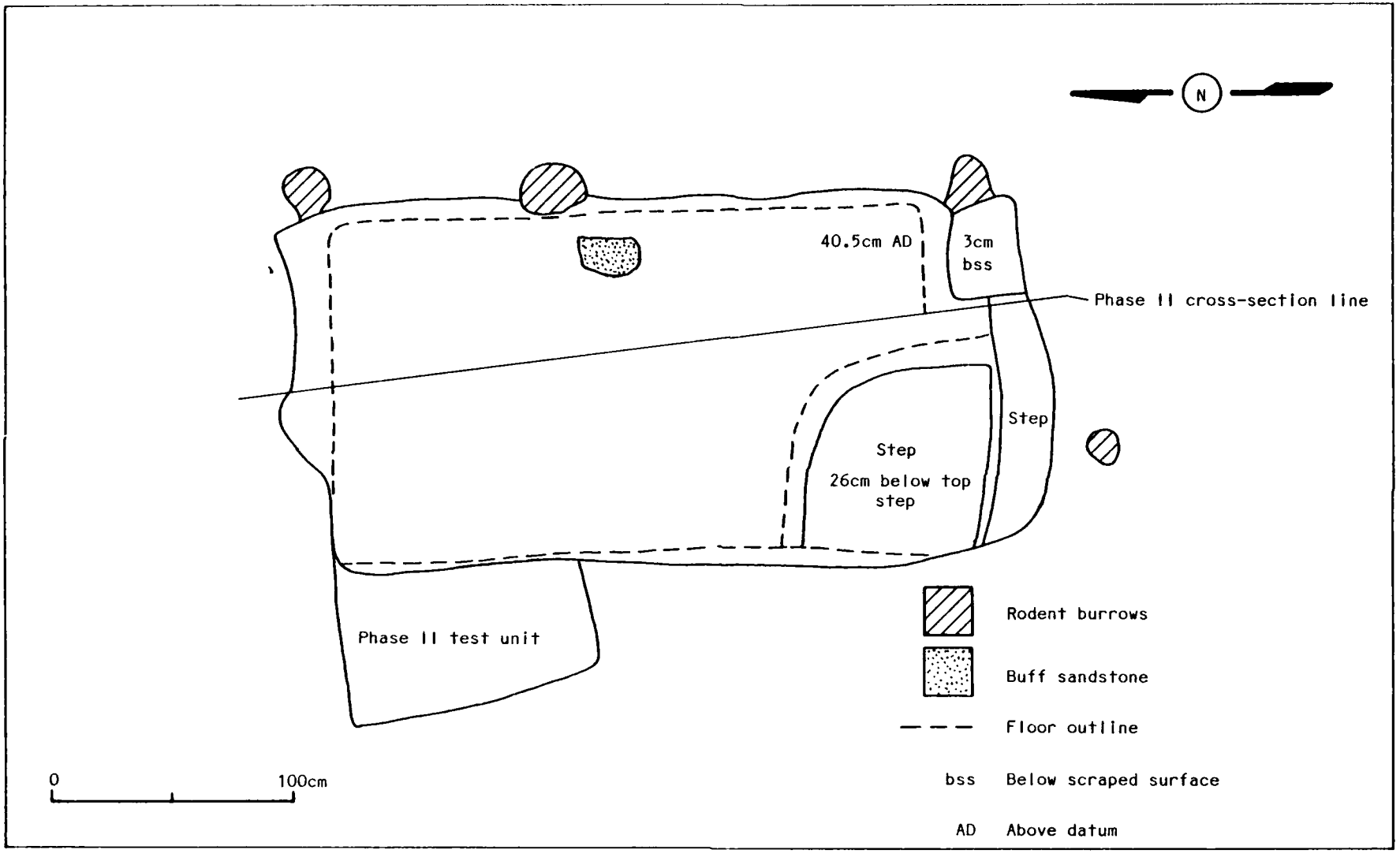


Figure 12. Plan view of floor of feature 2, site 13MA266.

the cellar and may represent a post or shelf base support. The fill was excavated according to the zones profiled during the phase II investigation (see Rogers 1988:41). Zone A was further excavated in 10 cm levels because of its thickness.

A total of 52 historic artifacts was recovered from the fill of the east half of feature 2 (Appendix D, Table 1). Twenty one were found in zone A, while 29 were recovered from zone D. Sixty nine percent of the artifacts was machine cut nails. A Mean Ceramic Date of 1865 was calculated from the entire ceramic assemblage. The only glass item recovered was a piece of window glass.

The phase II investigation had recovered a total of 136 artifacts from the west half of the feature. Sixty nine percent of that assemblage also consisted of machine cut nails. One of the whiteware sherds was an embossed bowl fragment. Other items of interest included an improved pontil marked glass bottle base (mid-1840s to early 1870s), pressed glass tableware, and a clay marble (Rogers 1988:54-59).

It appears that the cellar was filled in two episodes, with zone D representing the initial fill deposited after the superstructure or covering structure was removed. It contained only nails and brick and may actually represent the material deposited during the destruction of the house structure. Zone A was the final episode to fill the cellar depression. The mixed fill of this zone would likely have come from the sheet midden of the surrounding house yard, and has a temporal range spanning the mid- to late nineteenth century.

The phase II investigation of feature 2 concluded that this feature represented a small keyhole-type cellar that may have been a free-

standing structure away from but near a house structure. However, the full excavation of this feature in the present investigation suggests a more likely function as a pit cellar underneath a structure. As such, it would have been entered from above, with the trap door over the step at the southwest corner. This is indicated by the shallowness, size, and configuration of this feature in comparison to feature 3, which was more likely a free-standing keyhole cellar. Phillippe and Walters (1986:38) noted that historically it was agreed that cellars beneath houses should be as small as possible because of the miasmatic gasses which could filter upward into the houses, affecting the health of the inhabitants. Such gasses were produced by decaying vegetable matter stored in often damp cellars (Phillippe and Walters 1986:38).

Pit cellars have been described as follows:

> There are two forms of the pit cellar. One is a large excavation, usually under a house, whose walls conform to the dimension of the room above. The walls may or may not be lined. There is always an outside entryway and sometimes one from the overhead room as well. The other form is a small square or rectangular pit dug beneath the floor, the walls and floor being of earth or sometimes lined with timber. Unlike the large pit cellar, these features seldom, if ever, had an outside entryway. Access was through the floor of the room above (Faulkner 1986:54).

Feature 2 would appear to conform more closely to the second type of pit cellar. These types of cellars were used for keeping meat, milk, and excess vegetables cool in the summer and for protecting potatoes, apples, and pumpkins during the fall and winter (Faulkner 1986:55). Even allowing for deflation of feature 2 from slope erosion and cultivation, the cellar represented by this feature would have been too shallow to have been an effective free-standing storage facility. It would,

however, have been sufficient to function in the above described storage capacity if protected by a larger, heated structure.

Faulkner (1986:55, 63) also noted that in the middle South region, pit cellars were common under log houses although to a lesser extent they did occur underneath outbuildings as well (Faulkner 1986:55, 63). The excavations at the Stortes/Crookham site uncovered a pit cellar in association with a house structural pattern, indicating that the cellar had been situated underneath the floor (Rogers et al. 1988:218-219). This cellar did not, however, have a stepped entrance. Another small cellar at the Stortes/Crookham site was similar in overall configuration to feature 2 at the Sutton site but was much deeper and had shelves cut into the subsoil. This cellar was interpreted as a free-standing keyhole cellar because of its depth, configuration, and location in association with the house structure remains, although it could have been situated underneath an outbuilding (Rogers et al. 1988:224).

The other cellar feature uncovered at the Sutton site was designated as feature 3 during the phase II investigation. At that time a 1 m x 1 m test unit was excavated at what turned out to be the southeast corner of the cellar. The present investigation found that feature 3 was located approximately 14 m northeast and downslope from feature 2 (Figure 9). The profile revealed three major fill zones (A, B, and E) with at least two zones of intrusive rodent burrowing (C and D) (Figure 13). A concentration of cinders/clinkers was present within zone A filling the entranceway of the cellar. This suggests that the entranceway was the last portion of the cellar to be filled, perhaps indicating that it was filled before the superstructure was removed.

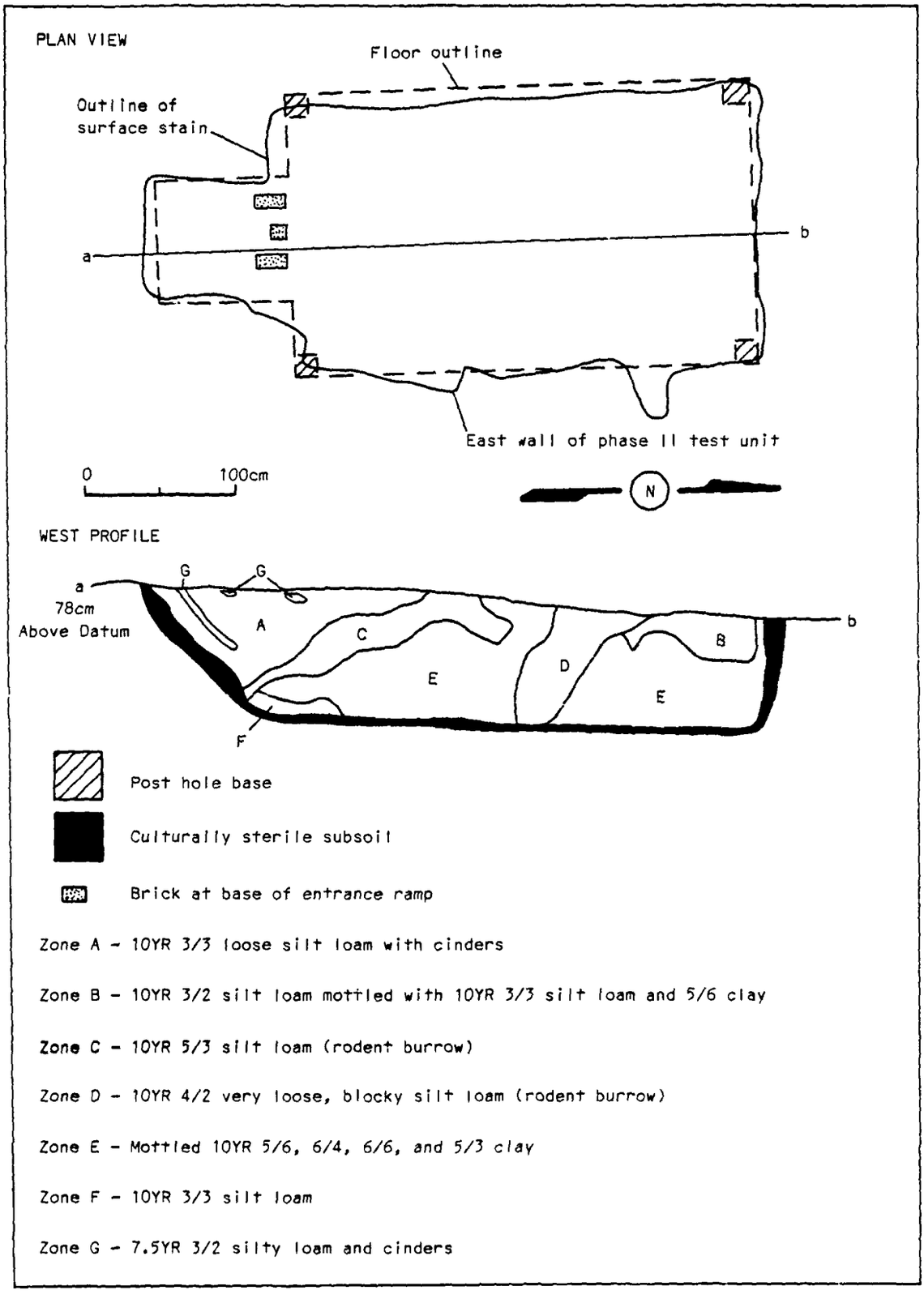


Figure 13. Plan view and profile of feature 3, site 13MA266.

Shallow, square indentations were noted in the floor of the cellar in each of the four corners, indicating post supports for a superstructure, thus suggesting that this was a free-standing cellar.

While the cellar did have a keyhole extension, no steps were cut into the subsoil, and the entrance had a steep slope down into the cellar. There were three bricks set into the floor at the base of the ramp, suggesting supports for wooden steps into the cellar. The feature also contained evidence of wood-lined walls.

A total of 367 historic artifacts was recovered from the fill of feature 3 (Appendix D, Table 1). Of this assemblage, 79% consisted of machine cut nails. Many of these had adhering wood and were found primarily around the edges of the fill in positions indicating that the cellar had been wood-lined and that the lining had been left in place after the cellar was abandoned and filled.

A Mean Ceramic Date of 1860 was calculated from the feature assemblage. The ceramics included a blue shell edge decorated whiteware sherd and an embossed whiteware saucer sherd recovered from zone E (Appendix C, Figure 1a). The only glass items recovered included an unidentifiable bottle fragment, 1 piece of pressed tableware, 1 window pane fragment, and 1 lamp chimney fragment.

The phase II investigation recovered a total of 110 historic artifacts from the test unit excavation of feature 3. The majority of these artifacts consisted of 27 machine cut nails, 18 cinders/clinkers, and 14 pieces of bottle glass (Rogers 1988:54).

The actual floor area of the cellar measured 5.98 m^2. A similar keyhole cellar uncovered at the Stortes/Crookham site was much larger in

size, having a floor area of 10.10 m^2 (Rogers et al. 1988:226-227). Comparisons with other keyhole cellars excavated in Illinois indicate that the cellar at the Sutton site was closer to the average floor area size of 7.1 m^2 than that at the Stortes/Crookham site. Only one other cellar in this sample was actually larger than the Stortes/Crookham cellar, and this was located at the Red House site in westcentral Illinois (Mansberger 1982a:Table 1).

The Sutton site keyhole cellar was oriented to face south, with the house structure area (represented by features 1 and 2) situated upslope and away from the cellar. If feature 1 represents the location of the chimney to the house structure and feature 2 represents a cellar underneath the floor, then it can perhaps be concluded that the house entrance faced either south or east, with the area in front of feature 3 and between features 2 and 3 representing a side or front house yard. The closest known road into this property was situated along the eastern boundary of the property line (Figure 5). This further suggests that the entrance into the house site was from the east side. This road is still evident but is used only by farm machinery to reach the lower fields.

If it can be further concluded that the area represented by features 4, 10, 12, and 13 was the loci for food processing activities or perhaps an outbuilding, then it is likely that this portion of the site functioned either as a side or back yard to the house structure. That portion of the site to the north of features 1 and 2 was investigated during the phase II testing and found to contain historic

material only in the vicinity of the two test units northwest of feature 1 (Figure 9).

Faunal Analysis

The only faunal remains recovered from feature contexts were found in the fill of feature 3, the keyhole cellar. A total of 4 bones were recovered, including 2 from screened samples and 2 from flotation. The remains are listed in Table 6. They include sheep, pig, and an unidentified mammal. Little can be said of this small faunal sample other than sheep and pig were among the livestock raised and/or consumed on this farm.

Botanical Analysis

The Sutton site is located on a slope above the floodplain of the Des Moines River. Arable soil for cultivation, bottomland hardwood resources along the riverbanks, shrub thickets bordering the prairie and woodland habitats, and grasses and forbs of the untilled prairie were potential resources available to residents of this site.

Previous analysis. Botanical analysis from phase II excavations indicated that the site occupants had cultivated the staple grains maize (Zea mays) and wheat (Triticum sp.) (Rogers 1988). The presence of sweet clover seed (Trifolium sp.) in the botanical assemblage suggested that this nitrogen fixing herb of the legume family may have been sown alternately with the grain crops to replenish soil nutrient levels.

The assemblage also indicated that the Sutton site residents had harvested a variety of wild nuts such as hickory (Carya spp.), hazelnut (Corylus spp.), and black walnut (Juglans nigra). Use of wild nut resources provided dietary variety for a rural household and were a

Table 6. Animal Remains from the Sutton Site (13MA266).

Feature	Taxon	Element
3	Sheep, Ovis aeries	Left distal humerus (carnivore-gnawed)
3	Pig, Sus scrofa	Left proximal radius
3	Pig, Sus scrofa	First phalanx (calcined) from an immature individual
3	Unidentified Mammal	Calcined fragment (.1 g)

dependable food resource that could be harvested annually and stored for winter use when fresh produce could not be grown on the farm.

A varied array of hardwood charcoal was recovered and identified from phase II excavations. These included hickory, American chestnut (Castanea dentata), American beech (Fagus grandifolia), black walnut, slippery elm (Ulmus rubra), honey locust (Gleditsia triacanthos), and ash (Fraxinus sp.). The native softwoods maple (Acer sp.) and cottonwood or aspen (Populus spp.) were also identified. Pine (Pinus sp.), also identified in the assemblage, is rare to this locality and likely represented wood imported for construction purposes. The charcoal assemblage indicated that the site residents were heavily exploiting locally available vegetational resources with a predominance of resources (nuts and woods) harvested from the bottomland forest community, the dominant vegetational community within the farmstead region (Rogers 1988:59-62). Phase II botanical identifications are summarized in Table 7.

Table 7. Total Identified Botanical Material from Phase II Flotation Samples, Site 13MA266.

Genus/Species	Feature No. 1 #	1 Wt(g)	2 #	2 Wt(g)	3 #	3 Wt(g)
SEEDS (Carbonized)						
Sonchus sp. Sow thistle					1	
Trifolium sp. Sweet clover	1					
Triticum sp. (probably T. aestivalis, Common wheat)			1			
Toxicodendron radicans Poison ivy			1			
Zea mays Corn (kernel fragment)			5			
SEEDS (Uncarbonized)						
Acalypha spp. Copperleaf					3	
Amaranthus spp. Pigweed	Numerous*					
Ambrosia trifida Common ragweed			18		18	
Brassica spp. Wild mustard			Numerous			
Chenopodium spp. Lambs-quarters	Numerous		Numerous			
Gramineae Grass family			1			
Labiatae Mint family			1			
Malvaceae Mallow family			1			
Mollugo verticillata Carpetweed	10		Numerous			
Polygonum pennsylvanicum Pinkweed			1		1	
Polygonum sp. Smartweed			1		1	
Rubus spp. Wild blackberry			7			

* > 20 specimens

Table 7. (Cont'd).

Genus/Species	Feature No. 1		Feature No. 2		Feature No. 3	
	#	Wt(g)	#	Wt(g)	#	Wt(g)
NUTSHELL FRAGMENTS						
Carya illinoensis Pecan			2	0.05		
Carya laciniosa Shellbark hickory			2	0.10		
Carya spp. Hickory	4	0.05	3	0.15		
Corylus spp. Hazelnut	5	1.00	1	0.05	10	0.20
Juglans nigra Black walnut	1	0.05	1	0.05		
TOTAL NUTSHELL	10	1.10	9	0.40	10	0.20
CHARCOAL FRAGMENTS						
Acer sp. Soft maple			4	0.15		
Carya sp. Hickory			1	0.05		
Castanea dentata American chestnut			1	0.05		
Fagus grandifolia American beech			1	0.10		
Fraxinus sp. Ash			4	0.25		
Gleditsia triacanthos Honey locust			1	0.15		
Juglans nigra Black walnut			2	0.10		
Pinus sp. Pine			2	0.10		
Populus spp. Cottonwood or aspen			4	0.15		
Quercus sp. White oak			1	0.05		
Ulmus rubra Slippery elm	3	1.00	2	0.50		
Diffuse-porous	1	0.05	11	0.20	1	0.10
Ring-porous	6	0.20	13	0.25	1	0.05
Unidentifiable	5	0.05			2	0.15
TOTAL CHARCOAL	15	1.30	47	2.10	4	0.30

Identifications. Botanical material from four features was recovered and analyzed from the data recovery excavations. Portions of features 2 and 3 had previously been excavated and analyzed. The current analysis completes the botanical record for these two features. Features 4 and 10 were excavated in their entirety during the present investigation. Identified in this botanical assemblage was an array of noncarbonized seeds, 1 noncarbonized wild fruit, and 2 wood fragments (Table 8).

The remaining fill from feature 2 yielded merely 13 nightshade (Solanum spp.) seeds. Feature 3 additionally contained only 3 seeds; 2 were identified as blackberry/raspberry (Rubus spp.), and 1 was identified as elderberry (Sambucus canadensis). Both seeds represent potentially economic species. No seeds were identified from the fill of feature 10. Feature 4 contained numerous seeds, a large majority of which represent weeds of no apparent economic value. Identified seeds of potential economic value include strawberry (Fragaria sp.; n=4), wild ginseng (Panax quinquifolium; n=1), pin cherry (Prunus pennsylvanicus; n=1), elderberry (Sambucus canadensis; n=1), blackberry/raspberry (n=4), grape (Vitis spp.; n=4), and sweet clover (Trifolium spp.; n=248).

Other types of botanical material obtained from the feature fills was sparse. The fill of feature 4 contained a nightshade berry (Solanum sp.). One charcoal fragment of hickory (Carya sp.) was identified in the fill of feature 2. Feature 10 yielded one noncarbonized fragment of oak (Quercus sp.). Nutshell fragments were not identified from the phase III feature fills.

Table 8. Total Identified Botanical Material from Phase III Flotation Samples, Site 13MA266.

Genus/Species	Feature No. 2	3	4+ Level A	4+ Level C	4 Level G	10	Total
SEEDS (count)							
Ambrosia trifida Giant ragweed			1	4			5
Carex sp. Sedge			4	44			48
Chenopodium spp. Lamb's-quarters			4	36			40
Euphorbia spp. Spurge			3	4			7
Fragaria sp. Strawberry			4				4
Helianthus divaricatus Wild sunflower			8	12			20
Nymphaea sp. Water lily				4			4
Panax quinquifolium Wild ginseng				1			1
Parthenocissus sp. Virginia creeper			1				1
Polygonum spp. Smartweed			1248				1248
P. pennsylvanicum Pinkweed			3508	2600	10		6118
Prunus pennsylvanicus Pin cherry			1				1
Rubus spp. Blackberry/raspberry		2		4			6
Sambucus canadensis Elderberry		1					1

Table 8. (Cont'd.)

Genus/Species	Feature No. 2	3	4+ Level A	4+ Level C	4 Level G	10	Total
Setaria sp. Foxtail			16	16			32
Solanum spp. Nightshade	13		13	120			146
Trifolium spp. Sweet clover			216	32			248
Vitis spp. Grape				4			4
Unidentified			1				1
Total Seeds	13	3	5028	2881	10	0	7935
FRUITS (count)							
Solanum sp. Nightshade				1			1
Total Fruits	0	0	0	1	0	0	1
WOOD/CHARCOAL [#/wt(g)]							
Carya sp. Hickory	1/0.3*						1/0.3
Quercus sp. White oak group						1/0.7	1/0.7
Total Wood/Charcoal	1/0.3	0	0	0	0	1/0.7	2/1.0

*Carbonized +Values estimated from subsamples

Interpretation. Botanical material recovered during the data recovery excavations at the Sutton site yielded little additional information regarding site exploitation strategies. Seeds of weedy species typical to disturbed soils and moist riparian soils represent 97% of the total seed assemblage; the proportion of potential economic seeds represents the remaining 3% of the assemblage. Most of the identified seeds were contained in the fill of feature 4. The high proportion of weedy seeds indicates either heavy disturbance of this feature or infilling with soil already laden with these seeds. Seeds of wild plants typical of marshy habitats and pond or river borders (Nymphaea, Carex, Polygonum, and possibly Vitis) indicate the proximity of the site to flooded areas.

Seeds of weedy species typical of fallow fields (Helianthus divaricatus, Euphorbia, Solanum, Setaria, and also possibly Rubus, Fragaria, and Prunus) could have contaminated the feature fills over a period of time or could have been introduced into the feature fills during excavation. These weedy species typically mature and drop their seeds during the mid-summer to mid-fall months and could have contaminated the fills during mechanical stripping and subsequent excavation.

Potential economic species identified in the feature fills are sweet clover, blackberry/raspberry, grape, elderberry, strawberry, pin cherry, and wild ginseng. Ginseng is typical to nutrient rich, moist bottomland woods and would not have naturally occurred on the site. The root has long been valued medicinally by the Chinese and was once listed

in the official pharmocopoeia of the United States (United States Pharmacopoeial Convention 1907).

Levi Sutton, the earliest documented resident of this site, practiced medicine in addition to farming. It is feasible that he recognized the medicinal value of ginseng and either gathered the herb or transplanted it on his farmstead. The latter scenario is more likely since the root is the medicinally valued portion of the plant. Ginseng diggers generally sever the root from the aerial portion of the plant, which they leave in the forest (Krochmal et al. 1969:186; Kujawa, personal communication 1988). Recovery of a greater number of ginseng seeds from flotation would be necessary to substantiate this hypothesis.

The five edible fruit-producing species grow wild in the Lake Red Rock region. Blackberries and raspberries are abundant in disturbed habitats, roadsides, and open woods. Wild grapes are common along river and stream borders and open woods (Eilers 1971:61). Elderberries are typical to moist, open woodlands and borders of fields (Eilers 1971:20). Wild strawberries are common in open woods, moist prairie remnants, and fallow fields. Pin cherries grow in infrequent numbers in open woods (Eilers 1971:52). These wild fruits could be made into jellies, jams, beverages, pies, and preserves.

Botanical analysis of the nearby Stortes/Crookham site (13MA262), the temporal occupation of which overlaps the Sutton site, provided abundant evidence of reliance upon wild fruits to supplement the diet of these nearby farmstead residents. Occupants of the Stortes/Crookham site also harvested wild nut crops and exploited a variety of hardwood and softwood timber resources from the surrounding forest. This pattern of

exploitation of indigenous botanical resources as a supplement to the domestic crops grown on the farm was especially prevalent during the Stortes/Rees occupation (ca. 1856-1881), which parallels the occupation of the Sutton site (Rogers et al. 1988:329-345).

The pattern of use of wild botanical resources at the Sutton site can be compared to that demonstrated for the Stortes/Rees occupation although the quantity of identified botanical material is considerably less at the Sutton site. Inhabitants at both sites utilized resources from a wide range of environmental habitats which included moist bottomland forest, slope woodland, prairie or upland woods, and shrub thickets. Considering these gross pattern similarities, it could be surmised that inhabitants of the Sutton site also harvested wild fruits for dietary variety.

Intensive agriculture rapidly depletes soil nutrient levels. Sweet clover seed was often sown on historic Iowa farms to replenish vital soil nutrient levels (Taylor 1970:32); commercial fertilizers were either unavailable or rare. Trifolium, which is native to Europe, was introduced to the United States as a means to produce natural fertilizer and sustain farm yields (Fernald 1970:892-894). Sweet clover has since naturalized and has become a common weed in Iowa and the Lake Red Rock region (Eilers 1971:42). The sweet clover seeds contained in the fill of feature 4 could be attributed to use of clover by the site residents. Alternately, the clover may have colonized the site, and thus the seeds represent contamination of the feature fill. Presence of significant numbers of these seeds in more than one feature would provide more definite evidence for economic use of sweet clover at the Sutton site.

In sum, the combined botanical assemblages from phase II and data recovery excavations at the Sutton site indicate that the site residents cultivated the staple grains wheat and corn, perhaps alternately sown with sweet clover; harvested wild fruit and nut resources to supplement the produce of the farm; and exploited a wide variety of native timber resources from the local woodlands bordering the farmstead. In addition, medicinal herbs may have been gathered. The economic pattern reflects the general economic strategy deduced from previous archaeological excavations at the neighboring Stortes/Crookham site.

Conclusions

The Sutton site represents the remains of a small farmstead dating from ca. 1855 to ca. 1883. The first known owner/occupant was Levi Sutton, who practiced medicine in addition to his primary profession of farming. Later owner/occupants were all farmers.

The data recovery excavations revealed two major structural features consisting of a pit cellar and a keyhole cellar. The former was concluded to have been situated underneath a log cabin-type house structure, with an additional feature possibly representing the remains of a stone and brick chimney/hearth structure to this house. The keyhole cellar was interpreted as a free-standing structure. It would have served as the primary storage facility for the foodstuffs produced by the farm. Additional storage space for the most-often needed items would have been provided by the pit cellar underneath the house. An activity area represented by several small pits and post holes was situated west of the house structure area. This was possibly the location of food

processing activities. One pit in this area did contain botanical evidence suggesting wild plant food exploitation.

Unfortunately, no wells or cisterns were located in the investigated site area. It is possible that the proximity of the creek lessened the need for a dug well or cistern; however, such a water source would have been necessary in the dry summer months when the creek likely ran extremely low or dry. It may be that the well is situated on the north edge of the site in the area not stripped during this investigation.

The paucity of faunal remains suggests that the occupants were disposing of this material either away from the house site area or were burning it, similar to refuse patterning noted at the Stortes/Crookham site (Rogers et al. 1988:364-376). Surface reconnaissance of the Ballard Creek drainage, a refuse dumping area noted by oral history informants for the Stortes/Crookham site, revealed no historic cultural deposits in the vicinity of the Sutton site (Rogers et al. 1988:152). It is more than likely that the twentieth century dredging of this drainage destroyed any intact refuse deposits.

While the archaeological evidence of the house structure is sparse, it likely indicates that this structure was either a log cabin or log house which, by the nature of its construction, would have left little archaeological evidence. The post-occupation plowing and slope erosion could also have obliterated or disturbed subtle and/or shallow features such as wall trenches and post holes.

Mansberger (1982a) has noted that

> during the early nineteenth century a log cabin referred to a structure with rough round logs, a clapboard roof, a large, crude (often stick-and-cat) chimney, and often with dirt floors and without glass for windows. A log house referred to a hewn log structure with a shingle roof, brick or stone chimney, glassed windows, weatherboarding, often with a cellar and wooden floor.

Log cabins and houses could have been supported by stone foundations, posts or piers, or by logs simply placed on the ground surface with no substantial subsurface preparation.

At the Sutton site, the concentration of sandstone around the suspected house location suggests the one-time presence of a stone foundation and/or stone chimney. The concentration of brick at the suspected chimney location further suggests the use of brick in the construction of the chimney or hearth. Furthermore, the presence of window glass and nails in the vicinity of the house structure indicates that this structure was advanced beyond the crude log cabin often representative of initial frontier occupations. Taken together, the above data suggest that the house structure more closely approximated that described for a log house.

A total of 1,635 artifacts was recovered during the data recovery investigation, with a combined total of 2,280 recovered from both the phase II and III investigations. The entire refined ceramic assemblage from the present investigation had a Mean Ceramic Date of 1864 comparable to the 1861.3 date calculated for the phase II assemblage. The total data recovery glass assemblage had a mean date of 1861.7. Considering the archival temporal range for the site as being 1855-1883,

the mean occupation date for the site is 1869, providing a close correlation with the ceramic and glass data.

The stoneware assemblage was comprised of locally made wares. Diagnostic characteristics identified some of these wares as having likely origins at the Coalport kilns and the Whitebreast Kiln in the White Breast Creek area. The Coalport Kiln was operating from the late 1840s until 1869, when the Gidel Kiln was established at Coalport. The latter kiln and the Whitebreast Kiln operated from the late 1860s into the 1880s. The stoneware assemblage from the Sutton site will be examined in greater detail in Chapter VII of this report. This analysis will include a comparative study with the stonewares from other Lake Red Rock sites and the kiln collections at Iowa State University, Ames.

In general, the farmstead represented by the Sutton site is comparable in size and configuration to the early occupation of the Stortes/Crookham site, which is less than 1/2 mi from the site. The early occupation of the Stortes/Crookham site, dating from 1856-1881, was represented by the archaeological remains of a small house structure with a pit cellar underneath and a stone hearth/chimney on its west side, two keyhole cellars, several storage pits, a cistern, and a refuse pit. From archaeological and census data, this early farmstead was concluded to have been advanced somewhat beyond mere subsistence-level farming and was involved in market production from the beginning (Rogers et al. 1988:164, 250-251, 378, 387-392). Similar data from the Sutton site investigation indicates that this farmstead, while providing for the basic subsistence needs of the family, was also engaged at an early

date in market production. These data will be discussed in detail in Chapter VIII of this report concerning regional farmstead development.

The Sutton site is also comparable to several small mid- to late nineteenth century farmsteads excavated in Illinois. Many of these were typified by a low density of features, with the major structural features being subterranean cellars (Mansberger 1982b).

One of these, the Speckhardt site, was a small farmstead in west-central Illinois occupied from the 1840s to ca. 1865-1870. Similar to the Sutton site investigation, a large area (i.e., 4,000 m^2) was investigated by means of mechanical stripping. Eleven historic features were uncovered including a keyhole cellar, a pit cellar, mortar production and debris disposal pits, a refuse pit, sheet midden remnant, and several post holes. The structural remains suggested a log cabin-type structure (Mansberger 1982a, 1982b). Socioeconomic comparisons of the data from the Speckhardt site indicated a low economic level (see McCorvie 1987:278-281). A detailed comparative study of the socio-economic variability of farmsteads at Lake Red Rock and other regions is presented in Chapter VIII of this report.

As noted previously, the Sutton site was abandoned in the late nineteenth century in favor of a house site location along a section line road to the south. The original house site location was situated near a creek but at an elevation safe from flooding. The house was built on the side of a slope in a valley somewhat protected from the prevailing northwesterly winter winds. The one problem with the site location appears to have been access. The 1875 plat (Figure 6) indicated no roadway into this property, with the closest roads to the west and

south; however, unless the creek was crossed there was no direct access except across someone else's property. It is known that an old road was situated along the east boundary of the property, but this roadway was not a heavily traveled one and was likely always of a substandard condition. The moving of the house site to the south along an established road, which still exists to the present day, may have been prompted simply by the need for better transportation and market access.

CHAPTER V. THE TOWNSITE OF DUNREATH (13MA449)

Data Recovery Results

Introduction

The townsite of Dunreath is located in the northwest portion of Lake Red Rock at the confluence of Prairie Creek and Calhoun Creek. The legal location is in Section 27, Township 77N, Range 20W (Figure 14). It is further situated on an upland ridge and slope from an elevation of 730-790 ft NGVD. The present investigation examined the slope area of the site from an elevation of 730-760 ft NGVD (Appendix A, Figure 2b). The slope has been intensively cultivated for a number of years and has been further impacted by slope erosion. At the time of the present investigation, the entire slope area was cultivated with corn.

The previous archaeological investigations of the site are summarized in Chapter I. For more specific details of these investigations, the reader is referred to Roper et al. (1986:126-127) and Rogers (1988:296-375).

Historical Background

Prior to the establishment of a town at the site location, the area had been primarily divided between two farmsteads owned by William Acklin and C. E. Shannon (Figure 6). The 1875 plat (Figure 6) showed two houses along the north boundary of the section. From available data, it appears that the location of one of the houses was impacted by later

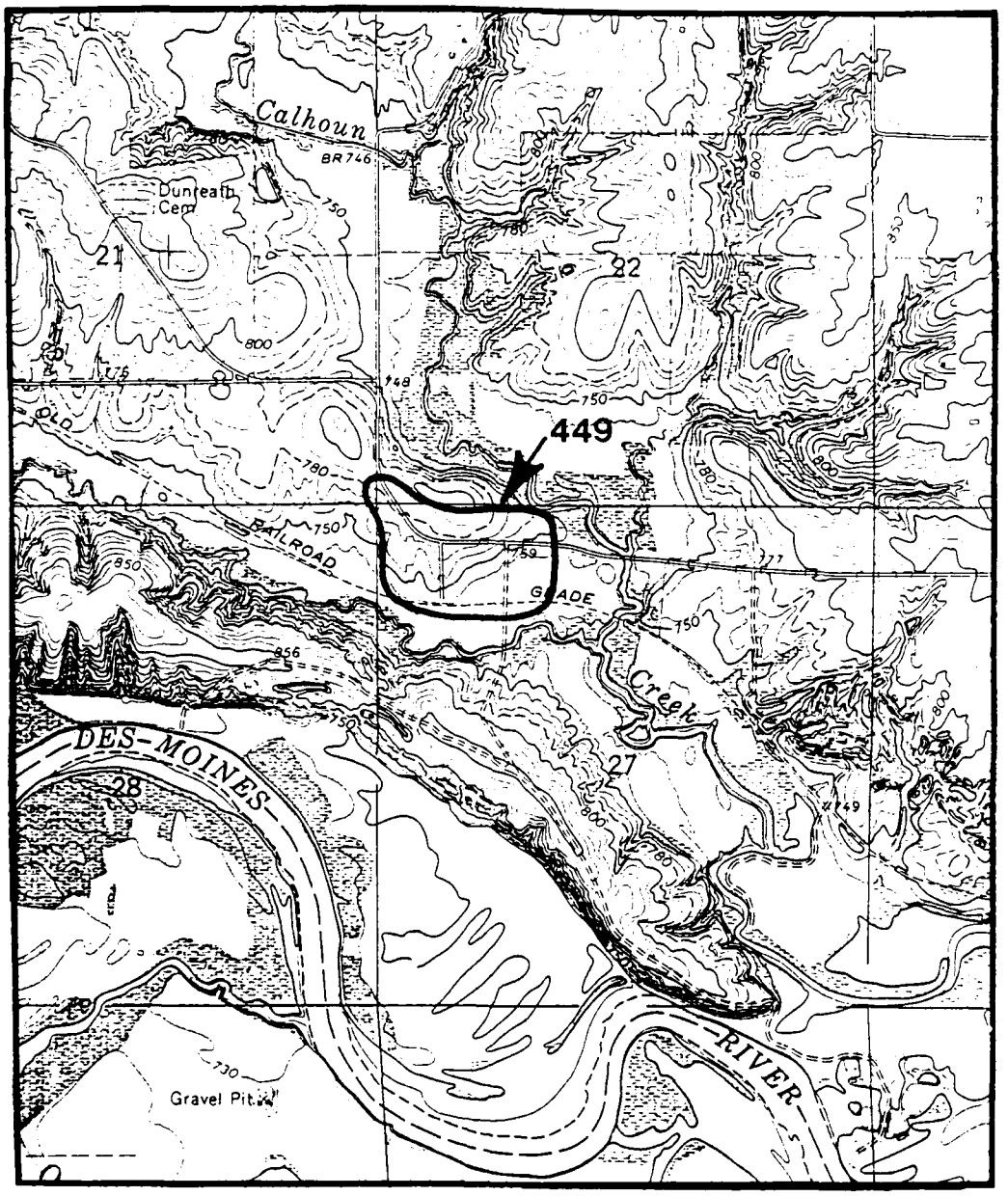


Figure 14. Topographic location of site 13MA449.

road construction, while the other house was not noted archaeologically (Rogers 1988:321).

The White Walnut schoolhouse may have been the only structure predating the establishment of the town that survived into the twentieth century (Figure 6). The original structure was added to in the 1900s and remained fairly intact. The structure later functioned as both a school and a church for the town of Dunreath (Rogers 1988:301). It was moved in the 1960s to a nearby farm where it was adapted into a residence. Appendix B, Figure 1a is a photograph of the structure prior to its remodeling. It was still functioning as a school when this photograph was taken.

In 1881 the entire site location was purchased by Nathan C. Towne in anticipation of the St. Louis and Des Moines Railroad (later known as the Wabash). He was a land developer who purchased this property in association with the Union Land Company (Hart 1913). This company became the owner of record in 1882 and officially platted the town of Dunreath. The Union Land Company was synonymous with the Red Rock Coal and Mining Company, who became the owner of record in 1883 (Rogers 1988:322).

The earliest purchases of town lots were made in 1883 by J. C. Casey, J. H. Wood, and John Karr. More purchases soon followed; however, the majority of the town lots remained in the possession of the Red Rock Coal and Mining Company until 1911 when the company's holdings were purchased by the LeGrand family, who had extensive landholdings in the township (LeGrand n.d.; Rogers 1988:322-323). It may be that some of the lots owned by the company were rented out during the heyday of the coal

mining operations in the area, but unfortunately there are no known lease or rental agreements on record.

Newspaper accounts of the first years at Dunreath indicated that some new residents moved houses from Red Rock to Dunreath. These included Mr. Myers, a lawyer, who "took down his residence and moved most of it to Dunreath" as did W. P. Clark and Taylor Reno (June 27, 1883, Knoxville Journal). The Red Rock druggist, William Hammer, also "bought a lot in Dunreath and [moved] his store" to Dunreath (June 27, 1883, Knoxville Journal). The early days must have been somewhat wild by the account of the July 23, 1883, issue of the Knoxville Journal, which noted that "Dunreath has two fights a day on an average and will increase it to three as soon as they get the other beer saloon in operation." The September 30, 1885, issue of the Knoxville Journal noted that "burglars entered John Yowell's store in Dunreath a few nights ago, by removing a sash in the window...only a small amount of money was missing and nothing else disturbed."

By 1885, the town of Dunreath had a total population of 214 grouped in 41 households (1885 Iowa State Census). Tax lists for the years 1885 and 1886 indicated that there were 7 to 8 resident taxpayers who also owned town lots. The number of taxpaying resident lot owners rose to 16 by 1888. The Black Diamond Coal Company paid taxes on Dunreath lots in that same year (Marion County Tax Lists, County Roads Building, Knoxville, Iowa). The census data indicated that in 1885 there were 49 coal miners, 10 farmers, 2 merchants, 2 blacksmiths, 1 clerk, 1 broommaker, 1 attorney, 1 druggist, 1 butcher, 1 physician, 1 hotel keeper, 1 school teacher, 1 telegraph operator, 1 railroad hand, and 1

music teacher (female). Of the 49 coal miners, 21 were heads of households with the remainder as boarders (11 resided at the hotel). Foreign birthplaces included South Wales, Ireland, England, France, Sweden, and Scotland (1885 Iowa State Census).

By 1895, the total population of Dunreath had risen to 486 grouped in 97 households (1895 Iowa State Census). Only 30 coal miners were listed in the census, 19 of which were heads of households and the remaining 11 boarders. Other professions included 31 farmers, 31 laborers, 4 merchants, 3 mechanics, 2 operators, 2 contractors, 2 blacksmiths, 1 butcher, 1 barber, 1 railroad laborer, 1 schoolteacher, 1 doctor, and 1 druggist. Available tax lists indicated that there were 16 taxpaying resident lot owners in 1891 and only 10 in 1899. The Black Diamond Coal Company was listed in the 1891 tax record but not in the 1899 list; rather, the Success Coal Company was paying taxes on Dunreath lots in that year (Marion County Tax Lists, County Roads Building, Knoxville, Iowa).

John L. Cochran was a schoolteacher at Dunreath in the 1890s. At one time he had 93 students enrolled. School was taught in three terms--fall, winter, and spring. The coal miners' older children would attend in the spring because they would be working in the mines in the fall and winter, while the farmers' children would attend in the winter, being needed in the fields in the spring and summer. Mr. Cochran was not a resident of Dunreath while he taught at the school (Cochran 1989).

The 1900 U. S. Population Census indicated only 100 people in Dunreath for a total of 23 households. Only four coal miners were listed

among the professions. This total rose only slightly by 1910, when there were 107 people in 25 households (1910 U. S. Population Census). Seven coal miners and 1 coal company laborer were listed. By 1925 there were 29 households with a total population of 128 (1925 Iowa State Census). There were no coal miners listed in that census.

Oral history data had suggested that the population of Dunreath once reached 1,000. It was noted that this estimate may not have been in error; rather, it likely reflected a period which did not coincide with census years and when the coal mines were running at their peak. It was further noted that the permanent resident population of Dunreath appeared to reach its zenith in the 1880s and early 1890s although there may have been an upswing between 1910 and 1920. For example, Wright (1915:166) noted that Dunreath had a population of 200 in 1914. The tax lists also indicated an upswing in taxpaying resident lot owners in 1910-1913. Specifically, there were 17 resident owners in 1910, rising to 18 in 1913. By 1919, the number had dropped to 13, and by the late 1920s to 1930s the number had decreased to 8. The Day Coal Company paid taxes in 1913, and the Allied Coal Company was noted in 1919 (Marion County Tax Lists, Roads Building, Knoxville, Iowa).

Figure 4-1 in Stanley and Rogers (1988:5) showed a graphic comparison of the census population totals for the towns of Dunreath and Percy. This showed a dramatic peak in the 1890s for Dunreath. Figure 15 of the present report shows a graphic comparison of the tax list data for both towns. The data are for resident lot owners who were taxpayers. The graph for Dunreath indicates two peaks in lot ownership by residents, one in the late 1880s to the early 1890s and the other ca.

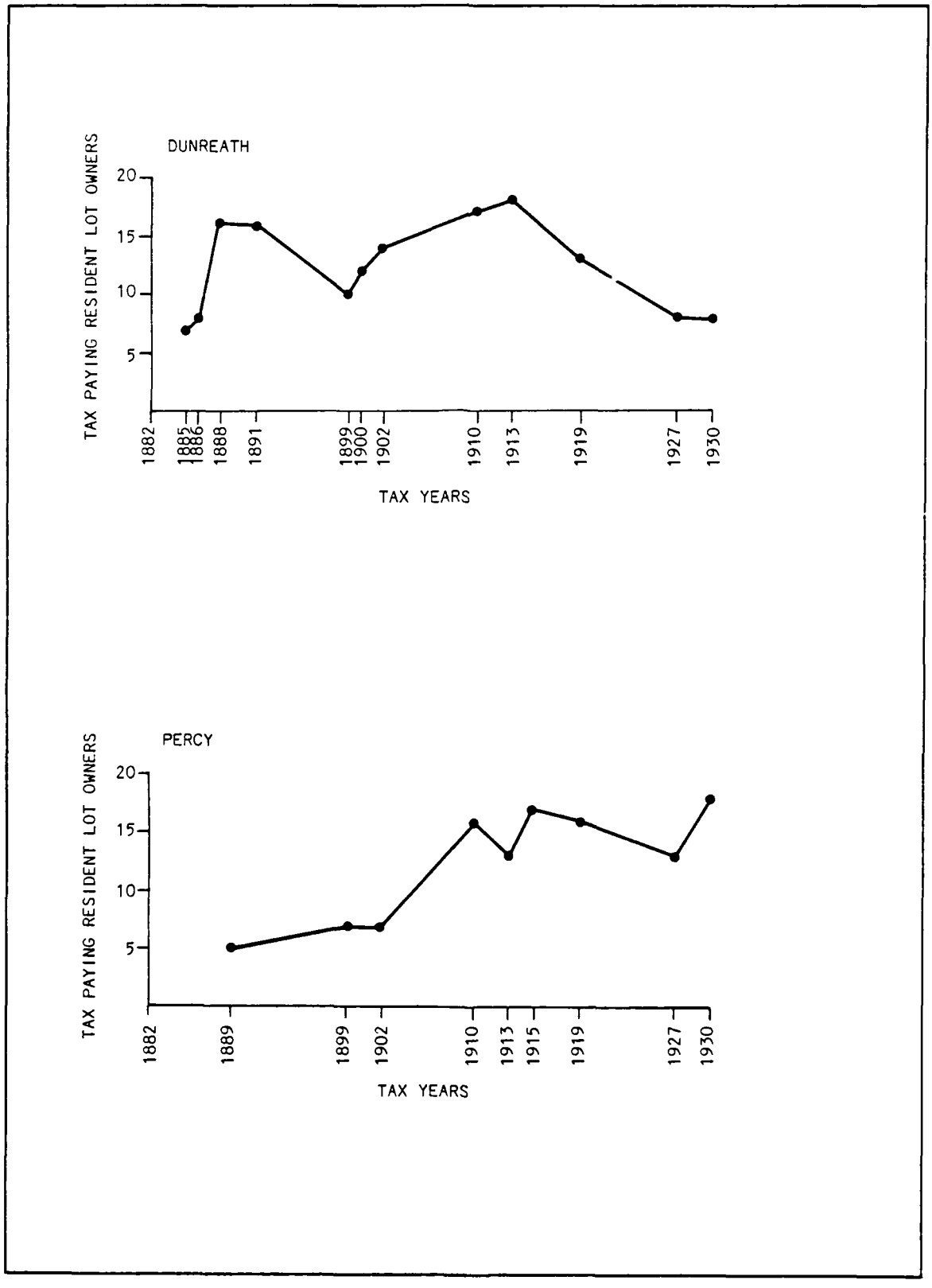


Figure 15. Graph of tax list data for Dunreath and Percy.

1910-1913. While the tax data are not reflective of total population, they do suggest peaks in the town growth, when it would have been most attractive and affordable for residents to own town lots. It is postulated that these periods coincide with peaks in the coal mining operations centered at this town. In contrast, the peak in taxpaying resident lot owners in Percy came after 1910 (Figure 15).

A map drawn in the 1960s by the late Marion Clark, a former resident of the Dunreath area, showed the town as it was in the early twentieth century (see Figure 2-51 in Rogers 1988:331). A total of 24 houses and 8 public buildings were represented. The public structures included 2 general stores, a meeting hall, a barber shop, a blacksmith shop, a sawmill, a ball diamond, and the stockyard. Appendix B, Figure 1b is a photograph of the sawmill crew in front of the mill then run by Frank Frisbe.

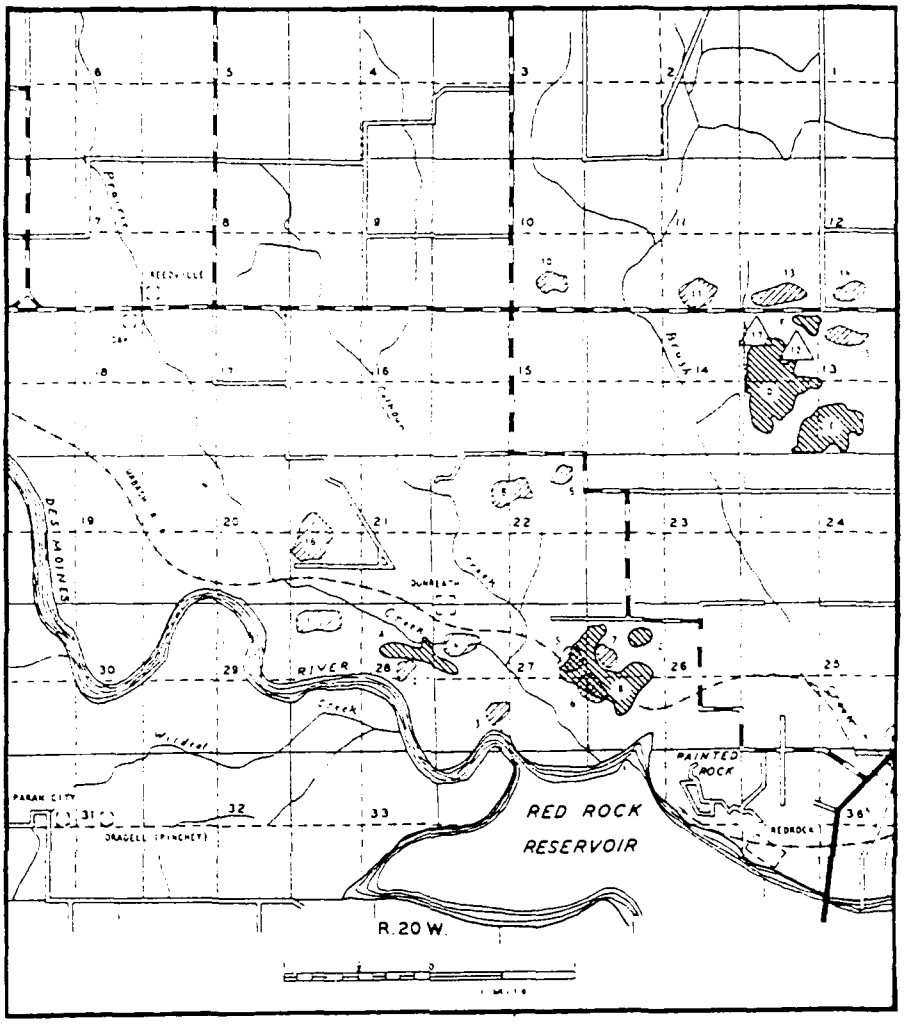
According to the 1938 aerial photograph of this area (BKH-2-16), there appeared to be approximately 12 house sites, although some may have been abandoned. The church/school house is visible as is the large corn crib on the south side of the tracks by the former stockyards. The only structures visible in the sloping field area (investigated by the present data recovery project) were two or three houses along the extreme west edge of the field corresponding to the former locations of the Jenkins', Dietricks', and Meadors' houses on Figure 2-51 in Rogers (1988:331). The area investigated by the present project showed no standing structures or major disturbances. The field appeared to be in pasture at that time.

Table 9 presents a listing of the documented coal mining operations at Dunreath and their years of operation. Figure 16 shows the location of some of these mines. It should be noted that the Black Diamond Mine on Figure 16 is a later mine, not the one that was operating in 1887-1894, but rather the Black Diamond Mine dating from 1921-1923.

According to the 1900 state geology report (Miller 1901:176), two principal mines had been operating at Dunreath in the late nineteenth century--the Black Diamond and the Success mines. This report indicated that the Black Diamond was located southeast and within 1 mi of Dunreath, while the Success was located on the south side of Prairie Creek across from the town. The Success Coal and Mining Company mine indicated on Figure 16 is at this described location. Miller (1901:176) further noted that "a large number of men were employed [at the Black Diamond], and altogether the coal was removed from about seventy acres."

Figure 17 is a 1909 map which shows a spur track running northeast from Dunreath to a shaft mine in the northeast corner of Section 22. This is the same location as mine #9 on Figure 16. It was operated by the Dunreath Coal Company from 1901-1925 (Table 9). It was known locally as the Findlow Mine.

The data from Table 9 indicate some correlation with the census and tax list data concerning the peaks in the population of Dunreath. The tax lists indicated an initial peak ca. 1888. The fact that five mines were operating in 1887 followed by the 1887-1893 operation of the largest mine (i.e., the Black Diamond) suggests the presence of a sizable coal miner population in addition to the number of individuals



UNDERGROUND MINES

1. Crawford & Miller Coal Mine
   SE¼ of NE¼ of Sec. 28
2. (name unavailable)
   NE¼ of NE¼ of Sec. 28
3. (name unavailable)
   E½ of SW¼ of Sec. 27
4. Success Coal and Mining
   SW¼ of NW¼ of Sec. 27
5. John V. Yarrell Mine
   SE¼ of NE¼ of Sec. 27
6. Black Diamond Mine
   NW¼ of SW¼ of Sec. 26
7. Success Mine
   SW¼ of NW¼ of Sec. 26
8. (name unavailable)
   NW¼ of NE¼ of Sec. 22
9. Dunreath Coal Co.
   NE¼ of NE¼ of Sec. 22
10. (name unavailable)
    SE¼ of SE¼ of Sec. 10
11. (name unavailable)
    S½ of SE¼ of Sec. 11
12. (name unavailable)
    SW¼ of NW¼ of Sec. 13
13. (name unavailable)
    S½ of SW¼ of Sec. 12
14. (name unavailable)
    SW¼ of SE¼ of Sec. 12
15. LeGrande Coal Co.
    NW¼ of NE¼ of Sec. 13
16. Dunreath Coal Co.
    NW¼ of SW¼ of Sec. 21
17. LeGrand Coal Co.
    NW¼ of NW¼ of Sec. 13

STRIP MINES

A. Buckingham Coal Co.
   SE¼ of NW¼ of Sec. 28
B. (name unavailable)
   N½ of SW¼ of Sec. 26
C. (name unavailable)
   NE¼ of NW¼ of Sec. 26
D. (name unavailable)
   SW¼ of Sec. 13
E. (name unavailable)
   SE¼ of Sec. 13
F. (name unavailable)
   NE¼ of NW¼ of Sec. 13

Figure 16. Map of coal mines in Dunreath vicinity (from Harl et al. 1977b).

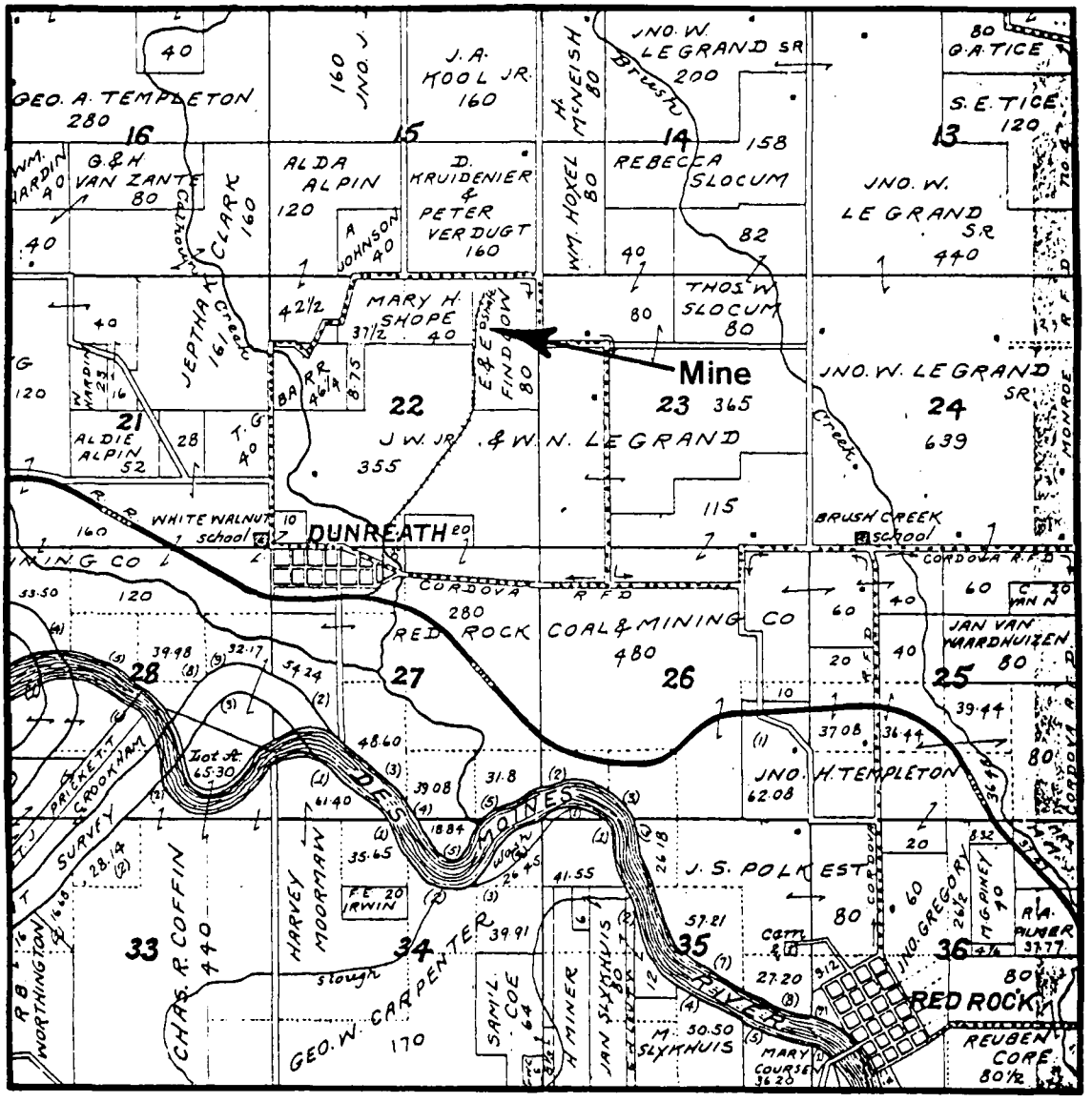


Figure 17. 1909 map of Dunreath showing a coal mine to the northeast (from Midland Map Co. 1909).

Table 9. Coal Mining Operations, Dunreath Vicinity.*

Coal Company	Coal Mine**	Years of Operation
Diamond Coal Co.	-	1887
-	James Moles No. 1	1887
-	John Yarrell No. 1	1887
-	Elijah Stephens No. 1	1887
Black Diamond Coal Co.	No. 1 Mine	1887-1893
-	Black Diamond Slope Mine	1894
Prairie Creek Coal Co.	-	1889
-	Crawford & Miller	1893-1895
Success Coal & Mining Co.	-	1895-1899
Dunreath Coal Co.	-	1901-1925
Black Diamond Coal Co.	No. 1 Mine	1921-1923

* data from Harl et al. 1977a
** = underground shaft or slope mines

[twentieth century strip mines included those operated by the Dunreath Coal Company, the Wilkinson Coal Company, and the McConville Coal Company].

required to operate supporting businesses. It should be noted that the declining line between 1891 and 1899 on Figure 15 may be misleading. It is known that there were four mines operating in the 1890s (Table 9), and it is likely that if the tax data were available for the intervening years it would show less of a declining line and perhaps more of a peak in the 1890s.

Newspaper accounts indicate that some coal mining was being conducted in Dunreath prior to 1887. The August 13, 1884, issue of the Knoxville Journal noted that "Monday was pay day [in Dunreath] and all the miners look happy." A further note in that same issue stated that "the miners are all on a strike, and work in the mines has been

abandoned for a short time." In addition, the 1885 Iowa State Census listed 49 coal miners residing in Dunreath.

A review of the local newspapers provided several items of interest pertaining to the coal mining operations at Dunreath. In the July 23, 1890, issue of the Knoxville Journal, the following items were noted.

> S. W. Ryan, the Company blacksmith and one of the diggers, is a native of Ohio and came to Dunreath in 1887. He worked one year in the Otley Coal Company's mine.
>
> Dunreath is also a good mining town, the Black Diamond Coal Co. has a paying slope about one-half mile east of town. The officers of the company are as follows: John Waiters, president; Isaac Brandt, treasure; Amos Brandt, secretary. All these gentlemen reside in Des Moines and are engaged in other lines of business. Mr. Walters also has the personal superintendency of the mines. The slope is about 500 yards in length and has been worked for nearly five years. The Company usually employs a force of about fifty men. They supply the local demand for coal and likewise the Wabash railway, which has extensive coal chutes here.

Of interest in these items are the several references to "the Company," suggesting that at least for the years ca. 1890, one coal company dominated the town. Another item in that same year indicated that life in the coal mines left something to be desired. Specifically, in the May 21, 1890, edition of the Knoxville Journal, the following item noted that:

> Joe Hancock has left us [i.e., Dunreath] to go to work on the Prairie; he thinks he can do better working on a farm then he can mining.

Later that same year there was a mine-related fatality. Willie Crook, the son of Samuel Crook who was the pit boss at the Black Diamond Mine, died from burns suffered in a mine fire (Crook, personal communication 1988). The November 12, 1890, edition of the Knoxville Journal noted that:

> Last Thursday afternoon about 3 o'clock Willie Crook died at his home in Dunreath from the effects of his burns. His parents thought him much better until the time of his death. He was about 17 years old and worked in the mines. He was laid to rest in the Mt. Olivet cemetery, one mile west of Dunreath.

Although the census data indicate a lower population in the early 1900s, the tax list data suggest a peak in resident town lot ownership in the 1910s (Figure 15). The Dunreath Coal Company was operating several mines between 1901 and 1925; however, it may be that these were not operating as intensively as the earlier Black Diamond and Success mines.

Coal mining in Iowa declined sharply after World War I and did not rebound until strip mining began in the late 1920s into the 1950s. Rutland (1953-1954) noted that in the 1930s, the McConville Coal Company of Centerville, Iowa, "opened small stripping operations in this vicinity [i.e., Dunreath] and apparently worked it out." He also noted that in 1927 there had been an attempt at small-scale strip mining at Dunreath that was "mildly successful."

Two oral history informants were interviewed as part of the data recovery investigation. These included two interviews with the Reverend Arthur Nichols and one interview with Carl Mohler. One of the interviews with Rev. Nichols was conducted at the site. The other interviews were conducted at the informants' homes. Mr. Mohler was born in 1912, and his family moved to a farm near Dunreath in 1914. Rev. Nichols was born in Dunreath in 1913 and lived there until 1941.

Mr. Mohler (1988) noted that the store owned by Ray Dietrick in the 1910s was known as the old coal company store but did not know when it

was operated as such or what the company's name was. This does indicate, however, that one of the companies in the 1880s or 1890s was operating its own store. It is likely that it would have been one of the larger companies such as the Black Diamond or Success coal companies. He also recalled that his father always said there had been 1,000 miners in Dunreath at one point. Another of the old mines that he had heard about was known as the Progress Mine; however, during his lifetime the big mine was the Whitney Mine west of town (#16 on Figure 16). This mine was in operation during World War I and at one time employed 125 miners. These miners lived out by the mine in tents and shacks and had little to do with the town of Dunreath.

Mr. Mohler's (1988) first memories of Dunreath were of a decaying town. The coal miners from the "old mines" of Dunreath's heyday had all left, and he remembered a lot of empty houses and an abandoned road running south of the schoolhouse along which were house foundations. Around 1919 there were three stores in Dunreath--Carey's, Ray Dietrick's, and one operated by Petey Harris. It was shortly after this that Dietrick's store closed down and Ray went to work at the Whitney Mine. The last store in Dunreath (i.e., Carey's) closed down in the early 1930s. Appendix B, Figure 2a shows a photograph of Carey's store taken in the early 1900s. Individuals shown standing in front of the store included, from left to right, Bill or George Sanders, Lou Richey or Charlie Van Vlair, Pete Carey, George Love, and Jimmy Carey.

Mr. Mohler recalled shipping wheat at the Dunreath station along with lots of cattle and hogs. The LeGrands were involved in the cattle business in a big way and were always buying and shipping cattle at the

Dunreath station. They even had a large feedlot between the creek and the railroad tracks. This stopped in the late 1920s to 1930s when the LeGrands lost their property.

Rev. Nichols (1988a and 1988b) could remember the coal miners' Union Hall. It stood across from Carey's store. John L. Lewis once attended a strike meeting at Dunreath, and "the cars were lined up along the road for as far as you could see." He also recalled the Findlow Mine which was located north of Dunreath and had a sidetrack or switch running from the Dunreath station out to this mine (#9 on Figure 16). Mr. Mohler (1988) noted that the Findlows operated a boarding house on the property near this mine.

According to Rev. Nichols (1988a), people in Dunreath (during his lifetime) were "pretty much at the same level economically," with the storekeeper considered "tops." However, even the storekeeper finally ended up with little because when the Great Depression hit people could not pay their bills. He noted that when the depression came the coal mines all went down, and "when they went down everything went down!" John LeGrand was considered by all to be the "top man" in the region, as was another prominent farmer, Sam Emerson. Both men committed suicide during the depression.

Rev. Nichols' (1988a) parents moved to Dunreath in 1886 to work in the coal mines. After a time they moved to Illinois to dig coal and then moved back to Dunreath, where they lived out their lives. Appendix B, Figure 2b shows a photograph of the Nichols family in front of their Dunreath home ca. 1914.

In summary, the history of the town of Dunreath spanned from 1882 into the 1940s when most of the mines had been shut down or converted to strip mining operations requiring less labor. Data indicate two possible peaks in the town's growth, one in the late 1880s to early 1890s and the other ca. 1910. The peak in the 1880s-1890s, in particular, appears to be related to intensive coal mining operations in the vicinity. Oral history data indicated a peak population of 1,000, while the census data indicated a population peak closer to 500. The fluctuations in coal mine operations likely accounts for higher population totals of a temporary nature.

Long-standing businesses and occupations in Dunreath included several general stores, butchers, blacksmiths, barbers, and railroad employees. Occupations of a more temporary nature included a broommaker, druggist, hotel keeper, carpenter, music teacher, and cobbler. There was always a doctor and a schoolteacher in town. Coal miners were also prominent in the census data, and many of the male residents of Dunreath worked in the coal mines at some point in their lives. The census data indicated that some of the permanent residents who had been listed as coal miners in early censuses were later listed in other occupations such as farm laborer.

It appears that the primary reason for the demise of Dunreath was the decline of the coal mining industry. The town was not able to rebound solely on the basis of its remaining function as a community trading center. Rev. Nichols (1988a) summarized this well when he stated that "Dunreath was coal digging and that was it." While there is some indication that at least one coal company, the Black Diamond, was

prominent in the late nineteenth century history of this town, there is little evidence that the town was dominated by a coal company in the same way as other mining towns and camps in Iowa. The Red Rock Coal and Mining Company did own and plat the town; however, this was not a coal mining company in the sense that they operated specific mines in that area. Rather, it appears that this was a company which bought up extensive landholdings along the Des Moines River with the intention of developing coal mining areas but with the actual practice of leasing or selling their properties to other coal companies (e.g., see Miscellaneous Records Book D:226 and Book E:271, Recorder's Office, Marion County Courthouse, Knoxville, Iowa). In practice, it was more of a land development company.

Therefore, Dunreath was not built by or for one specific coal company, nor was it dominated by one company throughout its coal mining period. The data indicate that a number of coal companies operated in this town, some at the same time. Oral history data suggest that there was a coal company store, but there is no known documentation of its operation (Rogers 1988:317). It may have been a monopolistic store operated by either the Dunreath, Black Diamond, or Success coal companies, but census and oral historical data indicate that there was often more than one store in operation at a time, thus suggesting freer enterprise.

At the end of its life history, the town of Dunreath had reverted to a clustering of farm houses centered around the community church/school. By 1949, there were only six residences with accompanying

outbuildings, the church, and the township road maintenance shop. By the 1960s, only five of the residences were still being occupied (RICOE 1960s acquisition files and 1949 plane table map) (see Figure 2-53 in Rogers 1988:335).

Excavation Methods

The area investigated by data recovery was confined to the southcentral portion of the platted townsite (Figure 18). At the time of investigation, this slope area was planted with corn and is known to have been cultivated for a number of years, resulting in surface deflation and slope erosion. Because of the large extent of the area to be examined, a surface collection was not conducted. As an alternative, it was decided to establish a grid system based on the original town plat and machine strip the plow zone from test trenches within selected town blocks. Of the 27 town quarter-blocks within the proposed data recovery area, 16 were selected for investigation. These quarter-blocks were chosen for their potential based on previously noted artifact surface scatters and archival and oral historical data suggesting that these may have been one locus for coal miner residences (Rogers 1988:333-334).

Fourteen of the quarter-blocks were investigated by four north-south test trenches the width of the scraper and the length of the block (approximately 2 m x 40 m) (Figure 18) (see also Appendix A, Figure 3a). The trenches were placed 5 m apart and excavated to a depth of 10-40 cm below the surface depending on the extent of the erosion on the slope and the redeposition at the lower elevations. Two additional quarter-blocks were each investigated by two trenches 2 m x 40 m, or 2 m x 80 m

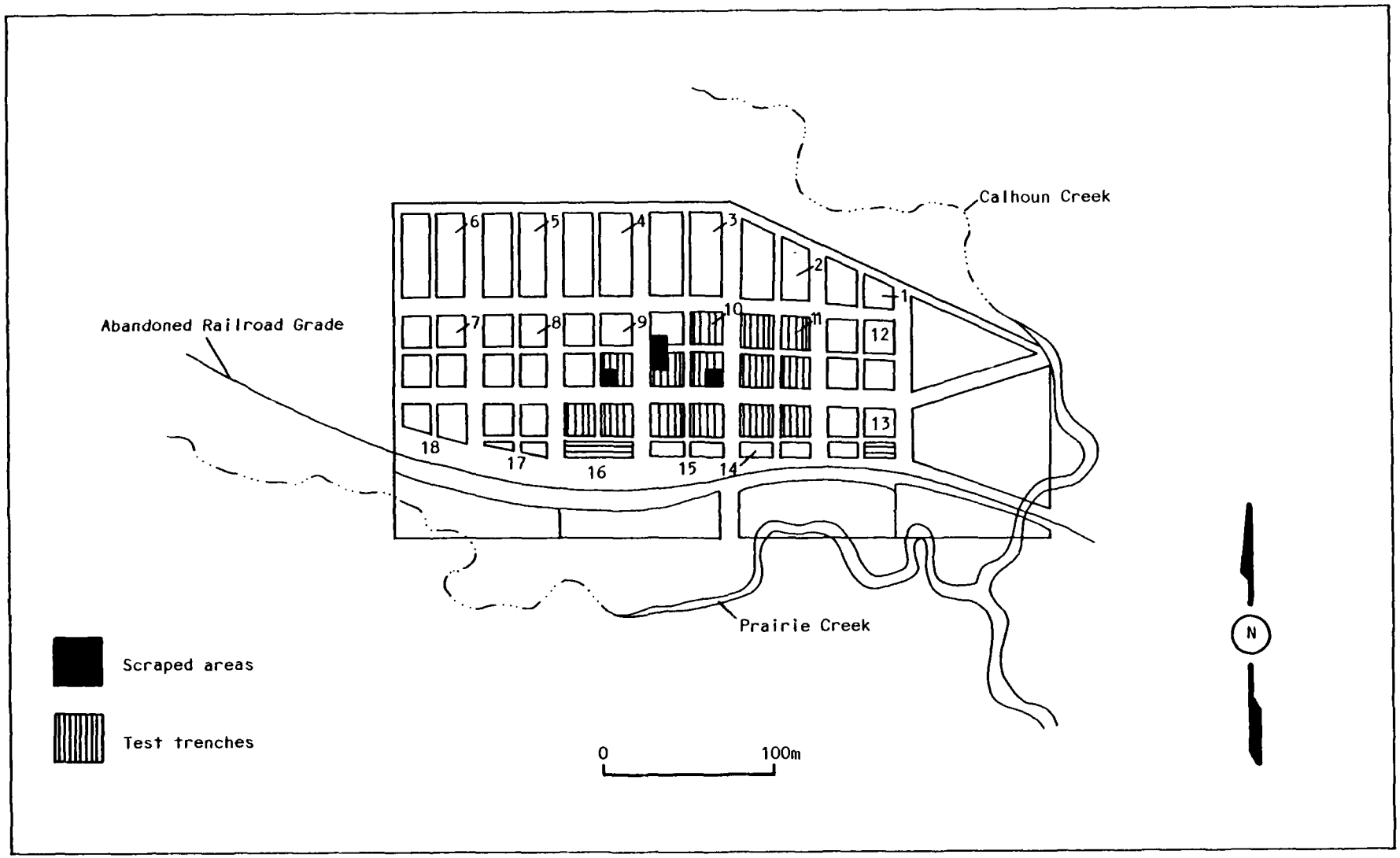


Figure 18. Data recovery excavations with town plat superimposed, Dunreath (13MA449).

in length. These two blocks were among the half-sized blocks along the southern edge of the town plat (Figure 18). The block in the SE1/4 of Block 13 was selected because land transfer data indicated a potential house site location in the late nineteenth and early twentieth centuries. The block in the S1/2 of Block 16 was selected because this was the suspected location of the railroad depot and potentially a sawmill.

It was found that the lower row of blocks had received deep sediment deposits from slope erosion, and it was impossible to excavate to the base of these deposits with the scraper. It was then decided to further test these areas with backhoe excavated trenches to reach the older occupation surface. Twelve of the test trenches were investigated by backhoe trenches 10 m in length. Two of these backhoe trenches were excavated at each of the 12 test trenches, one at each end. It was found that between 30 cm to 130 cm of silt had been redeposited in the lower elevations in addition to the 20-30 cm of plow zone already removed. No cultural material was noted in any of the backhoe trenches.

Artifacts were collected from the stripped test trenches and concentrations and potential features noted. From these data, three areas were selected for more extensive plow zone removal. These included the SE1/4, SE1/4 of Block 10, the NW1/4, SW1/4 of Block 10, and the SW1/4, SE1/4 of Block 9 (Figure 18). The plow zone from these 20 m x 20 m areas was removed by scraper, uncovering several features (Appendix A, Figure 3b).

The excavation of the NW1/4, SW1/4 of Block 10 revealed only one feature, a late nineteenth century privy. The potential significance of

this feature and the lack of any associated house site features in the vicinity necessitated examination of the adjoining area upslope from this feature to search for the house site location. For that purpose, an additional 20 m x 20 m area was stripped to the north (Figure 18). Investigating the area to the north also served the additional purpose of testing the reality of the town plat. Specifically, was the plat a recognized entity in the placement of house sites? Were the streets and alleyways recognized in the actual town layout in this area? The investigation of the adjoining area to the north included a platted alley (Figure 18).

Excavation Results

Test Trench Excavation. A total of 60 test trenches was excavated in the 16 designated town quarter-blocks (Figure 18). A total of 745 artifacts was recovered during the stripping of these trenches (Appendix D, Table 2). The NW1/4 of Block 14 was the only quarter-block that had no artifacts (Figure 18) (Appendix D, Table 2). The majority of the artifacts was recovered from the SE1/4, NE1/4, and SW1/4 of Block 10 and the SE1/4 of Block 9. These quarter-blocks have the following Mean Ceramic Dates: 1897.6 for the NE1/4 of Block 10; 1899.4 for the SE1/4 of Block 10; 1899.3 for the SW1/4 of Block 10; and 1904.3 for the SE1/4 of Block 9. One item of interest recovered from the NE1/4 of Block 15 was a maker's mark of the D. E. McNicol Pottery Company of Clarksburg, West Virginia, dating from 1914-ca. 1925 (Gates and Ormerod 1982:189).

Time and budget constraints did not permit further investigation of all the quarter-blocks with artifact concentrations. Therefore, only the

most promising areas were considered for extensive plow zone removal. These included the SE1/4, SE1/4 of Block 10 which was chosen for further investigation because of an intense artifact concentration in this area and oral history data that this was the location of a refuse dump in the early twentieth century (Nichols 1988a); the NW1/4, SW1/4 of Block 10 because a late nineteenth century feature was uncovered in one of the test trenches (i.e., feature 1); and the SW1/4, SE1/4 of Block 9 because of a concentration of late nineteenth to early twentieth century artifacts and because oral history data indicated that this was near a known habitation site (Nichols 1988a).

Mechanical Plow Zone Removal. The scraper was then utilized to remove the plow zone from the three 20 m x 20 m blocks. This entailed the removal of 15-30 cm of plow zone. As noted previously, the NW1/4, SW1/4 of Block 10 was expanded 20 m to the north to investigate a possible house site location. Therefore, a total of 1,600 m^2 was mechanically stripped (Figure 18).

Artifacts were also collected during the mechanical plow zone removal. A total of 395 was collected, with 163 from the SE1/4, SE1/4 of Block 10, 117 from the NW1/4, SW1/4 of Block 10 and the 20 m area to the north, and 115 from the SW1/4, SE1/4 of Block 9 (Appendix D, Table 3). Mean Ceramic Dates included 1899.7 for the SE1/4, SE1/4 of Block 10; 1896 for the NW1/4, SW/14 of Block 10; and 1898.7 for the SW1/4, SE1/4 of Block 9. One item of interest was a ca. 1890 maker's mark of J. & G. Meakin, Ltd., of Hanley, Staffordshire, England, recovered from the NW1/4, SW1/4 of Block 10 (Kovel and Kovel 1986:11).

Feature Excavation. A total of 7 features was uncovered in the

stripped areas (Figure 19). Table 10 presents a summary of the feature types and measurements. The major features included two keyhole cellars and two privies. The remaining features included two refuse pits and one storage pit. The features will be discussed by the block locations.

NW1/4, SW1/4 of Block 10. One feature, designated as feature 1, was uncovered in this 20 m x 20 m area (Figure 19). It was rectangular in plan view and basin-shaped in profile (Figure 20) (see also Appendix A, Figure 4a). The profile indicated two major deposition zones designated as B and C. Zone A was a disturbed layer created by a plow scar. The length of the feature (i.e., 2.05 m) suggests the possibility that this was a two-hole privy. The configuration of the profile suggests at least one hole (zone B) overlapping an earlier deposit (zone C).

A total of 127 artifacts was recovered from the fill of feature 1 (Appendix D, Table 4). Thirty two artifacts were recovered from zone A, the plow disturbed layer, 8 from zone B, and 16 from zone C. The only refined earthenware recovered from the entire feature was an undecorated ironstone cup base. Other ceramics included 1 slip glazed stoneware body sherd, 5 porcelain buttons (one of which had a pink-colored glaze), and 1 kaolin pipe bowl (Appendix C, Figure 2a). The latter brings to mind the comments made by Arthur Nichols that the ladies of Dunreath liked to smoke clay pipes.

> That's one of the things about them [i.e., the Welsh]. All the old ladies smoked. And some of them chewed. They smoked pipes. My mother smoked, and a whole group of other women smoked. They smoked what they called clay pipes....them pipes were just as white as snow. After they'd smoke them for some time, they would be almost black. Then they'd take them and lay them

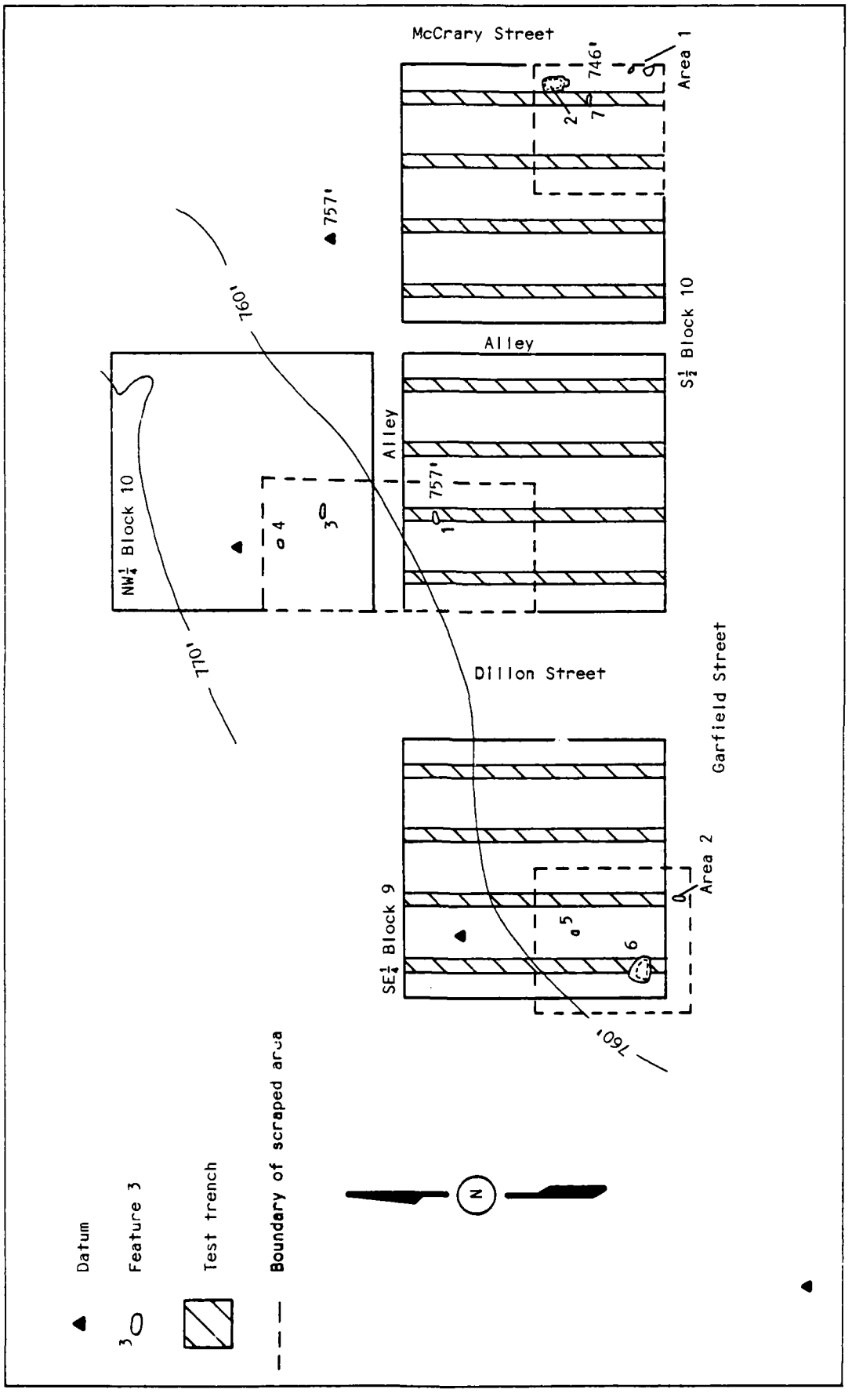


Figure 19. Site plan, Dunreath townsite (13MA449).

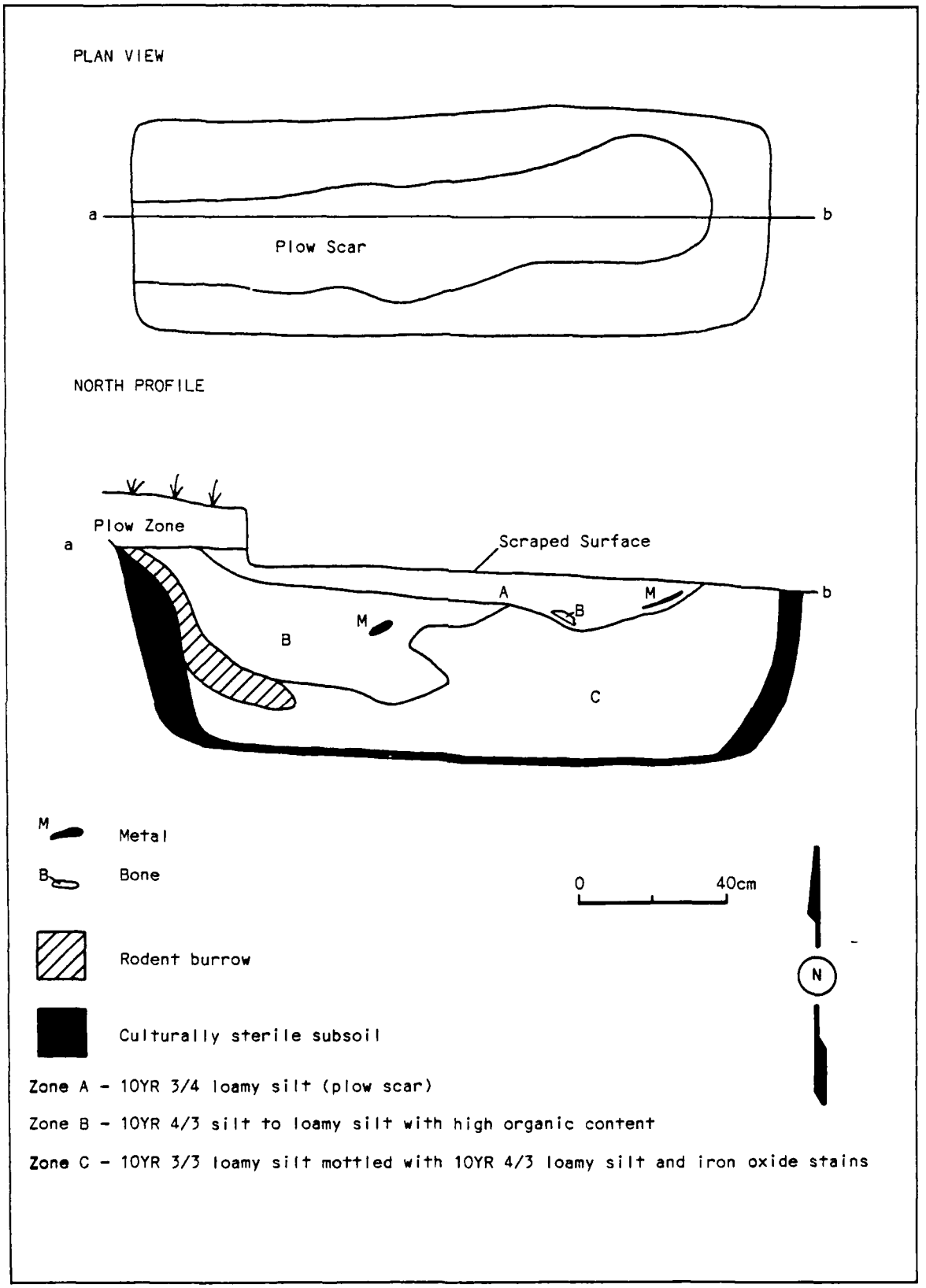


Figure 20. Plan view and profile of feature 1, site 13MA449.

Table 10. Feature Morphology, Dunreath Townsite (13MA449).

Feature Number	Function	Length	Width	Maximum Depth*
1	privy	2.05 m	0.72 m	0.62 m
2	keyhole cellar	4.00 m	2.15 m	0.75 m
3	privy	1.68 m	0.82 m	0.56 m
4	refuse pit	1.08 m	0.61 m	0.22 m
5	refuse pit	1.55 m	0.70 m	0.20 m
6	keyhole cellar	4.25 m	2.45 m	1.05 m
7	storage pit	1.85 m	0.75 m	0.40 m

* = depth below scraped surface

> in the fire in the stove and would leave them in there for two, three hours, take them out, and they'd just be as white again, and nice, and so they start in again. But that'd clean them up. And that got to be a job for us young guys, you know. When we were seven, eight years old, that was our job to fill the pipes and light them, and give them to them, and they got us all smoking, of course (Nichols 1987:336).

Other items of interest recovered from this feature included an iron clasp pocketknife, a skeleton key, the fragments from at least one kerosene glass chimney, and a whole medicine bottle. The latter had an improved tooled cork closure and was embossed with the following: Chamberlain's/Colic Cholera And/Diarrhoea Remedy/Chamberlain & Company/ Des Moines, Iowa (Appendix C, Figure 2b). This bottle dates from ca. 1882-1915, with a mean date of 1898.5 (Deiss 1981:94; Fike 1987:205-206).

Some of the items recovered from feature 1, such as the ceramic sherds, medicine bottle, cast iron stove door, furniture caster, and barrel bands, were obviously purposefully discarded in the privy, either while it was in use or to seal the hole. However, other items such as

the buttons, key, pocketknife, and lamp chimney conceivably were accidentally lost on visits to the privy.

The area surrounding feature 1 was devoid of any associated features. The unstripped area to the east had already been examined by two test trenches, revealing no evidence of cultural features in this area. Because of the nature of privies, they were usually placed behind or off to the side of the house structure at a distance far enough to escape the odors but near enough to be easily accessible. Furthermore, the slope in this area would suggest that the privy would have been placed downslope of the house or at least downslope from the habitation site's well to avoid contamination and overflow. For these reasons, as well as to test the reality of the town plat, it was decided to scrape the area to the north of feature 1.

Two additional features were revealed in the 20 m x 20 m north area (Figure 19). These were designated as features 3 and 4. Feature 3 was rectangular in plan view and basin-shaped in profile (Figure 21). It was located approximately 18 m upslope from feature 1. It contained one zone of fill which became looser towards the base of the feature. The nature of the fill and the botanical material recovered from this feature suggested that this feature functioned as a privy.

A total of 193 artifacts was recovered from feature 3 (Appendix D, Table 4). The ceramics had a Mean Ceramic Date of 1894.7, while the glass assemblage had a mean date of 1892.4. One of the most interesting items recovered from the fill was a complete slip glazed stoneware jug (Appendix C, Figure 3). This large, wheelthrown jug had a high gloss,

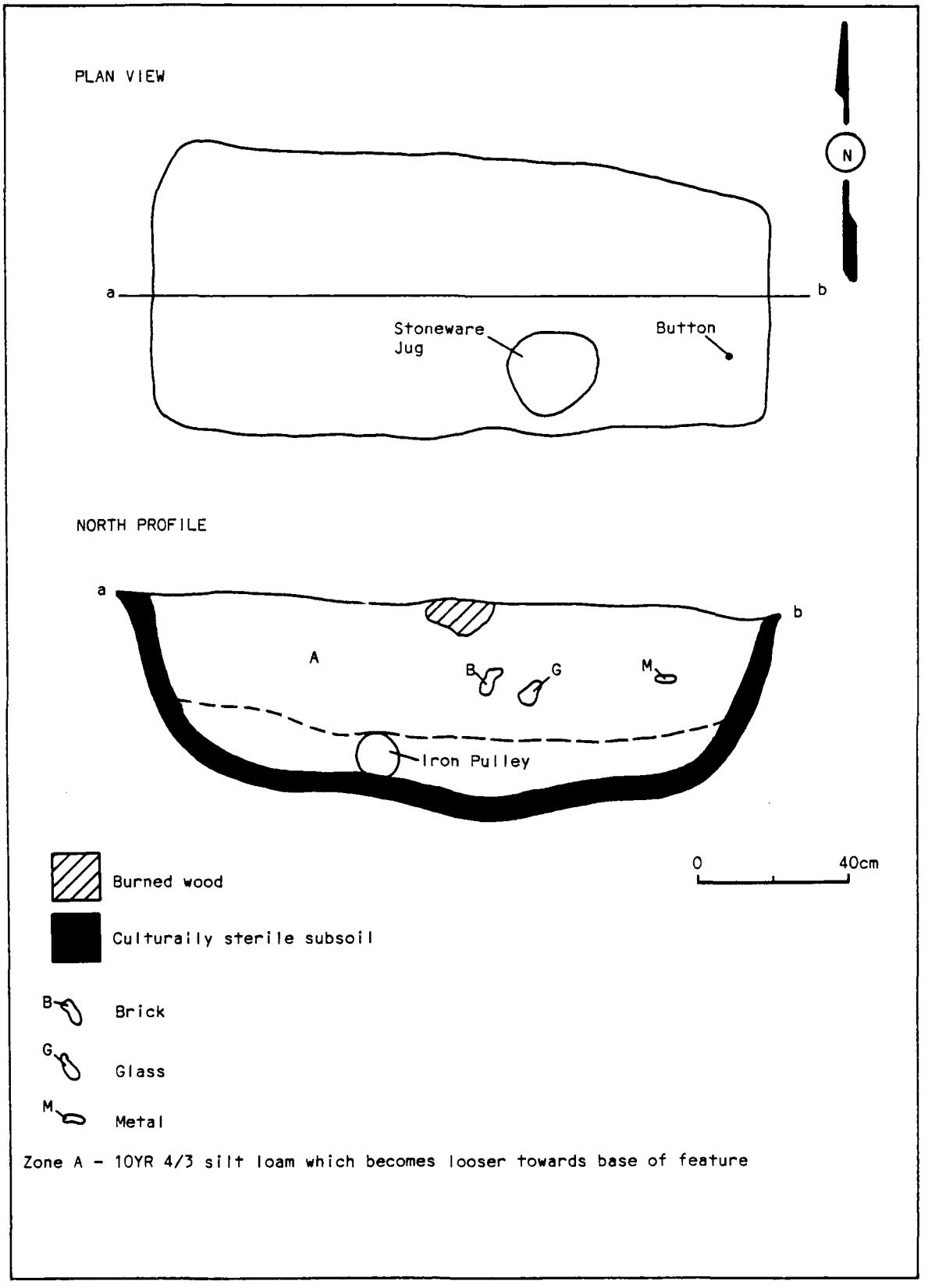


Figure 21. Plan view and profile of feature 3, site 13MA449.

nearly metallic looking slip glaze characteristic of wares made at the Gidel Kiln as evidenced in the Iowa State University collection and noted in Rogers et al. (1988:454). This kiln stopped production in the 1880s, so it is possible that this jug was made at the Gidel Kiln in the later years of its operation. Fragments of another high gloss slip glazed jug were also collected from this feature. In fact, the majority of the slip glazed stoneware sherds were from this single vessel (Appendix D, Table 4).

Other items of interest included two whiteware maker's marks. One was of the Alfred Meakin pottery company in England, which had a crown design with the following notation: Parisian Granite/Washington Pattern/ Alfred Meakin/England/4. In general, this type of Meakin mark dates from ca. 1891-1897 (Godden 1964:425-426). The other mark was of Furnival and Sons, also in England and dating from ca. 1818-1890 (Godden 1964:263). Two other notable items included a large metal spool or pulley deposited at the base of the feature and a combination wood/iron fragment that appeared to be a rifle butt.

Similar to feature 1, feature 3 contained fragments from at least one kerosene glass chimney, medicine bottles, and clothing parts including a porcelain button, a leather belt, and a child's leather shoe. One of the three-piece plate bottom medicine bottles was embossed with "Indian Sagwa/Healy & Bigelow" and an Indian head design. This mark dates from 1881-1894 (Fike 1987:166). Therefore, the diagnostic material from this feature indicates that this feature may have been in use during the 1880s but was most certainly in use by the 1890s. Both

features 1 and 3 may have been contemporaneous, or closely spaced in age.

Feature 4 was located approximately 8 m northwest and upslope from feature 3 (Figure 19). It was somewhat rectangular in plan view and had a shallow, basin-shaped profile (Figure 22). The fill consisted of one zone, with some charcoal deposits at the base. The function of this feature appeared to be that of a refuse or small storage pit.

A total of 33 artifacts was recovered from feature 4 (Appendix D, Table 4). The ceramic assemblage has a Mean Ceramic Date of 1893, while the glass has a mean date of 1890. Items of interest included an improved tooled glass ink well, a porcelain door knob, and the base of a cast iron skillet.

Interpretations. Unfortunately, no evidence was found in this block of the actual location of the house structure. It is likely that this evidence has been obliterated by postoccupation activities including intensive cultivation and surface deflation as a result of slope erosion. Oral history data indicate that many of the coal miners' houses elsewhere in town were small frame houses, and this type of structure would have left shallow structural evidence easily destroyed by the above-noted activities (Mohler 1987:309).

The placement of these features suggests that features 3 and 4 are associated with the same habitation site, while feature 1 represents another habitation site (Figure 19). There appears to be some adherence to the town plat because there were no features located in the alleyway, with both privies situated near this boundary. This may, of course, be an artificial pattern produced by postoccupation impacts. It is

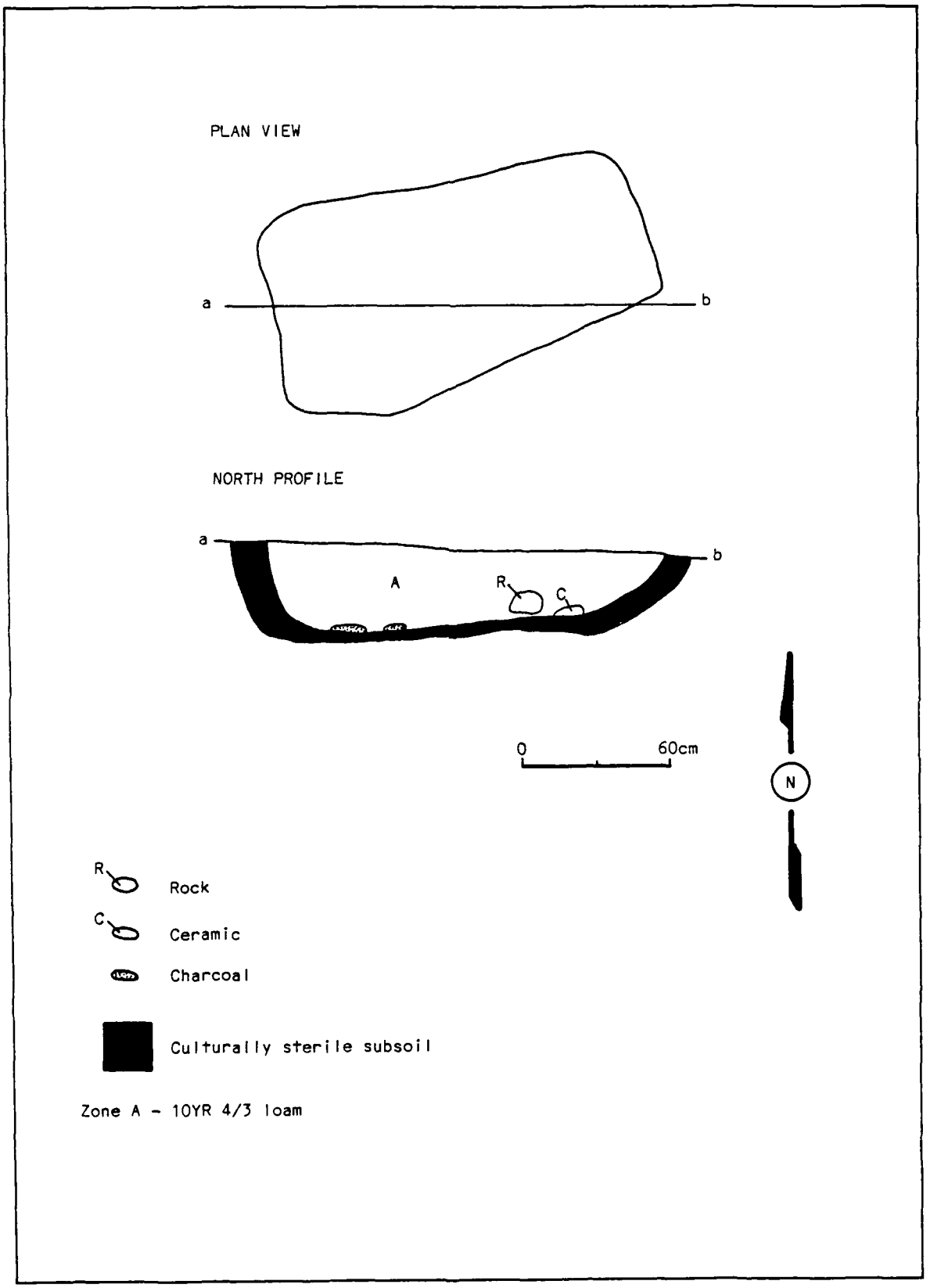


Figure 22. Plan view and profile of feature 4, site 13MA449.

interesting that the two privies are oriented in the same direction and are nearly in line north-south with one another. Whether this indicates conformity in the arrangements of house yards is purely speculative.

The quarter-block in which feature 1 was located was originally subdivided on the town plat into six vertical lots each measuring 40 m north-south by 6.7 m east-west. The quarter-block where features 3 and 4 were located was subdivided into two horizontal blocks measuring 40 m east-west by 20 m north-south. It is unlikely that the privy represented by feature 1 would have been placed upslope from the habitation site, as would be the case if the property consisted of one of the vertical lots. It is, perhaps, more likely that more than one vertical lot was owned or that the town plat was not adhered to in this area.

It is known from oral historical and artifact data that houses were located along the north edge of the field area in the early twentieth century. Features 3 and 4 may be associated with a house located in the NW1/4, NW1/4 of Block 10 (Figure 18); however, during this period the interior of the field area functioned as a common pasture for the grazing of milk cows. This would suggest that feature 1 represents the remains of a house site which was gone by the early twentieth century (Nichols 1987:332; 1988a).

SE1/4, SE1/4 of Block 10. Two features and one concentrated area of cultural material were uncovered in this 20 m x 20 m block (Figure 19). These were designated as features 2 and 7 and area 1, respectively.

Feature 2 was a keyhole cellar located along the east edge of the block (Figure 19). The stepped entrance into the cellar was located on

the south side, and the cellar had an interior floor area of 6.99 m^2. This is comparable to the average area of 7.10 m^2 of keyhole cellars on excavated Illinois farmsteads (Mansberger 1982a).

At the base of the feature, the remnants of six post holes were present (Figure 23). Two of these were located on either side of the entrance and may have supported a door or the superstructure itself. The post in the center was likely a structural support for the roof of the cellar. The group of posts in the southeast corner of the cellar suggests supports for shelving or a bin.

Nichols (1987:335) noted that in Dunreath not everyone had a cellar, or "cave." To compensate, people would share cellars. These structures were used for the storage of foodstuffs and for physical protection during bad storms. A few houses actually had cellars underneath their houses, but the more common type was the free-standing "cave" cellar.

The profile of feature 2 (Figure 23) showed one major episode of fill (zone A), with lesser layers of fill deposited at the base of the steps (see also Appendix A, Figure 4b). Zone B may represent a silted layer deposited after the cellar fell into disuse but before the superstructure was removed and the entire hole filled. Zones A and C, however, appear to be contemporaneous fill episodes representing the final filling of the cellar hole. Zone A contained a quantity of large mammal bones likely from a single individual. It appears that the remains of a cow was thrown into the cellar to help seal the hole.

A total of 548 artifacts was collected from the fill of feature 2, with 72 recovered from the west half, 403 from zone A, 5 from zone B,

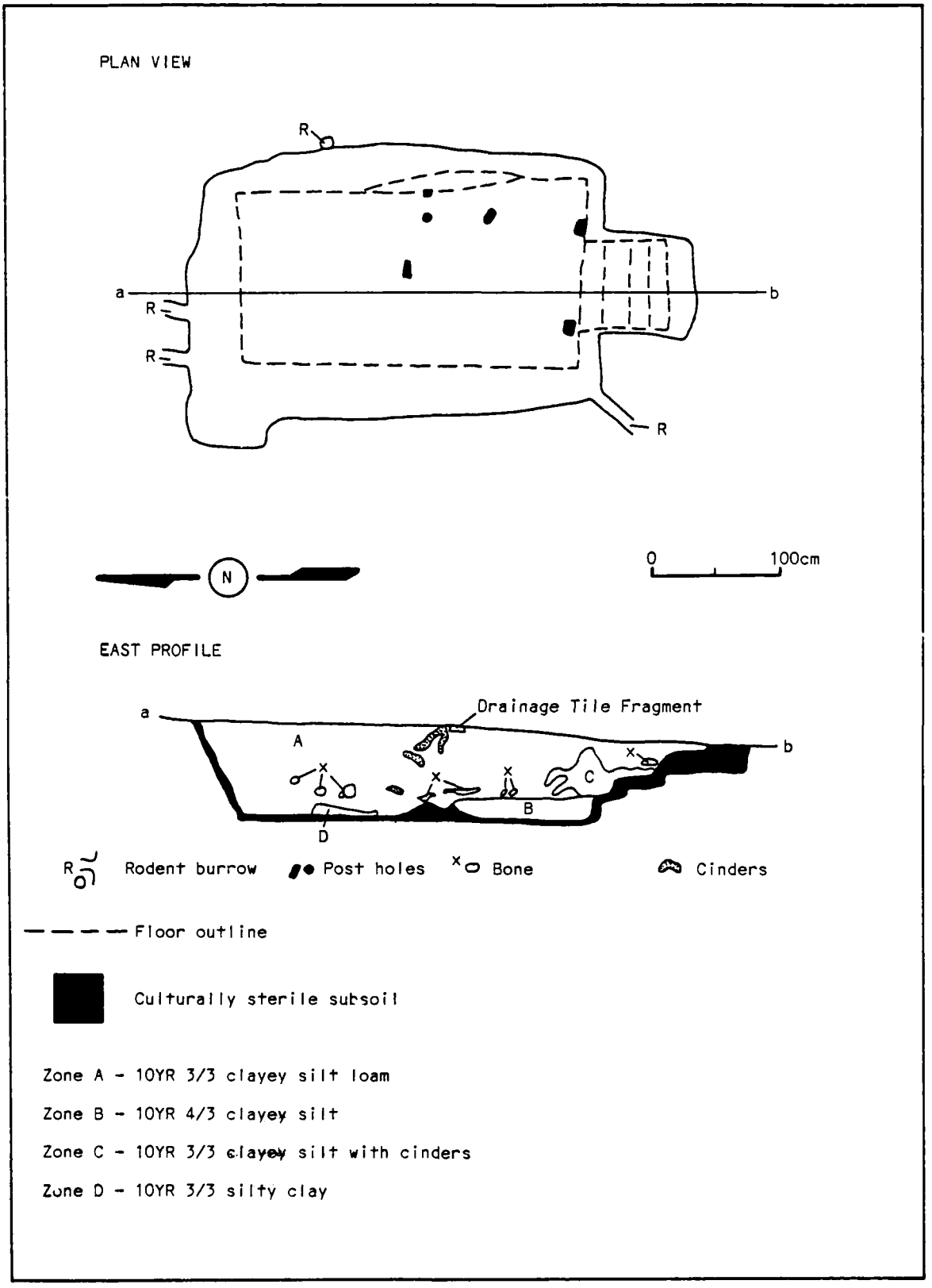


Figure 23. Plan view and profile of feature 2, site 13MA449.

and 68 from zone C (Appendix D, Table 4). The ceramic assemblage had a Mean Ceramic Date of 1898, while the glass had a mean date of 1892.2. The artifacts likely represent sheet midden deposits once present on the surface surrounding this cellar and related to the habitation site.

The only items recovered from zone B consisted of a ground rim of a moldblown glass lamp, a brass neck ring from a lamp, and a wire nail. Items of interest from the remainder of the feature included a terra-cotta detached stem pipe bowl embossed with "Catlin's/O. S." (Appendix C, Figure 2a) and 12 drainage tile fragments including one impressed with "Iowa Pipe and Tile/Co/Des Moines." The latter is particularly interesting because drainage tile was made at many local potteries into the twentieth century. The fact that this tile was brought in by train from Des Moines suggests that this method of purchase was easier than through a local kiln such as that in Knoxville.

Ceramic maker's marks included the marks of the Johnson Brothers pottery company in England dating from 1883-1913 (Kovel and Kovel 1986:12) and Knowles, Taylor, and Knowles of East Liverpool, Ohio, dating from ca. 1890-ca. 1907 (Gates and Ormerod 1982:119). These would suggest that the associated house site was occupied in the 1890s or early 1900s.

Feature 7 was located within 5 m of feature 2 off the southwest corner of the cellar (Figure 19). It was oval in plan view and had a shallow, basin-shaped profile (Figure 24). The profile showed one major zone of fill (A), shallow layers deposited at the base and along the

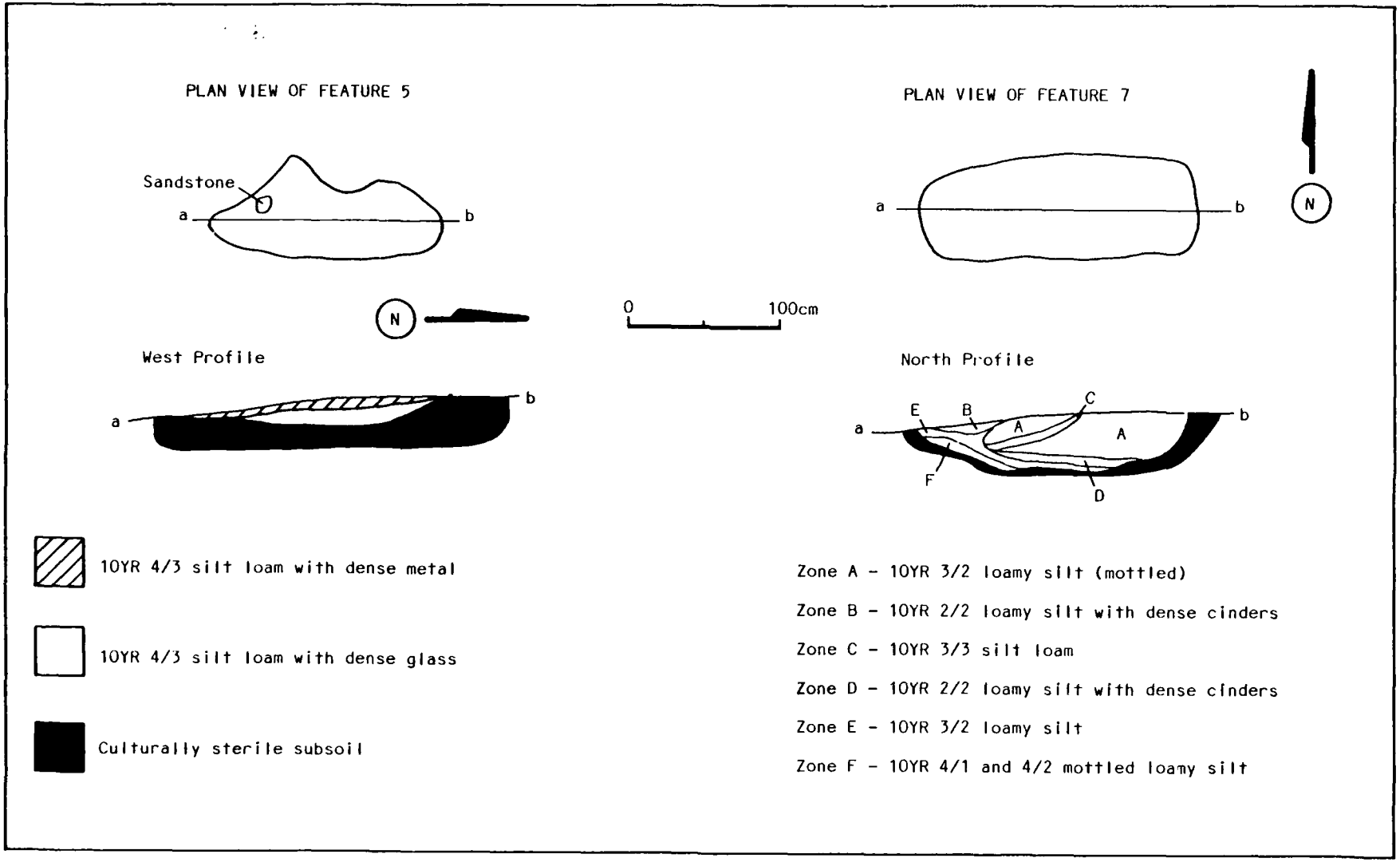


Figure 24. Plan views and profiles of features 5 and 7, site 13MA449.

west side of the feature. The layering of the fill suggested one fill episode utili·ing differing fills.

It was initially speculated that this feature represented a privy; however, the fills contained little organic material. The size and shape of the feature is similar to several storage pit features noted at the Stortes/Crookham site. It was concluded that these features represented shallow outdoor pits utilized for the storage of vegetables such as potatoes, beets, and turnips and covered with straw or earth (Rogers et al. 1988:238-239). This was also a practice noted for Dunreath as related by Rev. Nichols (1987:334).

> My Dad would always dig a big hole in the ground just before frost and the start of the freeze, and he'd pick the stuff out of the garden and he'd put straw on the floor and then he'd put different kinds of vegetables, and cover them, and then put another and cover them, and then cover that all up. Then at Christmas time we'd go out and open that and have all that fine stuff.

A total of 35 artifacts was recovered from the fill of feature 7 (Appendix D, Table 4). The only ceramic item was an undecorated ironstone cup which was nearly whole. Nails and cinders comprised the majority of the artifacts.

Interpretations. Features 2 and 7 may have been contemporaneous, although the paucity of diagnostic material from feature 7 precludes a definitive conclusion. The post hole evidence suggests that feature 2 was likely a free-standing cellar structure. Generally, such structures faced the house structure, although one such cellar at the Stortes/Crookham site actually faced away from the house (Rogers et al. 1988:224-225). The house associated with feature 2 may have been located in the southeast corner of this block and may have

fronted McCrary Street (Figure 19), which was an established road even in the mid-twentieth century (see Rogers 1988:334-335).

The original town plat of this area was subdivided into six vertical lots measuring 40 m north-south by 6.7 m east-west. Both features 2 and 7 would have been within the boundaries of the easternmost vertical lot. There is no recorded lot transfer history for this property other than its ownership by the Red Rock Coal and Mining Company from 1882-1911, when the LeGrand family purchased the company's landholdings. Therefore, it is possible that this habitation site was a rental property possibly by coal miners. The tax records for 1886, 1888, 1891, 1899, and 1902 indicate that "Mary Reed" was the nonresident owner of this particular lot. One record noted that it was sold in 1899 despite the continued listing in 1902. It is likely that Reed rented the property during this time. It was not listed in any of the subsequent tax records.

Area 1 was an amorphous concentration of artifacts, cinders, ash, and charcoal deposited in the extreme southeast corner of the block (Figure 19). The deposits were cross-sectioned and found to be shallow and irregular in profile. They likely represent erosional gullies or plow scars into which the overall twentieth century trash dump deposit settled. The deposit had a strong, burned trash odor when wet. A total of 23 artifacts was recovered from this area (Appendix D, Table 3). Included in this assemblage was a kaolin pipe bowl.

SE1/4, SE1/4 of Block 9. Two features and one area were

uncovered in the scraped area of this block (Figure 19). These were designated as features 5 and 6 and area 2, respectively.

Feature 5 was a refuse pit containing a dense concentration of artifacts. It had an irregular oblong plan view and a shallow, basin-shaped profile (Figure 24). The uppermost portion of the feature consisted of a thin layer of iron fragments. The lower portion of the fill was primarily glass with a sparse silt loam matrix.

A total of 651 artifacts was recovered from feature 5 (Appendix D, Table 4). Of these, 62% consisted of unidentified bottle glass fragments. Diagnostic glass items included 24 improved tooled lip/necks, indicating the likely possibility that many of the bottle fragments were from at least 24 different bottles. One of the bottle body fragments was embossed with "Dr. J. H. McLean's/Strengthening/Cordial/&/Blood Purifier" manufactured in St. Louis, Missouri, and advertised as early as 1865 (Fike 1987:204). The glass assemblage had a mean date of 1889.9, while the ceramics had a Mean Ceramic Date of 1893.5. Other items of interest included an iron carriage handle and an iron strap handle from a kettle.

Feature 6 was a keyhole cellar located approximately 10 m downslope and southwest of feature 5 (Figure 19). The cellar had a stepped entrance on the east side, with wooden planks placed on the earthen steps (Figure 25). The surface stain of the feature was much larger than the actual outline at the base of the cellar. It had a floor area of only 1.49 m^2, much smaller than feature 2 and well below the average size of the Illinois cellar sample (Mansberger 1982a). This cellar was also somewhat deeper than feature 2 despite being at a higher, and

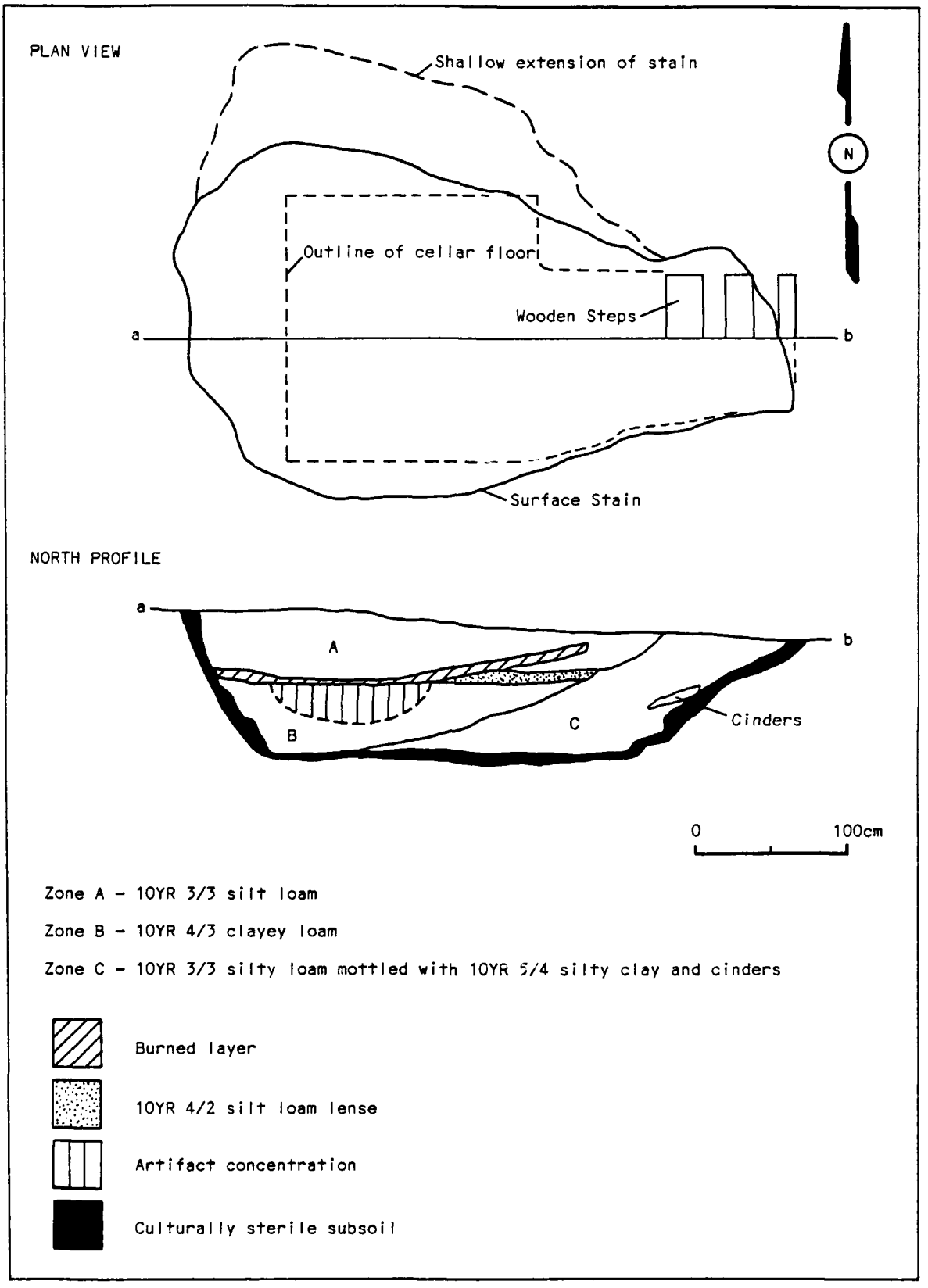


Figure 25. Plan view and profile of feature 6, site 13MA449.

therefore more surface deflated, elevation. In addition, no post holes were in evidence at the base of the feature. These data suggest that this cellar may have been underneath a house or outbuilding structure, thus requiring a deeper excavation and obviating the need for roof supports. It is possible, however, that this was a free-standing structure, with the roof supported by wood-lining or post holes which were destroyed by postoccupation activity.

The profile (Figure 25) showed three major zones of fill. Zone C was banked against the entranceway and likely represents fill thrown in the doorway upon abandonment of the cellar. Zone B was concentrated in the west half of the feature and may have been deposited from above rather than from the doorway. Zone A was deposited over zone B as well as a thin burned deposit and silt lens. These layers and their position between zones A and B suggest that the hole stood open for a time between the deposition of zone B and the final sealing episode of zone A.

A total of 2,201 artifacts was recovered from the fill of feature 6, with 549 recovered from the south half, 345 from zone A, 1,140 from zone B, and 167 from zone C (Appendix D, Table 4). The majority of the artifacts consisted of bottle glass including 34 complete three-piece plate-bottom, improved-tooled cork-finished bottles. The glass assemblage from the south half of the feature had a mean glass date of 1892.3, with mean dates of 1894.9 for zone A, 1891.2 for zone B, and 1892.7 for zone C. The entire ceramic assemblage had a Mean Ceramic Date of 1902.1. An Indian head penny dated 1892 was recovered at the base of zone C, indicating that the cellar was filled in post-1892.

Items of interest included a Frozen Charlotte doll, riveted iron kettle handles, a detached stem pipe bowl embossed with "Catlin's/O. S." (Appendix C, Figure 2a), a detached stem pipe bowl with a ribbed pattern, two porcelain door knobs, an iron carriage handle, leather shoe parts, an iron/brass/wood clasp pocketknife, a bakelite double-sided lice comb, and several pick ax heads of a variety of shapes possibly used in the coal mines (Appendix C, Figure 4b).

Ceramic maker's marks included those of Knowles, Taylor, and Knowles of Ohio (ca. 1890-1907), Johnson Brothers of England (1883-1913), and J. & G. Meakin of Hanley, England (ca. 1890+) (Gates and Ormerod 1982:119; Kovel and Kovel 1986:11-12). Stoneware maker's marks included the Western Stoneware Company of Monmouth, Illinois (post-1906) and the Red Wing Stoneware Company of Red Wing, Minnesota (Stewart and Cosentino 1977:125) (Appendix C, Figure 4a).

Glass manufacturer's marks included "The/S & H/Co.," "S. H. Kennedy's/C. EXT. PC" (1876-1915); "Dr. Baker's/Pain Relief/S. F. Baker & Co./Keokuk, Iowa" (1887-1915); "The Wm. S. Merrel Chemical Co./ Cincinnati/W.T. & Co/U. S. A," "Dr. Pierce's/Golden/Medical Discovery/R. V. Pierce, M. D./Buffalo, N. Y." (1871-1915), Chamberlain's Cough Remedy/Chamberlain Med. Co./Des Moines, Ia. U.S.A.," (1892-1915), "P. D. & Co." (1875-1915), "Rex" (1880-1900), "E.L. & Co.," "H. E. Bucklen & Co./Dr. King's/New Discovery/For Consumption/Chicago, Ill." (1898-1915) (Appendix C, Figure 2b), "Dr. S. B. H. & Co." (1877-1915), "Menning & Slater's/Pure Fruit Extracts/Des Moines, Ia.," "Mason's/Patent," "Patent/Nov 30th/1858," "B. B. Mfg. Co.," and "F. C. G. Co." (Deiss 1981; Fike 1987:51, 62, 109-110, 119-120, 206).

The artifact data indicate that the cellar was initially filled post-1892 and finally sealed sometime after 1906 (from the stoneware maker's marks). Late nineteenth century items in the fill likely indicate that the associated house site was inhabited at least during the 1890s. This is suggested because the feature fill likely came from the surrounding yard sheet midden in addition to material purposefully discarded at the time of abandonment.

Area 2 was located downslope and southeast of feature 6 (Figure 19). It was actually situated in a platted street area. It consisted of an irregular shallow ash, cinder, and artifact concentration that likely represents a deep plow scar remnant. The fill contained a total of 15 artifacts, primarily the fragments of a single red earthenware flowerpot, which possibly could have been manufactured at one of the local kilns (Appendix D, Table 3).

Interpretations. According to the original town plat, this quarter-block was subdivided into six vertical lots. As such, features 5 and 6 would have been in different lots. Neither lot had a recorded transfer history, having been owned by the Red Rock Coal and Mining Company until 1911 when the LeGrand family took possession. The closest lot which had a transfer history was in the east portion of the SW1/4 of Block 9, approximately 13 m west of the scraped area. It was initially purchased in 1883 and sold again in 1893, until its purchase by the LeGrand family in 1911.

An association between features 5 and 6 is not positive, nor is it positively known if the platted town lots were strictly adhered to in the actual placement of houses and outbuildings. It is also unknown

whether these features were located on lots that were rented or leased or were associated with the lots known to have been inhabited situated in the SW1/4 of Block 9. It is known from oral historical data that a house was situated on the west side of this quarter-block in the early twentieth century (Nichols 1987; 1988a). One of the families who lived in this house were the Meadors, who purchased the westernmost lot in 1914. It had been previously owned by the Mix family, who purchased it in 1884. Of course, this lot is a fair distance from features 5 and 6, and two other lots with private purchase histories were situated in-between. These include the one lot noted above and another on the east side of Meadors' lot which was owned in 1913 by George Brown.

The Meadors' house was fair sized and had a long porch on the front. Rev. Nichols (1988a) noted that "they always seemed to build porches on (the houses) then--on mining homes." The Meadors' property also included two small sheds. The Meadors did "whatever" for a living, primarily "worked in timber." Their son-in-law, however, was a coal digger, and he lived with them for a time (Nichols 1988a).

Perhaps the most likely possibility is that these features represent at least one habitation site, possibly two, which were rental properties through the Red Rock Coal and Mining Company or one of the other coal companies who leased property from this company. Whether one can make the further leap that this represents house sites inhabited by coal miners is open for debate, but the fill of the cellar did include a distinctive variety of pick axes, perhaps used in the coal mines.

Faunal Analysis

Tables 11-17 present a summary of the animal remains recovered

Table 11. Animal Remains from Feature 1 at the Dunreath Townsite (13MA449).

Taxon	NISP*	MNI*	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Cattle, Bos taurus	6	1	186.1	2.902	4 sawed
Unidentified Large Mammal	23	-	38.7	.706	4 sawed
Totals	29	1	224.8	3.608	
FLOTATION					
Unidentified Mammal	2	-	.1	.003	
Unidentified Vertebrate	1	-	.1	-	
Totals	3	-	.2	.003	

* NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 12. Animal Remains from Feature 2 at the Dunreath Townsite (13MA449).

Taxon	NISP*	MNI*	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Pig, Sus scrofa	1	1	5.7	.126	Sawed
Cattle, Bos taurus					
Refuse bones:	2	1	25.1	.478	Both sawed
Articulated skeleton:	128	1	6430.0+	-	
Unident. bone associated with whole skeleton:	169	-	299.0	-	2 burned
Unidentified Large Mammal	7	-	15.6	.312	5 sawed, 2 calcined
Unident. Med./Lg. Mammal	4	-	2.1	.051	2 calcined
Totals	311	3	6777.5	.967	
FLOTATION					
Cattle, Bos taurus (calf)	1	1	.2	--	
Unidentified Mammal	4	-	.2	.006	2 calcined
Totals	5	1	.4	.006	

*NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 13. Animal Remains from Feature 3 at the Dunreath Townsite (13MA449).

Taxon	NISP*	MNI*	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Cattle, Bos taurus	2	1	107.4	1.770	1 sawed
Totals	2	1	107.4	1.770	

*NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 14. Animal Remains from Feature 4 at the Dunreath Townsite (13MA449).

Taxon	NISP*	MNI*	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Pig, Sus scrofa	1	1	13.7	.277	Sawed
Cattle, Bos taurus	3	1	386.5	5.603	2 sawed
Unidentified Large Mammal	3	-	2.4	.058	
Totals	7	2	402.6	5.938	

*NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 15. Animal Remains from Feature 5 at the Dunreath Townsite (13MA449).

Taxon	NISP	MNI	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Cattle, Bos taurus	1	1	21.8	.421	Sawed
Unidentified Large Mammal	1	-	2.0	.049	
Totals	2	1	23.8	.470	

NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 16. Animal Remains from Feature 6 at the Dunreath Townsite (13MA449).

Taxon	NISP*	MNI*	Weight (g)	Biomass (kg)	Modifications
MACRORECOVERY					
Pig, Sus scrofa	1	1	3.1	.073	
Cattle, Bos taurus	2	1	395.2	5.717	1 carnivore-gnawed
Totals	3	2	398.3	5.790	
FLOTATION					
Old World Rat, Rattus sp.	1	1	.1	-	
Unidentified Mammal	15	-	1.6	.040	All calcined
Totals	16	1	1.7	.040	

NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals.

Table 17. Distribution of Beef and Pork Butchering Units at the Dunreath Townsite (13MA449).

Butchering Unit	Feature Number 1	2*	3	4	5	6	Totals
BEEF							
Round	-	2	2	-	-	-	4
Rump	-	-	-	1	-	-	1
Chuck	-	-	-	1	-	-	1
Chuck or Rib	2	-	-	-	-	-	2
Arm	2	-	-	-	1	-	3
Foreshank	1	-	-	-	-	-	1
Hindshank	1	-	-	1	-	1	3
Lower leg/feet	-	-	-	-	-	1	1
PORK							
Short cut ham	-	1	-	1	-	1	3

* Does not include 128 cattle bones from one, mostly articulated, individual that occurred in the postoccupation fill.

during the present investigation. Overall, the entire faunal assemblage was dominated by cattle remains with some pig. The only other identifiable animal remains were that of a rat recovered from feature 6, a keyhole cellar. Of interest was the remains of one mostly articulated individual cow (Figure 26) recovered from the fill of feature 2, also a keyhole cellar. It appears the final sealing episode of this cellar was aided by the depositing of a dead cow into the cellar hole. While the entire skeleton was not recovered, this is likely the result of poor preservation as well as from loss incurred when the first half of the feature fill was removed but not screened.

The identifiable remains from feature 1, a late nineteenth century privy, consisted of cow, including eight sawed specimens. Table 17 shows the distribution of the butchering units recovered from this site. Those from feature 1 included chuck or rib arm, foreshank, and hindshank. The other suspected privy feature (3) contained only two cow bones, one of which was sawed. Butchering units consisted of round cuts.

Socioeconomic analysis pertaining to dietary preferences car be conducted utilizing identified butchering units on the basis that certain butcher cuts of beef and pork were more expensive than other cuts. Potential socioeconomic variability in the dietary patterning at the Dunreath townsite will be examined on a intra- and intersite basis in Chapter IX of this report. Unfortunately, the sparse faunal assemblage will make any conclusions tentative.

Botanical Analysis

Botanical material was analyzed from flotation samples for seven

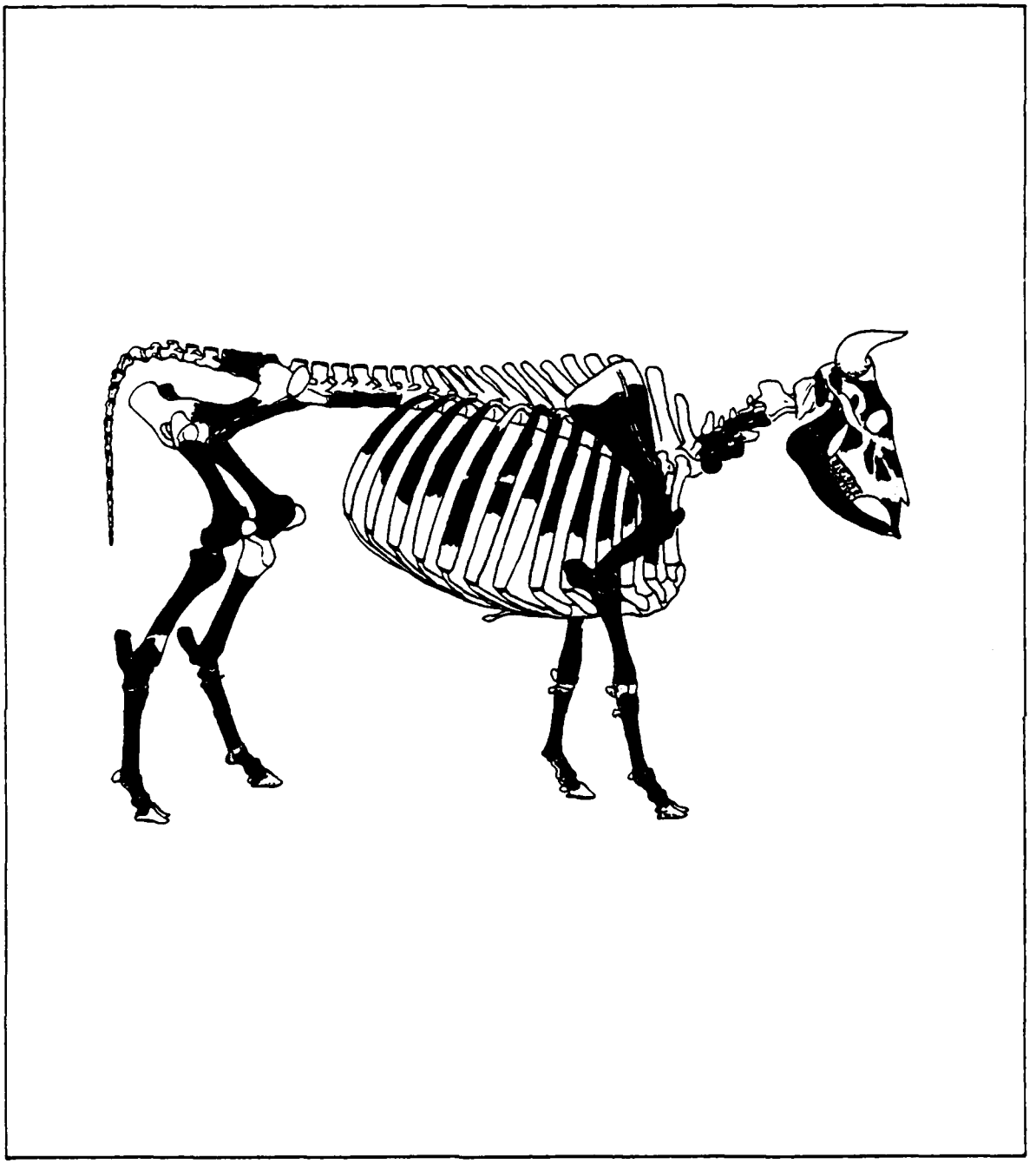


Figure 26. Composition of the cattle bones from feature 2, zone A, Site 13MA449.

features from the Dunreath townsite. Identified were numerous seeds (n=32,043) which comprise the most numerous and significant portion of the floral assemblage, nutshell fragments (n=7; 3.55 g), and wood charcoal fragments (n=13; 13.9 g) (Table 18). A macrosample of wood charcoal from feature 6 was also included in the botanical assemblage. An estimated 94% (n=30,650) of the identified seeds recovered from feature fills have potential economic value. Seeds of no apparent economic value comprise the remaining 4% (n=1,393) of the assemblage.

Identifications.

Feature 1. Feature 1 was a privy dating to the late nineteenth century. The feature fill consisted of three zones of deposition. A total 22,908 noncarbonized seeds and one fragment each of noncarbonized nutshell and wood charcoal have been identified from the three zones (Table 18). Identified seed totals for zones A and B have been estimated from subsamples.

Flotation from zone A exclusively yielded seeds. Weedy species in this zone totaled 348, or 5% of the identified seeds. These were Brassica spp. (wild mustard; n=16), Chenopodium spp. (lamb's-quarters; n=12), Portulaca oleracea (purslane; n=296), and Solanum spp. (nightshade; n=24). These species, common to the Red Rock area (Eilers 1971), are adventitious in cultivated fields. The presence of these weedy seeds in the fill of zone A indicates feature disturbance attributable to tilling activities. Species of potential economic value identified were the edible wild fruits Rubus spp. (blackberry/raspberry; n=6,928), Sambucus canadensis (elderberry; n=8), and Vitis spp. (grape;

Table 18. Total Identified Botanical Material from Flotation Samples, Site 13MA449.

Genus/ Species	Feature No. 1 Zone A[+]	1 Zone B[+]	1 Zone C	2	3[@]	4	5	6	7	Total
SEEDS (count)										
Acalypha sp. Copperleaf					2					2
Brassica spp. Wild mustard	16									16
Chenopodium spp. Lamb's-quarters	12			4	9	1	2	5		33
Cucurbita pepo Pumpkin			1							1
Datura stramonium Jimsonweed					8					8
Fragaria sp. Strawberry					11					11
Lepidium sp. Peppergrass					1					1
Linaria vulgaris Toadflax							1			1
Lonicera sp. Honeysuckle		1			11					12
Malva sp. Mallow							1			1
Menispermum canadense Moonseed									1	1
Polygala sp. Milkwort			1							1
Polygonatum sp. Solomon's-seal					2					2
Polgonum spp. Smartweed			1					1	1	3
P. pennsylvanicum Pinkweed		1			2				1	4
Portulaca oleracea Purslane	296	652								1148
Rubus spp. Blackberry/raspberry	6928	14575	52	11	8241	56	3	149	42	30057
Sambucus canadensis Elderberry	8	44								52
Setaria spp. Foxtail			2							2
Solanum spp. Nightshade	24		1	1	112			6		144

Table 18. (Cont'd).

Genus/ Species	Feature No. 1 Zone A+	1 Zone B+	1 Zone C	2	3@	4	5	6	7	Total
S. nigrum Black nightshade					12					12
Sparganium eurycarpum Bur-reed									1	1
Trifolium spp. Sweet clover			3							3
Vitis spp. Grape	8	37	45		433			3		526
Unidentified									1	1
Total Seeds	7292	15510	106	16	8844	57	7	164	47	32043
NUTSHELL [#/wt(g)]										
Carya sp. Hickory			1/<0.05					4/0.1*		5/0.1
Juglans nigra Black walnut				1/1.65	1/1.8					2/3.45
Total Nutshell	0	0	1/<0.05	1/1.65	1/1.8	0	0	4/0.1	0	7/3.55
CHARCOAL										
Pinus spp. Pine								7/13.15		7/13.15
Coniferae Conifer								2/0.05		2/0.05
Diffuse-porous			1/0.05					1/0.05		2/0.1
Unidentified				1/0.5	1/0.1					2/0.6
Total Charcoal	0	0	1/0.05	1/0.5	1/0.1	0	0	10/13.25	0	13/13.9

*Carbonized +Values estimated from 1/4 subsample @Portions estimated from 1/4 subsample

n=8). The seeds of edible fruits comprised 95% of the sample and plausibly represent privy fill.

The flotation sample from zone B contained 15,510 seeds, 6% (n=854) of which represent weedy species and 94% (n=14,656) of which have potential economic value. Identified weedy species were Polygonum pennsylvanicum (pinkweed; n=1) and purslane (n=852). The presence of these seeds in the fill can also be attributed to contamination by plowing activity. The seed of Lonicera (honeysuckle; n=1) may have entered the fill from a flowering vine planted near the privy. Identified seeds of edible fruits were blackberry/raspberry (n=14,575), elderberry (n=44), and grape (n=37). The predominance of edible fruit seeds in zone B (94% of the assemblage) also suggests privy fill.

Flotation from zone C yielded 106 seeds. Weedy species identified are Polygala sp. (milkwort; n=1), Polygonum sp. (smartweed; n=1), Setaria spp. (foxtail; n=2), and nightshade (n=1). Identified seeds having economic potential include Trifolium spp. (sweet clover; n=3), Cucurbita pepo (Pumpkin; n=1), and the edible fruits blackberry/raspberry (n=52) and grape (n=45). Milkwort is typical to prairie remnants in the Lake Red Rock area (Eilers 1971:47). Foxtail could have entered the fill as a prairie remnant species or as an adventitious weed (Eilers 1971:75). Smartweed and nightshade are adventitious weeds typical to disturbed, moist soils (Eilers 1971:47-48, 58). The combined weedy seed assemblage indicates habitat transitional from the natural prairie which likely existed at the site vicinity prior to settlement. Absence of purslane (typical to plowed fields, and common in zones A and B) indicates that zone C was likely not disturbed by tillage. Sweet

clover, sparsely represented in this zone, may have entered the fill as a weed. The lack of elderberry indicates that zone C may represent an earlier use fill than zones A and B. Botanical analyses of Lake Red Rock area farmsteads contemporaneous with the Dunreath site (Rogers et al. 1988:360) indicate that this edible wild fruit entered the regional diet subsequent to 1880.

Zone C also contained one noncarbonized nutshell fragment of Carya sp. (hickory; <0.05 g) and one fragment of charred diffuse-porous wood (0.05 g). These fragments may represent refuse, but quantities are insufficient to substantiate their significance in the feature fill.

Feature 2. The fill of feature 2 contained 16 seeds, 1 noncarbonized nutshell fragment, and 1 unidentified wood charcoal fragment. Seeds identified were lamb's-quarters (n=4), nightshade (n=1), and blackberry/raspberry (n=11). The nutshell fragment is that of Juglans nigra (black walnut; 1.65 g), an edible nut common to bottomland forest of the Lake Red Rock area (Eilers 1971:38). Although feature 2 is a keyhole cellar, the floral material recovered from the fill gives no indication of possible fruits or vegetables which may have once been stored in it.

Feature 3. The fill of feature 3 contained numerous noncarbonized seeds (n=8,844), 1 carbonized nutshell fragment (1.8 g), and 1 wood charcoal fragment (0.1 g). The fill, which represents one depositional episode, was excavated in six arbitrary 10 cm levels. Identifications of botanical material obtained from flotation are given by level in Table 19.

Table 19. Identified Botanical Material from Flotation Samples for Feature 3 by Level (CM BS), Site 13MA449.

Genus/Species	0-10	10-20	20-30	30-40	40-50	50-60+	Total
SEEDS (count)							
Acalypha sp. Copperleaf			1		1		2
Chenopodium spp. Lamb's-quarters	5	2			2		9
Datura stramonium Jimsonweed						8	8
Fragaria sp. Strawberry			5		6		11
Lepidium sp. Peppergrass		1					1
Lonicera sp. Honeysuckle					11		11
Polygonatum sp. Solomon's-seal			2				2
Polygonum pennsylvanicum Pinkweed		1			1		2
Rubus spp. Blackberry/raspberry	5	51	38	5	194	7948	8241
Solanum spp. Nightshade			56	1	39	16	112
S. nigrum Black nightshade						12	12
Vitis spp. Grape		1	2	30	172	228	433
Total Seeds	10	56	104	36	426	8212	8844
NUTSHELL [#/wt(g)]							
Juglans nigra Black walnut				1/1.8*			1/1.8
Total Nutshell	0	0	0	1/1.8	0	0	1/1.8
CHARCOAL [#/wt(g)]							
Unidentified		1/0.1					1/0.1
Total Wood/charcoal	0	1/0.1	0	0	0	0	1/0.1

+Values estimated from 1/4 subsample *1/2 fragment

The flotation sample taken at 0-10 cm below surface (bs) yielded only 10 seeds. Identified were five seeds each of lamb's-quarters and blackberry/raspberry. Too few seeds are present at this level to indicate feature function.

Seeds identified from the three levels between 10-40 cm bs provide some evidence of feature function as a privy, although due to the low number of recovered seeds from edible fruits (n=132), indications are that if use of this feature was as a privy, such use was either infrequent during the latter depositional episode or few whole small fruits were being consumed by the users of the privy. Identified edible fruit seeds are Fragaria sp. (strawberry; n=5), blackberry/raspberry (n=94), and grape (n=33). The unidentified wood charcoal fragment (10-20 cm bs) and carbonized fragment of black walnut shell (30-40 cm bs) indicate that refuse was being placed in the feature during deposition of the upper layers.

The seeds of strawberry (n=6), blackberry/raspberry (n=194), and grape (n=99) were contained in the flotation sample taken at 40-50 cm bs. Weedy species represent 13% (n=43) of the seeds identified. These are Acalypha sp. (copperleaf; n=1), lamb's-quarters (n=2), pinkweed (n=1), and nightshade (n=39). Eleven seeds of honeysuckle were also contained in the fill. These may have entered the fill from a weedy species or from an ornamental honeysuckle planted near the privy. The predominance of edible fruit seeds in the assemblage (87%) at this level suggests feature function as a privy.

The flotation sample taken from the lowest level of feature 3 (50-60 cm bs) contained the most significant amount of seeds (n=8,212). Less

than 1% (n=36) of the identified seeds represented weedy species. The remainder of the seed assemblage was comprised of seeds from blackberry/raspberry (n=7,948) and grape (n=228). No wood charcoal or nutshell was contained in the flotation sample from this level. The abundance of edible fruit seeds and associated sparcity of weed seeds and other categories of botanical material strongly suggest that this feature functioned as a privy. It is also evident from the combined botanical assemblage that users of the privy were consuming the sweet and juicy fruits of strawberries, blackberries/raspberries, and grapes.

The diminishing quantities of edible fruit seeds found in the upper layers of feature 3 indicate that the feature had been frequented less over time. These diminished quantities may also be indicative of dietary change. An equally plausible theory is that during the latter phase of deposition, the privy was being used seasonally (such as in the winter or spring) when fresh fruits were not available.

Feature 4. Botanical material recovered from the fill of feature 4 was limited to 57 seeds; these were identified as lamb's-quarters (n=1) and blackberry/raspberry (n=56). The paucity of plant material prohibits speculation of feature function. The blackberry/raspberry seeds may have entered the fill as refuse but could also have contaminated the fill as seed rain from vines that had colonized soils near the feature location subsequent to site abandonment.

Feature 5. Botanical material recovered from the fill of feature 5 also provides little evidence for the interpretation of

feature function. The entire botanical assemblage was comprised of seven seeds. Identified were lamb's-quarters (n=2), Linaria vulgaris (toadflax; n=1), Malva sp. (mallow; n=1), and blackberry/raspberry (n=3). Toadflax and mallow are adventitious species typical to moist, disturbed soils (Eilers 1971:43,56) and indicate some water inundation at this location.

Feature 6. Feature 6 was a keyhole cellar. The cultural fill consisted of three depositional zones. Identification of botanical material recovered from flotation samples for the three zones is given in Table 20.

In addition, a noncarbonized macrosample of plain-sawed boards was collected from the cellar steps (n=7; 37.2 g) (Table 20). These boards were identified as pine (Pinus spp.), an all-purpose construction wood which would have been readily available at saw mills and lumberyards of the Lake Red Rock region.

Flotation taken from zone A, a burned lense within the feature fill, yielded additional carbonized wood samples. Identified were 2 fragments of plain-sawed pine boards (6.7 g), 1 fragment of a small pine pole or post (5.95 g), 4 additional small pine fragments (0.5 g), 2 unidentifiable conifer fragments (0.05 g), and a diffuse-porous wood fragment (0.05 g). These wood fragments may represent additional construction material from the cellar. Their presence in the fill could also be attributed to refuse deposited as infill once the structure had been abandoned.

Flotation from zone A also contained 3 carbonized hickory nutshell fragments (0.1 g), 9 seeds of weedy species, and 104 seeds of edible

Table 20. Identified Botanical Material from Flotation Samples for Feature 6 by Level, Site 13MA449.

Genus/ Species	Level A	Level B	Level C	Total
SEEDS (count)				
Chenopodium spp. Lamb's-quarters	5			5
Polygonum spp. Smartweed	1			1
Rubus spp. Blackberry/raspberry	92	6	51	149
Solanum spp. Nightshade	3		3	6
Vitis spp. Grape	3			3
Total Seeds	104	6	54	164
NUTSHELL [#/wt(g)]				
Carya spp. Hickory	3/0.1*		1/<0.05*	4/0.1
Total Nutshell	3/0.1	0	1/<0.05	4/0.1
CHARCOAL [#/wt(g)]				
Pinus spp. Pine	7/13.15			7/13.15
Coniferae Conifer	2/0.05			2/0.05
Diffuse-porous	1/0.05			1/0.05
Total Charcoal	10/13.25	0	0	10/13.25

*Carbonized

fruits. The edible fruits represented in the fill are grape (n=3) and blackberry/raspberry (n=92).

Flotation from zone B yielded only six seeds of blackberry/raspberry. Identified from zone C were blackberry/raspberry seeds (n=51), 3 weed seeds, and 1 carbonized fragment of hickory nutshell.

The combined botanical assemblage contained within flotation

samples for the three zones of feature 6 likely represent an infill of refuse deposited after the structure had been abandoned for use as a cellar. The woods identified, all of which are softwoods that have a durability potential of 10 years or less, indicate that the cellar may have been constructed for short-term use.

Feature 7. The recovered botanical assemblage consisted entirely of seeds (n=47). Identified are Menispermum canadense (moonseed; n=1), smartweed (n=1), pinkweed (n=1), Sparganium eurycarpum (bur-reed; n=1), and blackberry/raspberry (n=42). One seed was unidentified. Moonseed, bur-reed, smartweed, and pinkweed are all weedy species typical to moist or marshy soils. They indicate either flooding or a sustained period of free-standing water at this location. Some species of blackberry also commonly grow wild in moist soils. It is unclear from context whether these seeds represent refuse from food preparation or inadvertent deposition in the fill from seed rain. The limited botanical assemblage provides little indication of feature function.

Interpretation. The combined botanical assemblage for the Dunreath site contained three general categories of botanical material: seeds, nutshell, and wood. The array of floral material indicates that Dunreath residents were obtaining botanical goods mainly through a market system. Kitchen gardens in which pumpkins, other vegetables, and small fruits such as blackberries, raspberries, grapes, and strawberries were cultivated likely augmented purchased foodstuffs. The ubiquity of blackberry/raspberry in the feature fills suggests a prevalence of this

sweet, juicy fruit. The abundance of these seeds within the privy fills (features 1 and 3) also attests to the popularity and availability of this fruit.

The prevalence of grape seeds in the privy fills indicates the availability and popularity of this fruit as well. Strawberry is not as well represented in the privy fills and may not have been as readily available to site residents. Grapes, blackberries, and raspberries are common wild vines in the Lake Red Rock region. The prevalence of these three fruits in the fill may be attributed to procurement of fruits from the combined resources of wild and cultivated vines. Strawberry, although native to prairie habitat in the Lake Red Rock area, is neither common nor abundantly fruiting in the wild. Gathering of the wild fruit would have been sporadic at best. Thus, strawberries were likely either obtained solely from the market or from cultivation by town residents.

Schwieder (1983:70) noted that coal miners' wives often kept gardens, the produce of which supplemented the family's income and diet. It is suspected that the habitation sites excavated at Dunreath were occupied by miners, and the botanical evidence of garden produce may suggest a correlation with this observation.

Evidence of foraging for wild food resources is sparse for residents of Dunreath and likely was not an important component of the town economy. The presence of hickory nutshell, black walnut shell, and elderberry seeds in the feature fills, although sparse, indicates that some residents were supplementing their diets with wild food resources. It is known that berry picking and mushroom hunting were common

activities of the early twentieth century inhabitants of Dunreath (Mohler 1988).

Honeysuckle seeds were present in, and limited to, the fills of both privy features. These ornamental flowering vines may have been planted near the privies. The sweet scent of the flowers might have provided a welcome fragrance near the privies during the summer months!

The wood and charcoal recovered from the site features were dominated by pine. Other conifer woods may also be represented in the assemblage. The only nonconiferous wood recovered was an unidentified softwood. The prevalence of non-native pine indicates that structures in the town were constructed with purchased lumber. It is known that Dunreath had a sawmill operation in the early twentieth century, and it is possible that this establishment was the source for the construction materials.

The cash economy system evident in the town of Dunreath contrasts with the economic strategy elucidated for neighboring farmsteads. Botanical analyses for farmsteads contemporaneous with the town of Dunreath (e.g., the Stortes/Crookham site in Rogers et al. 1988) indicated that farm residents exploited a variety of wild timber, nut, and fruit resources to augment crop resources and purchased resources. The rural economy was maintained with a higher degree of self-sufficiency.

The farmer, more accustomed to direct provision of produce from his labors, is cognitive of products growing naturally as an extension of the resources available for his exploitation. The town resident, reliant upon the market system for supplies, is limited to merchandise available

for purchase and is therefore less cognitive of the value of natural resources or perhaps less willing to supply the labor necessary to procure them. The limited variety of identified timbers and food residues recovered from excavations at the Dunreath townsite suggests a predominantly market-dependent economic strategy.

Architectural Analysis

There were no standing structures in the data recovery area at the time of RICOE acquisition; therefore, the following discussion pertains to structures located outside of this area but within the former townsite boundaries. Many of these structures postdated the heyday of the town, having been built in the 1930s and 1940s. Only a few dated from the actual town period, and these will be noted where they occur. This architectural discussion is provided for comparative purposes with the RICOE architectural data from Percy. Each structure is identified by the structure designation from the phase II investigation (Rogers 1988:300).

Structures 14, 16-17. The one occupied house was described as a modern two-story, six-room house with two enclosed porches and a basement (RICOE acquisition file, Tract No. 728, 730, and 746). The photograph showed a vernacular Gabled Ell house type (Appendix B, Figure 3a). It was one and one-half stories in height with an L-shaped ground plan and a concrete block foundation. The house walls were covered with composition shingles with a simulated brick pattern. The roofing material appeared to be composition shingles, and there was a single interior brick chimney. The principal facade was oriented parallel to

the axis of the gabled roof; the roofs of the core and ell were of equal height, and their rooflines intersected. The lower story of the principal facade was spanned by a full-width, enclosed porch under a hip roof. There was also a smaller hip-roofed side porch inset between the core of the house and the ell. The pattern of fenestration was symmetrical.

The front porch had six one-over-one doublehung windows flanking the entry, which was centered and had a door with six panes of glass in the upper panel. There were no other windows on the principal facade. The side walls of the house core had two four-over-four doublehung windows on each floor. The side entry was at ground level next to the side porch; the door was glazed with eight panes of glass and appeared to provide access to the basement. The side porch had a rearward-facing entry, reached via stairs from a small patio. The rear wall had a row of small, single-pane windows grouped together (probably marking the location of the kitchen or pantry). There were also basement windows.

The farmstead property also included an unoccupied house, which at the time of acquisition was being used as a pig barn. This was designated as structure 14 in the phase II investigation (Rogers 1988:300). The photograph (see Appendix L, Figure 11a in McNerney and Stanley 1988:579) showed a badly deteriorated one and one-half story Gabled Ell. The L-shaped ground plan was partially infilled by an open porch, then falling down, which appeared to have been supported by simple turned wooden columns. The photograph showed that the porch had been partially enclosed with some kind of rough board fencing. Fenestration was probably symmetrical: the gable end of the ell showed

two four-over-four doublehung windows, one centered on each floor. The exterior walls appeared to be sided with asphalt shingles in an imitation brick pattern which almost certainly overlay the original wall cladding, likely of horizontal boards. The roof covering appeared to be composition shingles. It might be expected that the original wood shingle roof was underneath. There was a single interior brick chimney. The foundation was not visible, although the acquisition file indicated a stone foundation.

This house was known to have been occupied by Ellen Abbott Hargraves Rule during the late nineteenth to early twentieth century. She was a long-time resident of Dunreath who married three times while a resident. One of her husbands was a shoe cobbler, another was a carpenter, and the third was apparently somewhat mentally retarded. She outlived all of them. She later earned a reputation as a boot-legger (Nichols 1988b).

The barn on this farmstead was designated as structure 17 in the phase II investigation (Rogers 1988:300). The photograph (Appendix B, Figure 3b) showed a medium-sized, rectangular structure with a large gable roof and vertical board and batten siding. What appeared to be wood shingles covered the steeply-pitched roof, and the rafter tails were exposed along the eaves. Access to the barn was through doors located in the gable end; one of these was a large sliding door. The windows were small and square with four panes of glass; the photograph showed two side windows on the ground floor and two loft windows under the gable end. There were also openings which provided access to the hay mow.

The final structure on the farmstead was a garage designated as structure 16a in the phase II investigation (Rogers 1988:300). This structure was a small wood frame structure with horizontal board siding and a gable roof. The gable roof enclosed one room and a large open-sided stall that comprised approximately one-half of the building's length. It was not in use at the time of acquisition.

Structure 15. Structure 15 was the Marion County shop building. The photograph (Appendix B, Figure 3c) showed a rectangular 50 ft by 30 ft block tile building one story in height, resting on concrete footings and enclosing two garage bays (one with a concrete floor, the other dirt) a coal room, and a small office with wood walls, all under a corrugated metal ceiling. There was a well on the property, but the garage/shop building lacked plumbing, and the appraiser noted the presence of a wood frame privy. The property was used as a public works garage and automotive repair shop. The facade was oriented parallel to the axis of the gabled roof, which was covered with composition shingles. There was a brick chimney and K-type gutters, and horizontal board siding was exposed above the block walls under the gables. Fenestration was symmetrical. There were two sets of paired six-over-six windows on the principal facade, with the appraiser noting 10 windows in all, measuring 2 ft by 4 ft. A small window with six panes of glass was set in the center of each of the garage doors.

The county shop building was known to have been built in the proximity of the former Carey store, which closed in the 1930s. Therefore, the shop building dates from the late 1930s or 1940s (Nichols 1988a).

Structures 12 and 13. The house was a one story, two-bedroom house measuring 28 ft by 24 ft with a small appendage (Appendix B, Figure 3d). The house had no basement and lacked indoor plumbing. It had been remodeled in 1948. The house was a vernacular Gabled Cottage type. The ground plan was L-shaped, and the gabled roofs intersected. Fenestration appeared to be symmetrical. The windows appeared to be fitted with combination metal storms. The walls were sheathed with horizontal boards; the roof covering appeared to be composition shingles. An old-fashioned pump and well were located to the rear of the house, outside of the kitchen.

The house was built in the 1880s and was occupied by the Nichols family after 1886. Mr. Nichols was a coal miner. The original structure was a board and batten type frame structure. It had three rooms originally--a kitchen, a living room, and a bedroom--for a family of seven. It was enlarged by one room in the 1940s and was eventually moved to Monroe, where it still serves as a residence (Nichols 1988a).

A garage was present on the property and consisted of a 12 ft by 22 ft structure with a dirt floor. It had a concrete foundation. This structure was designated as structure 12 in the phase II investigation (Rogers 1988:300). The photograph (Appendix B, Figure 3d) showed a one-stall, gable roofed structure with horizontal board siding and small, paired side windows.

The final structure on this property was an 8 ft by 10 ft "summer wash house" (Appendix B, Figure 3d). It appeared to be a simple shed-roofed wooden box with horizontal board siding, a side door, and two windows.

Structures 8-11. The RICOE appraiser's report described this property as a 35.4 acre farmstead lying partially within the plat of Dunreath (RICOE acquisition file, Tract No. 725). The acquisition file photograph showed the farmhouse (structure 11) partially obscured by a large tree in the front yard, which made identification of the roof shape difficult. However, the house appeared to be a specimen of the vernacular Corn Belt Cube, one and one-half stories in height, with a rectangular ground plan (Appendix B, Figure 4a). The steeply pitched roof appeared to be pyramidal or hipped; the roofing material was identified in the appraiser's report as asphalt shingles. The attic space was expanded with the addition of gabled dormers: two of these dormers were clearly visible on the principal facade, another on one of the side roofs. The dormer windows were tall, narrow four-over-four doublehungs. The facade was unbalanced, with one six-over-six doublehung window on the ground floor. The front entry had plain moldings and a screen door; there was the suggestion of an older, boarded-up entry, also on the principal facade. The front porch was full-width and open, with a roof supported by five round wooden columns. The wall cladding appeared to be composition shingle or asphalt roll siding with an imitation brick pattern. The appraisal notes that the building rested on a rock foundation, but the photograph showed a concrete block or tile foundation under the porch. The phase II investigation noted that the majority of the foundation was of sandstone block with a veneer of concrete on the exterior surface (Rogers 1988:307). Curiously, the masonry steps leading up to the front porch are not in line with the front entry. According to the appraiser's report, this "non-modern"

house was tenant-occupied and in fair condition: "basically good but needs decorating."

The barn (structure 8) was described as too small to meet the needs of a modern livestock or grain farming operation (RICOE acquisition file, Tract No. 725). The accompanying acquisition file photograph showed a medium-sized, three-bay gable-roofed barn with a shed-roofed addition, forming an L-shaped ground plan (Appendix B, Figure 4b). Both the barn and the shed had horizontal board siding; the appraiser noted wood and asphalt shingle roofs. Door and window openings are difficult to discern from the photograph provided, but it likely had its main entry in the gable end.

The corn crib (structure 9) was described as a good building but poorly maintained (RICOE acquisition file, Tract No. 725). The acquisition file photograph showed a typical Midwestern double corn crib: a small, wood frame building with a central passageway between two corn cribs, covered by a steeply pitched gable roof (Appendix B, Figure 4c). The wall cladding was horizontal boards, and the crib walls were slatted; there was a large sliding type door made of horizontal planks. The roof was covered with wood shingles, and a small, square opening (probably unglazed) was set high in the gable end wall.

Like the corn crib, the chicken house (structure 10) was structurally sound but poorly maintained (RICOE acquisition file, Tract No. 725). The file photograph showed a rather large poultry shed with a gable roof and horizontal board siding (Appendix B, Figure 4d). Part of the roof was covered with wood shingles, the rest with composition shingles, suggesting an addition to the original chicken house. There

was a batten door at one end of the principal facade and 12 multi-pane windows arranged in one four-window grouping and eight pairs. The foundation was concrete. The most conspicuous architectural detail of this structure was its size, which the appraiser recorded as 12 ft x 44 ft.

An additional structure not evidenced archaeologically was a 12 ft x 30 ft hay shed. The appraiser's report (RICOE acquisition file, Tract No. 725) indicated that this structure was of pole barn type construction with a tin roof.

Structures 3 and 3a. The house was a one-story, five-room frame house constructed by Sam Nichols in 1940. It had an enclosed front porch/bedroom and a rear addition. The photograph (Appendix B, Figure 5a) showed a small Gabled Cottage, one story in height, with its facade oriented perpendicular to the axis of the gabled roof. Fenestration was symmetrical, with one-over-one combination windows. There was also a small, square window under the eaves of the front gable. The wall cladding was horizontal boards with corner boards. The partial-width front porch had been enclosed and was then in use as a bedroom. It had a hip roof stepped lower than the main roof of the house. The small, 8 ft by 16 ft rear addition (the kitchen) did not span the full width of the house, and its hip roof was also lower than the main roof.

In addition to the house structure was a garage designated as structure 3a in the phase II investigation (Rogers 1988:300). The garage was a simple, one-stall wood frame structure with a gable roof oriented perpendicular to the facade, clad in horizontal board siding with corner

boards and two-over-two windows. A simple shed-roofed privy devoid of architectural detail was also located on the property.

Structure 2. The house was a one-story, five-room frame building with a full basement, indoor plumbing, and an attached garage. The photograph (Appendix B, Figure 5b) showed a Gabled Cottage. The ground plan was linear, and the narrow facade was oriented perpendicular to the axis of the gabled roof. The walls and roof were clad in composition shingles. There was a partial front porch, enclosed, with a gable roof stepped lower than the main roof of the house. There was a small brick interior chimney. The house rests on a concrete block foundation a foot or so above grade.

Structure 1. This structure served as the Dunreath School and subsequently as the Church of Jesus Christ of Latter Day Saints. It was a 24 ft by 30 ft frame building with a 24 ft by 40 ft addition. The photograph (see Appendix L, Figure 10a in McNerney and Stanley 1988:578) showed a one story, T-shaped structure with its principal facade oriented perpendicular to the axis of the roof. The roof of the addition was stepped slightly below that of the original structure. The siding of both the original schoolhouse and the church addition was horizontal boards, and the roofing material was composition shingles. The structure appeared nearly devoid of architectural detail. A photograph of this structure while it was still a school is shown in Appendix B, Figure 1a.

Conclusions

The data recovery excavations on the slope area of the former town of Dunreath uncovered archaeological evidence of at least three habitation sites. These were situated in an area which is known through

oral historical data to have been uninhabited after the 1910s (Nichols 1987). Two keyhole cellars, two privies, two refuse pits, and one storage pit were investigated in four different quarter-blocks on the original town plat. This is assuming, of course, that the actual town layout followed to some extent the original plat and further that the present investigations' reconstruction of this plat at the site location was fairly accurate.

Correlation of the layout and patterning of features in relation to this plat was somewhat inconclusive. At the two locations where the scraped areas included alleys or streets, there were no features present in these platted roadways. Unfortunately, the archaeological evidence of actual house structure locations was not present, likely the result of surface deflation, slope erosion, and intensive cultivation. That habitation sites were situated in the proximity of some of these features can be stated with certainty because of the nature of the feature functions. Specifically, the privies would not have been located a great distance from their associated house structures, nor would the cellars.

The lot transfer histories of the specific feature locations were not helpful in the identification of specific occupation periods or the occupants themselves. All were situated on lots owned first by the Red Rock Coal and Mining Company and later by the LeGrand family, who are known to have resided elsewhere. Attempts were made to locate possible rental or lease agreements concerning these lots, but as yet these attempts have met with no success. One of the lots was, however, noted

in the tax records with a nonresident owner from the 1880s. It was likely a rental property during this period.

It can perhaps be speculated that from the nature of the history of this community, in that it was predominately a coal mining town in the late nineteenth and early twentieth centuries, that these lots were occupied by coal miners or other coal company employees. It is known that the more permanent residents of this community, who were actual lot owners, were situated at the higher elevations of the townsite area along with the majority of the town businesses; this makes it more likely that the large area of lots owned by a coal/land development company was occupied by persons related to that industry. Oral history does note that coal miners in the 1910s-1920s lived in areas at the higher elevations; however, at that time the area of the data recovery investigations was used primarily as a grazing commons. Therefore, this does not preclude this area from having been inhabited by coal miners prior to the present collective memory.

This field area was also directly north of the Success Mine, which was known to have been in operation from 1895-1899. It is also known that the Success Coal and Mining Company leased some property from the Red Rock Coal and Mining Company, who also owned the lots in the field area. This area would have been a logical place for the miners to live, especially considering that there was a road (McCrary Street) which extended south down the field area, across the creek, and up the hill in the vicinity of the mine. This road was later locally known as Tin Can Alley because of the town dump (including a quantity of tin cans) located along the roadside in the vicinity of feature 2 (Nichols 1988a,

1988b). Therefore, it is more than likely that some, if not all, of the habitation sites uncovered in the field area were once occupied by coal miners.

Unfortunately, the lack of the specific land transfer and rental histories of these locations makes examination of possible ethnicity impossible. These features can, however, be examined in terms of general socioeconomic variability on a broad comparative basis. This potential variability will be examined in Chapter IX of this report.

A total of 4,966 historic artifacts was recovered during the data recovery excavations. Of this, 76% was recovered from feature fill. Diagnostic items produced mean ceramic and glass dates in the 1890s and early 1900s, with many items dating from a late nineteenth century context. Of interest is the national and international origin of the ceramic and glass material, indicating participation in a far-reaching market network. This is more than likely reflective of the function of this town as a railroad station and shipping point throughout its lifespan. The stoneware assemblage included a mixture of what appeared to be locally made wares (including a large wheel-thrown, slip glazed jug) and nonlocal mold-made wares manufactured at potteries in Illinois and Minnesota. This assemblage will be discussed in more detail later in this report on an intra- and intersite comparative basis.

The data recovery investigation included not only archaeological but oral historical and archival research as well. While the archaeological excavations were limited to a specific portion of the entire townsite, the other studies dealt with the community as a whole. What these data revealed is a dynamic community which, for a period of

approximately 40 years, was largely dependent on the coal mining industry. This industry accounted for its growth in the 1880s and 1890s and its decline in the 1930s-1940s. The town also functioned as a rail station and shipping point; however, the variable which made it distinctive from other nearby and similar communities was its coal mining. When that mining stopped, it took with it the viability of the community.

The demographics of the town's late nineteenth century population indicated a largely transient population of coal miners, which included members of a variety of nationalities and ethnic groups. The coal mining operations in this area were dominated at various times by different coal companies, a pattern different from that experienced by other contemporaneous coal mining communities in the region which were often built and dominated by a single parent company (e.g., see Gradwohl and Osborn 1984 for an archaeological and historical examination of the coal mining community of Buxton). It would be expected that the community of Dunreath would exhibit less conformity and homogeneity in material culture and behavioral patterning than those communities governed by a single entity. Unfortunately, the archaeological evidence recovered at Dunreath can only be tentatively identified with coal miner occupations. Therefore, any socioeconomic or house site patterning conclusions can only be speculative.

CHAPTER VI. THE TOWNSITE OF PERCY (13MA347)

Data Recovery Results

Introduction

The townsite of Percy is located in the northwest portion of Lake Red Rock approximately 900 m northeast of the Des Moines River. The legal location is in Section 11, Township 77N, Range 21W (Figure 27). It is further situated on the intermediate terrace of the Des Moines River at an elevation of ca. 745 ft NGVD. The main portion of the site location has not been cultivated, with the major impact having been postoccupation bulldozing of some of the structural remains. The majority of the site, however, was in a good state of preservation. At the time of the present investigation, the site area was covered with dense weeds (Appendix A, Figures 5a and b).

The previous archaeological investigations of the site are summarized in Chapter I. For more specific details of these investigations, the reader is referred to Roper et al. (1986:109) and Rogers (1988:111-188).

Historical Background

Prior to the establishment of a town at the site location, the area had been part of several farmsteads (Figure 28). The habitation site of one of these farmsteads was later considered a part of the town of Percy

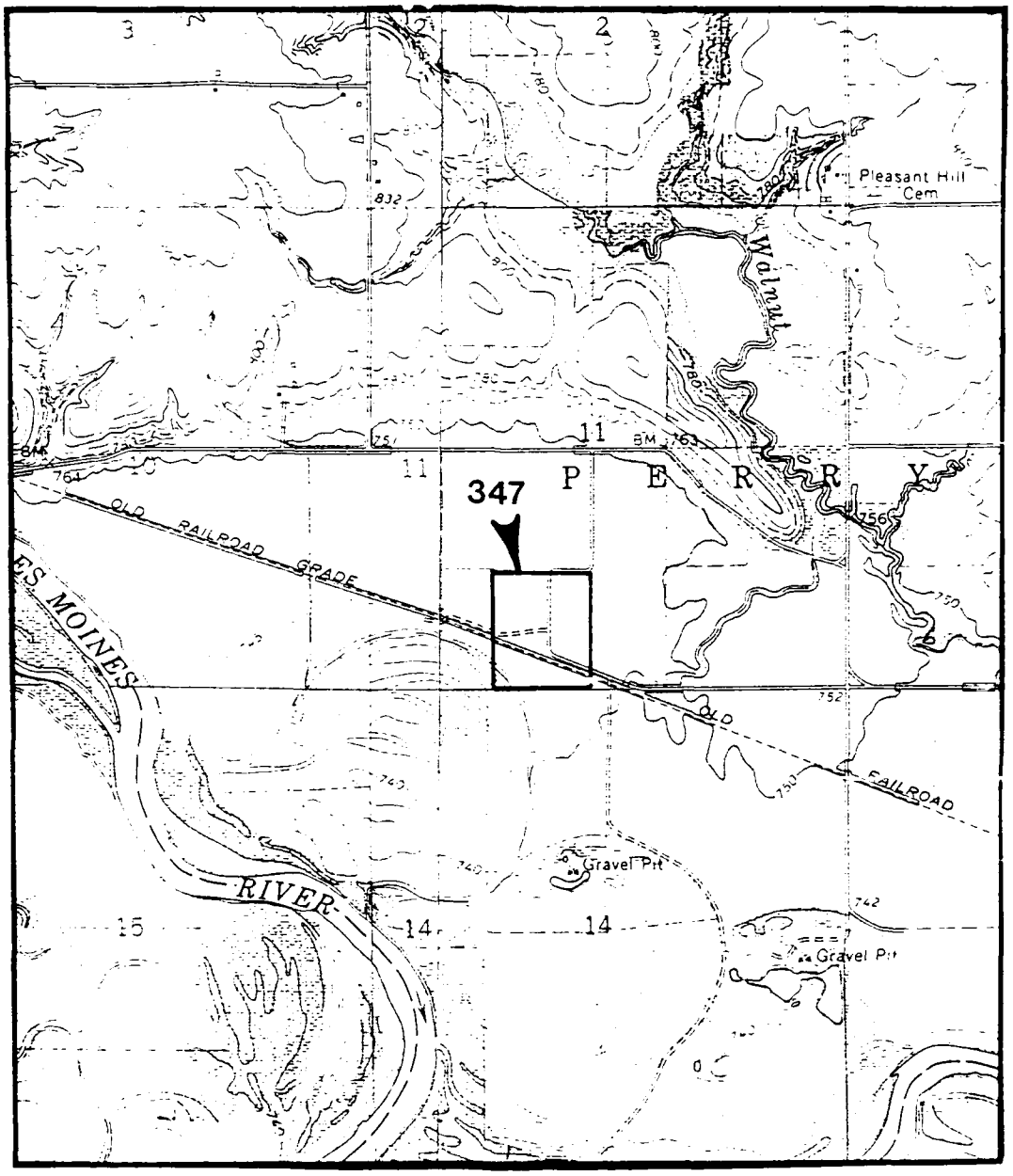


Figure 27. Topographic location of site 13MA347.

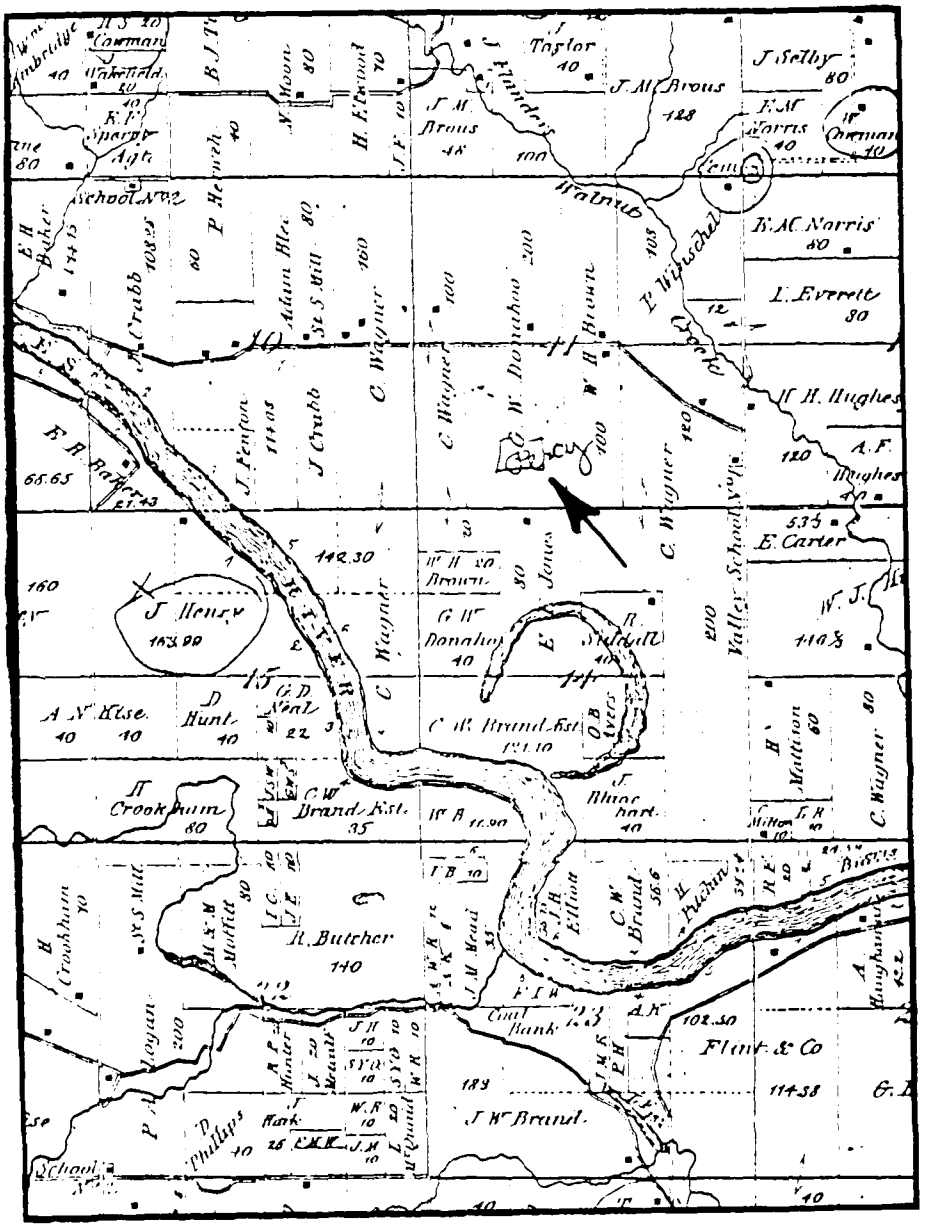


Figure 28. 1875 plat showing future location of Percy.

although situated outside of the actual town plat. The house structure from this farmstead (designated as structure P in the phase II investigation) was examined during the present investigation. During this period, no other houses were situated within the later town plat.

The only other early structure present on the 1875 plat (Figure 28) that later had an association with the town of Percy was Valley School No. 1, located over a half mile east of the town. This served as Percy's school until the rural schools were consolidated in the mid-twentieth century. Many of the teachers were residents of Percy. One of the teachers, J. L. Cochran, was the father of one of the oral history informants for this project. It was noted in Chapter V that Mr. Cochran had earlier taught at the Dunreath school. He later owned and operated a general store in Percy. This structure will be discussed in detail later in this chapter (Cochran 1989; Mikesell 1966:50-51).

In 1881, in anticipation of the construction of the Des Moines and St. Louis (Wabash) Railroad, the Union Land Company purchased the future townsite location. The town was platted in 1882 shortly after the tracks had been laid. It was allegedly named after the president of the Wabash railroad company (Fawcett 1958:1). Mikesell (1966:1) noted that the land company quickly realized that "the town would never reach the proportions they had hoped for." Within two years of its platting, the land company's holdings were purchased by Christopher Wagner, a long-time resident of the area. Wagner then had all but 41 of the original 92 town lots vacated (Rogers 1988:143).

The earliest lot purchases by potential residents were made in 1884. These were followed by a few more purchases and transfers in the

late 1880s and 1890s of either small lots or large block sections. These purchases were situated on either side of the north-south main street, which served as the main street throughout the town's life history. The "back" lots were not bought up until the late 1890s and the early 1900s. A flurry of lot transfers and purchases occurred between 1900 and 1920, when it is known that the town was at its peak (Town Lot Transfer Books, Recorder's Office, Marion County Courthouse, Knoxville, Iowa).

Population census data indicated that ca. 1885 there were three households in Percy (Iowa State Population Census). These included the families of Thomas R. Conley and Thomas O'Conner and a household comprised of two bachelors. Conley was a blacksmith from Ohio whose household included his wife and seven children. O'Conner was a railroad employee from Ireland whose household included his wife, three children, and three boarders. The boarders were all railroad employees ranging in age from 18 to 60. The eldest was from Ireland, while the other two hailed from Indiana. In 1885, the Conleys moved from Percy to Vandalia and later to Prairie City. Neither Conley nor O'Conner ever owned any town lots. The remaining residents of Percy were Israel Putnam, a 26-year-old tinner from Iowa, and Sandy K. Jones, a 30-year-old farmer from Kentucky. These two men comprised one household. In total then, the population of Percy in 1885 was 18, 10 of whom were children. This is in stark contrast to the 1885 population of 214 for Dunreath.

Throughout its history, Percy functioned solely as a community trading center and shipping point for livestock and grain. Therefore, its rise and decline was affected more by developments in agriculture and transportation than Dunreath, which was more dependent on the coal

mining industry. Known businesses in Percy in the 1880s included a general store, a tin shop, a blacksmith shop, a wagon shop, a boarding house, a restaurant, and a saloon. The latter was moved into Percy in 1882 for the refreshment and entertainment of the railroad gang laying the tracks (Fawcett 1958:10; Mikesell 1966:1-44).

According to newspaper items from 1886, the population of Percy had increased, and they indicate some enthusiasm for the future of Percy. In the May 12, 1886, edition of the Knoxville Journal the following was noted:

> Percy is prospering. J. C. Taylor is shipping piling to Des Moines. It is likely that the late strikes will hinder our shippers a few weeks. Mr. John P. Johnson is expecting to ship hogs from this place to Chicago in a few days.

Later that same month (May 19th, 1886), the following was noted:

> Joe Bivins is building a new house. Mrs. Sarah Brown has recently moved her dwelling house. Mrs. Holler, the landlady of the late Holler House of this place, seems very energetic. The future of her business is promising.

Several newspaper items made note of the activities of Israel Putnam. In May 1886, it was noted that he had taken over Jacob Sorter's place as wood workman at Percy, and in June of that year he was then "doing his best licks in the wagon shop" (June 2, 1886, Knoxville Journal). In the May 14, 1890, edition of the Knoxville Journal it was related that Putnam and George Leuty were erecting a windmill to work a sand or drive pump.

In the September 15, 1886, edition of the Knoxville Journal the following was related:

> Joseph Cowman's little child died last Thursday, September 9, from complications of Apthae [sic] and Jaundice. Since our last communication to the Journal, Percy has added to its numbers, which is doing a good business considering the times.

The one disturbance of the peace that month involved a drunk at the boarding house.

The 1895 state census indicated a population in Percy of approximately 17 grouped in five households (Iowa State Population Census). Professions listed included 3 merchants, 1 chemist (druggist), and 1 blacksmith. Five individuals were under 20 years of age, with 4 in their 20s, 2 in their 30s, 1 aged 44, 2 aged 50, and 1 aged 84. This population total is once again in contrast to that of Dunreath, which at that time had a population of 486. Available tax lists for Percy indicated that in 1889 there were five taxpaying resident town lot owners, while in 1899 the number had risen to only seven (Figure 15).

Additional businesses operating in the 1890s included a drugstore and post office in addition to a general store, restaurant, and blacksmith shop. A doctor also practiced in Percy for a time after 1889. Between 1890-1910, S. K. Jones was involved in the shipment of potatoes out of Percy (Fawcett 1958; Mikesell 1966).

The 1900 U. S. Population Census listed a population of 99 grouped in 17 households for Percy, thus indicating that the town was beginning to come into its own as a community. However, by 1910 the population had dropped to 41 grouped in 13 households. The 1925 Iowa State Census listed 32 individuals in 13 households. Unfortunately, the census data from 1915, while available, is listed on alphabetized index cards rather than by legal location, making a study of these data prohibitively time-

consuming and expensive. Figure 29 shows Percy in relation to the railroad track and the surrounding farmsteads in 1901.

The tax list data, on the other hand, suggest a rise between 1900 and 1910 rather than the decline indicated by census data (Figure 15) (see also Figure 4-1 in Stanley and Rogers 1988:5). The tax list data for the years between 1910 and 1920 indicate a sharp rise in resident town lot ownership, perhaps also suggesting a rise in population. Oral historical and archival data have indicated that the town's population peaked during this decade, with varying estimates between 100-400 (Rogers 1988:148). While the estimates over 100 are likely too high, it does appear that the town experienced a spurt of growth in the first two decades of the twentieth century. The tax list data suggest that between 1910 and 1930, there were several peak and decline periods in resident lot ownership (Figure 15).

Known businesses dating from the town's peak period included a grain elevator, a warehouse, a boarding house, several general stores, a post office (discontinued in 1954), a bank, a skating rink, an IOOF Lodge, several restaurants, a restaurant/pool hall, a blacksmith shop, a butcher shop, and a barber shop (Mikesell 1966). Several of these businesses occupied the same building but at different points in time. A number of the houses and some of the business structures were moved in from elsewhere, and more than a few were destroyed by fire. Fawcett (1958:12) stated that Percy's business reached its peak in 1918. When she moved to Percy in 1927, there were 10 businesses; by the 1950s, she reported that the number had dwindled to 2.

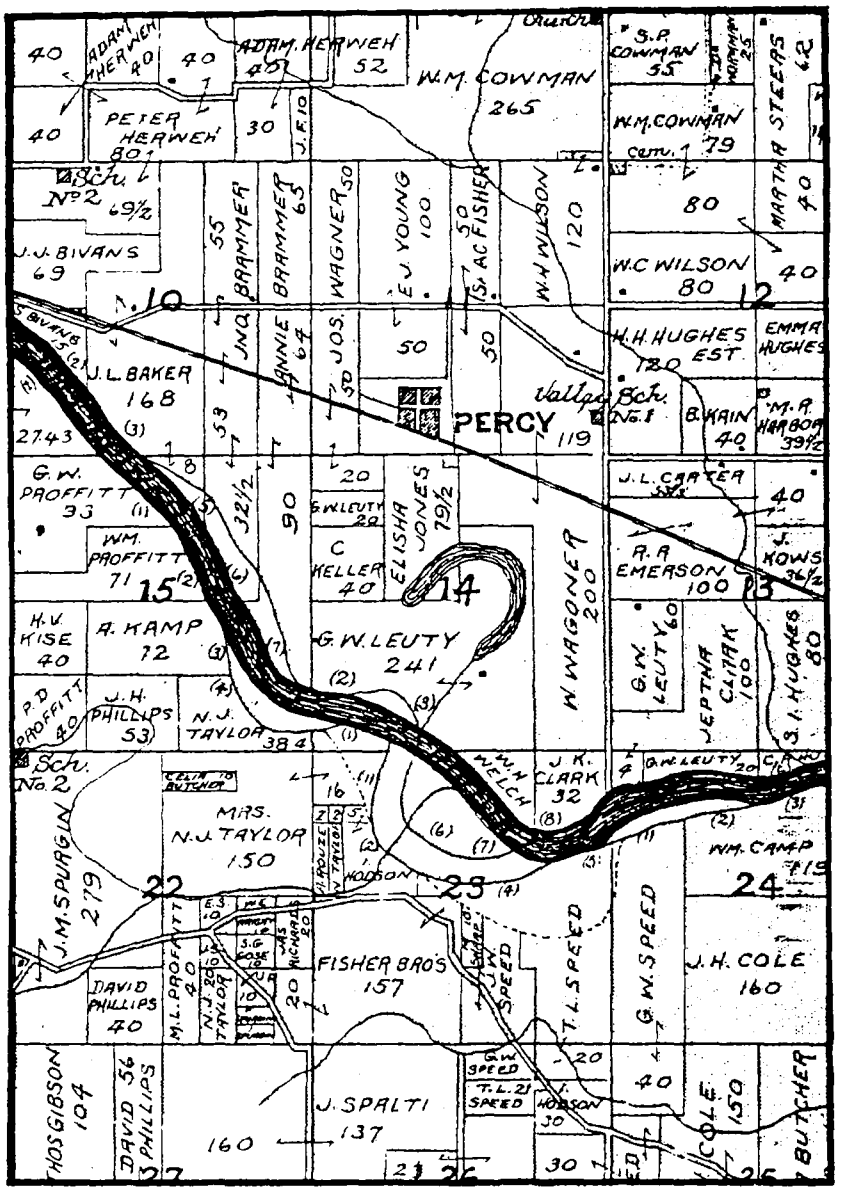


Figure 29. 1901 plat of Percy (from Hovey 1901).

The 1931 fire insurance map of Percy showed 33 structures, including a general store, a store/restaurant, two commercial garages, a bank, a barber shop, and the IOOF Lodge (see Figure 2-25 in Rogers 1988:150). The 1938 aerial photograph of Percy (BKH-1-56) showed the same structures as that on the 1931 map but showed additional structures in areas not represented on that map. These included two habitation sites in the northeast corner of the town plat (structures A and D, according to the phase II investigation), two habitation sites in the southeast corner (structures M and N), and two habitation sites (structures P and R) south of the railroad (see Figures 2-12 and 2-25 in Rogers 1988:113, 150).

It is known from archival and oral historical data that the town experienced a general decline after the 1930s. While much of this is attributable to the national economic decline of the Great Depression, the post-1940s decline was also the result of the proposed construction of Lake Red Rock when it became known that the town would likely be taken by the government.

At its height, the railroad station at Percy served four passenger trains daily, two each way between St. Louis and Des Moines. There were "two local freights daily, one each way, one hog train east bound, plus one to three extras daily" (Mikesell 1966:9). The connection with St. Louis provided a national outlet for the livestock market.

> Farmers as far away as Prairie City and Otley took advantage of this direct service over the Wabash. On days when they were shipping hogs, there would be long lines of wagons extending from the stock yard to the northern edge of town. It took several wagons to make up a single deck stock car of hogs or cattle. The situation was the same with corn, small grain, and

potatoes. Most of the farmers in those days sold the grain directly from the field as it was harvested (Mikesell 1966:2).

A grain elevator operated in Percy until it burned down in 1929. It was owned by Taylor and Patten who, according to tax list data, also operated a grain dealing business in Dunreath ca. 1913. The Percy stockyards shipped a large quantity of hogs, cattle, and some sheep until the 1920s-1930s, when trucks began to supersede the railroad as the major mode of shipping. Percy merchants did become actively involved in the truck shipment of eggs, butter, and cream to Des Moines. In later years all the store supplies were brought in by truck.

The trains still went by on a daily basis during the final two decades of Percy's existence but no longer made scheduled stops. To the end, however, the mail was brought by train and thrown off at the depot. Outgoing mail was hung in a bag on a catcher. The only stops the train made was when packages were to be mailed; the postmaster then had to flag down the train (Rogers 1988:140-141).

During the present investigation, a number of former residents and neighbors of Percy were interviewed both on-site and at their homes. Informants included Roy Schrader (born near Percy in 1909), Ernest Cochran (born in Percy in 1912), W. J. (Ike) Findlow, Jr. (born in Percy in 1924), Kenneth Hughes (born in 1908, lived in Percy ca. 1919 and again in the 1950s), Clyde Kain (born near Percy in 1920), Pauline Herwehe (sister of Clyde Kain, born in 1930), Roland Herwehe (Pauline's husband, born near Percy in 1927), and Warren Cowman (born in 1916 in Des Moines and lived near Percy in the 1930s).

Others who visited the site on an informal basis and provided

remembrances included Floyd Cowman (cousin of Warren Cowman), Carl Mohler (informant for Dunreath), John Fales, Sam Kain, Ray Murphy (related to the Kain family), and Donna Willis (daughter of Kenneth Hughes). This is only to mention a few of the many visitors, all of whose names were not recorded. The excavations attracted a great deal of interest and enthusiasm as well as some unwanted vandalism. However, the latter was relatively minor considering the remoteness of the site location and the lack of security.

The oral history interviews provided a wealth of information concerning the history of Percy, including specifics on house configurations and construction, the people who occupied the houses, types and placements of outbuildings, and general historical information on life in Percy. The informants were especially helpful in feature identification, use periods, and remodeling episodes. Most of the informants remembered a Percy at its peak and then in its decline. Others had second-hand stories concerning the earlier years of Percy. All of the informants expressed great fondness for the town and still mourn its passing. Clyde Kain (1988) summed it well when he said that Percy was a nice place to live--everyone knew everyone else. "If you needed help, they would help you" (Kain 1988)--a true community. This is not to say problems did not exist. There were some neighbor frictions, including one resulting in a lawsuit over a privy. A Mrs. Roush also seemed to have problems getting along at times. She had a kind of running feud with her neighbor, Bill Findlow, over his chickens trespassing on her property, to which she responded by wringing the offending bird's neck and flinging it back in his yard! She also got

cross with the children of the neighborhood who liked to steal apples from her orchard.

In general, however, the problems were small and the fellowship great. Saturday nights were the big social time in Percy. Everyone would come down to meet the train at 9:00 and spend time socializing and trading at the stores. Saturday nights were movie nights, too. The first movies were shown in the upper floor of the Oddfellows Hall and the later ones shown outdoors between Bill Findlow's restaurant and the Percy Bank. Chautauquas were also well attended, as were medicine shows and dances. By the 1940s, the Percy ball team was attracting quite a following and played teams from Des Moines, Newton, and Bussey, to mention a few.

The informants had some interesting comments concerning the overall economic levels in Percy. Most of the people in town were viewed at the same level, but there were some exceptions. These will be examined in greater detail in Chapter IX of this report. Other specific recollections and observations by the informants will be noted in the text where they apply.

In summary, the history of the town of Percy spanned from 1882 to 1969, when the final residents moved out before the flood gates of the Lake Red Rock dam were closed. Data indicates that growth was slow during the 1880s and 1890s, with the town having a spurt in growth and a population peak in the first two decades of the twentieth century. The peak population appears to have been ca. 100, although two accounts written by former town residents indicated a population peak at either 200 or 400 during this time (Fawcett 1958; Mikesell 1966).

In comparison to the growth of Dunreath, Percy never achieved the same population levels as Dunreath in the 1880s and 1890s. However, despite its lower population size, Percy managed to thrive and was able to survive, while Dunreath did not. Dunreath's economy appeared to have been so tied to the coal mining industry that it could not easily fall back on its former auxiliary role as a community trading and shipping point and still maintain its size. Many of the coal miners likely moved on to areas where coal mines were still in production when the Dunreath mines shut down. That Dunreath's final decline happened in the 1930s likely sealed its fate because of the poor state of the local and national economy during this period.

Percy, on the other hand, had always been dependent solely on its role as a community trading and shipping center. It appears that it never grew beyond the limits of its primary functions but did suffer a population loss when those functions were reduced by the decline of rail transport. Road improvements also made larger communities and cities more accessible, encouraging people to take advantage of the larger selections, variety of services, and jobs available in larger communities and cities.

While perhaps not unique, the outpouring of love and pride for this community by former residents during the data recovery investigation indicated the strength of this community even 20 years after its death. That the former residents, town neighbors, and their descendants still gather every summer to have a fair whose theme each year recalls Percy speaks volumes about the vitality of this small community. The theme of the 1988 fair (the 58th annual) was "Percy Goes Hawaiian!"

Excavation Methods

Prior to excavation, specific town lots were chosen for data recovery based on the results of the phase II investigation and the objectives of the data recovery research design. The selected lots included 6 house sites and 10 businesses. The house structures represented included 2 large (structures I and P), 2 medium (structures d and F), and 2 small-sized structures (G and E). The known occupations represented by these structures included 2 merchants (structures I and E), 1 blacksmith (structure G), 1 grain dealer (structure F), 1 laborer (structure E), 1 telegraph operator (structure d), and 1 farmer (structure P). The businesses included 2 stores, 2 blacksmith shops, 3 restaurants, 1 butcher shop, 1 barber shop, and 1 post office. The foundation of one of the stores had already been located during the phase II investigation. This was found to be the remains of the first general store in Percy dating from the early 1880s (Rogers 1988:166).

It was decided to remove the topsoil layer from each selected lot according to the original town plat (Appendix A, Figure 6a). A belly-loading scraper was utilized for the majority of the topsoil removal, with a backhoe utilized in tight areas around intact foundations and to excavate deep features and test trenches. It was found that for the most part, the town plat was strictly adhered to, thus facilitating the examination of discrete, individual habitation sites.

One datum was established as the 0,0 baseline for the entire site. This was located at the northeast corner of the concrete foundation of structure H. All subsequent grid measurements were then taken off that baseline point. The exception was the excavation grid for structure P.

Because this structure was not situated within the town plat, it had its own site datum.

The only problem encountered with the town plat was in the surveying of one lot--that encompassing structure d. It was found that surveying the lot boundaries utilizing the measurements from the town plat placed the boundaries approximately 5 m too far east. The excavation of this lot was then adjusted once the house foundation was uncovered and measurements could be taken from the 1931 fire insurance map which showed the position of this foundation in relation to the town plat.

Once the topsoil was removed and features defined, each feature was excavated. Some large and/or deep features were only sampled, but the majority of the features were fully excavated. Certain deep features were excavated by backhoe, but the remainder were hand excavated.

Excavation Results

Approximately 9,403 m^2 was machine scraped from six general areas (Figure 30). This area comprised 6% of the total townsite area that measured approximately 156,000 m^2 (including the entire town plat and those areas related to the town but outside the plat), or 15% of the entire area that was known to have been inhabited in Percy (i.e., 64,375 m^2). Artifact summaries from the excavations at Percy are presented in Appendix D, Tables 5 and 6.

Feature Excavation. A total of 113 previously unknown features was uncovered in the six data recovery areas (Table 21). Three additional features were excavated that had been originally uncovered and partially excavated in the phase II investigation, specifically features 5, 6, and

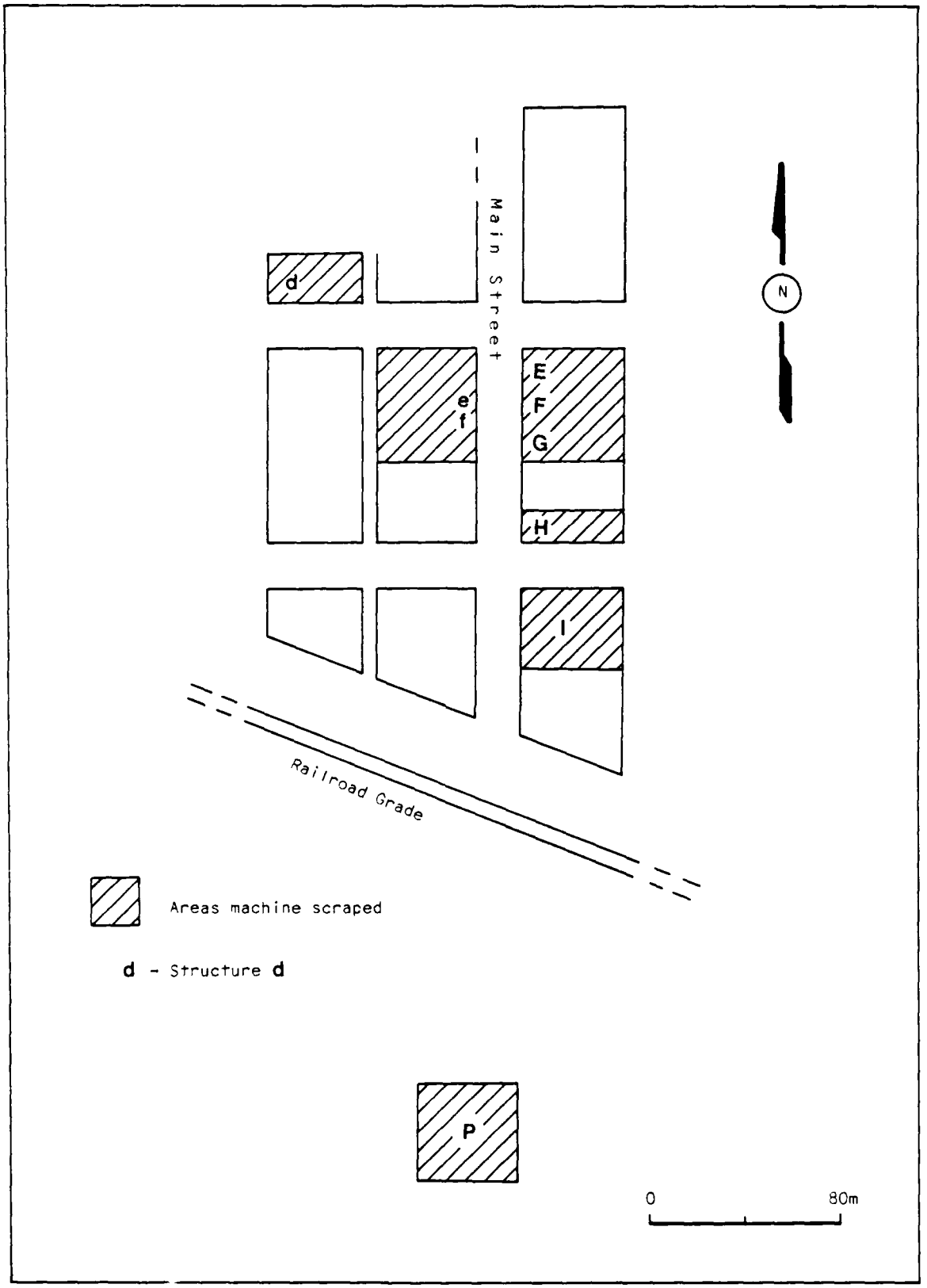


Figure 30. Areas investigated by the data recovery at Percy townsite (13MA347).

Table 21. Feature Morphology, Townsite of Percy (13MA347).

Feature Number	Function	Length	Width	Maximum Depth*
5	ditch drain	10.00 m+	0.61 m	0.26 m
6	store cellar	10.00 m	6.00 m	1.40 m
9	refuse pit	2.25 m	2.00 m	0.43 m**
10	post hole	0.37 m	0.26 m	0.84 m
11	cinder sidewalk	15.00 m+	1.55 m	0.30 m**
12	wall trench	6.50 m	3.50 m	0.50 m
13	pit	0.94 m	0.52 m	0.36 m
14	concrete/tile post	0.60 m	0.40 m	0.71 m
15	house foundation	10.40 m	6.70 m	0.10 m**
16	post hole	0.23 m	0.23 m	0.46 m
17	post hole	0.10 m	0.10 m	1.02 m
18	shale scatter	1.20 m	0.56 m	0.34 m
19	buried can	0.13 m	0.12 m	0.47 m
20	sandpoint well	1.36 m	0.50 m+	1.30 m+**
21	builder's trench	11.00 m	0.60 m	0.87 m
22	wall trench/dripline	1.00 m+	0.25 m	0.30 m
23	poss. post hole	0.26 m	0.24 m	0.59 m
24	post hole	0.23 m	0.20 m	0.68 m
25	post/post hole	0.20 m	0.17 m	0.80 m
26	post/post hole	0.20 m	0.19 m	0.64 m
27	post hole	0.17 m	0.15 m	0.65 m
28	pit/pier?	0.85 m	0.65 m	0.745 m
29	privy	1.12 m	0.70 m	0.71 m
30	telephone post hole	1.50 m	0.60 m	1.76 m+
31	privy	1.00 m	1.00 m	1.10 m
32	privy	1.11 m	0.46 m	0.97 m
33	metal post/post hole	0.35 m	0.20 m	1.30 m
34	post hole	0.20 m	0.20 m	0.72 m
35	privy	1.65 m	1.50 m	1.00 m
36	septic tank	3.00 m+	0.75 m+	1.70 m
37	buried barrels-drain?	0.88 m	0.86 m	2.25 m***
38	privy	1.06 m	0.96 m	0.99 m
39	post hole	0.16 m	0.15 m	0.39 m
40	privy	1.22 m	0.52 m	1.20 m
41	privy	1.23 m	0.80 m	0.77 m
42	privy	1.14 m	0.71 m	0.94 m
43	poss. post hole	0.55 m	0.45 m	0.68 m
44	post hole	0.35 m	0.35 m	1.63 m
45	privy	1.12 m	0.85 m	0.88 m
46	cellar	5.50 m	5.00 m	1.50 m***
47	concrete pier	0.42 m	0.36 m	0.24 m***
48	privy	1.02 m	0.98 m	0.71 m

* = maximum depth below datum
** = maximum depth below ground surface
*** = maximum depth below scraped surface

Table 21. (Cont'd).

Feature Number	Function	Length	Width	Maximum Depth*
49	privy	0.87 m	0.55 m	0.72 m
50	keyhole cellar	3.35 m	2.30 m	1.65 m
51	post hole	0.12 m	0.11 m	0.67 m
52	keyhole cellar	5.35 m	2.90 m	1.01 m
53	privy	1.07 m	0.50 m	0.75 m
54	metal post	0.04 m	0.04 m	0.30 m
55	mortar pit?	1.50 m	0.65 m	0.01 m***
56	post/post hole	0.16 m	0.06 m	0.52 m
57	sandpoint well	1.00 m	1.05 m	1.37 m+
58	septic tank	6.75 m	3.60 m	1.55 m
59	post hole	0.10 m	0.10 m	0.48 m
60	pipeline	11.30 m+	0.60 m	1.56 m
61	treefall pit	1.00 m	0.56 m	0.99 m
62	shallow pit	1.53 m	1.04 m	0.12 m****
63	concrete post	0.25 m	0.25 m	0.40 m
64	metal post	0.05 m	0.05 m	0.44 m+
65	shallow pit	0.73 m	0.43 m	0.72 m
66	buried refuse barrel	0.60 m	0.57 m	0.96 m
67	sandpoint well/drain?	0.60 m	0.60 m	2.55 m
68	privy/refuse pit	4.05 m	3.85 m	1.40 m
69	privy	1.05 m	1.00 m	0.985 m
70	post/post hole	0.36 m	0.35 m	0.77 m
71	post/post hole	0.60 m	0.23 m	1.21 m
72	post/post hole	0.29 m	0.10 m	0.785 m
73	keyhole cellar	5.70 m	2.00 m	1.74 m
74	post/post hole	0.14 m	0.05 m	0.98 m
75	metal post	0.04 m	0.04 m	unknown
76	post hole	0.22 m	0.21 m	0.70 m
77	post hole	0.28 m	0.24 m	1.26 m
78	privy	1.02 m	0.98 m	0.815 m
79	privy	1.05 m	0.52 m	1.245 m
80	keyhole cellar	4.05 m	2.30 m	1.33 m
81	pipeline or drain	0.38 m	0.38 m	0.89 m
82	post/post hole	0.45 m	0.17 m	0.525 m
83	post/post hole	0.24 m	0.24 m	unknown
84	post hole	0.26 m	0.26 m	unknown
85	post/post hole	0.20 m	0.20 m	0.74 m
86	post/post hole	0.12 m	0.12 m	0.85 m
87	privy	1.12 m	0.88 m	1.48 m
88	sandpoint well	1.15 m	1.00 m	1.455 m
89	privy	0.92 m	0.65 m	0.94 m
90	keyhole cellar	4.27 m	2.12 m	1.50 m**
91	privy	1.85 m	1.55 m	1.725 m
92	privy	1.33 m	0.58 m	0.695 m

**** = maximum depth above datum

Table 21. (Cont'd).

Feature Number	Function	Length	Width	Maximum Depth*
93	refuse barrel	0.90 m	0.60 m	0.25 m
94	post hole	0.25 m	0.20 m	0.485 m
95	post hole	0.18 m	0.18 m	0.64 m
96	post hole	0.16 m	0.16 m	0.495 m
97	post hole	0.18 m	0.18 m	0.705 m
98	metal post	0.08 m	0.08 m	0.205 m+
99	privy	1.28 m	0.44 m	0.455 m
100	cesspool	1.30 m	1.20 m	1.62 m
101	post hole	0.18 m	0.18 m	0.515 m
102	tile pipeline	12.00 m	0.24 m	0.30 m
103	cesspool	1.60 m	1.45 m	1.19 m
104	mortar stain	6.00 m+	0.30 m	0.15 m
105	pipeline	6.00 m+	0.03 m	0.15 m
106	post/post hole	0.12 m	0.12 m	0.56 m
107	sandpoint well	1.00 m	0.85 m	0.88 m
108	keyhole cellar	4.02 m	2.60 m	1.78 m
109	refuse pit	0.99 m	0.55 m	0.665 m
110	keyhole cellar	5.59 m	2.75 m	1.66 m
111	store foundation	9.90 m	6.10 m	0.27 m
	--later addition totaled	19.08 m	10.75 m	
112	shallow pit	0.66 m	0.60 m	0.40 m
113	post hole	0.23 m	0.15 m	0.49 m
114	concrete pier	0.57 m	0.50 m	0.46 m
115	post hole	0.45 m	0.39 m	0.52 m
116	post hole	0.35 m	0.17 m	0.42 m
117	concrete pier	0.32 m	0.22 m	0.43 m
118	rodent disturbance	1.47 m	1.26 m	0.50 m
119	post hole	0.40 m	0.40 m	0.59 m
120	sandpoint well	1.24 m	0.80 m	0.82 m
121	keyhole cellar	6.88 m	3.13 m	1.755 m
122	post/post hole	0.23 m	0.18 m	0.265 m

9. The most common feature types were post holes, privies, sandpoint wells, and keyhole cellars. The features will be discussed by associated structures within the six general areas (Table 22). They will further be discussed according to their position on the town plat starting in the

Table 22. Feature Associations by Structures, Percy Townsite (13MA347).

Structure Designation	Feature Number	Function	Temporal Range
d	10	post hole	post-1907
	11	shale sidewalk	post-1907
	12	unident. structure	post-1907
	13	pit	1950s-1960s
	14	post	post-1907
	15	house (d)	1907-1969
	16	post hole	post-1907
	17	post hole	post-1907
	18	shale scatter	post-1907
	19	buried can	post-1907
	20	well	post-1907
	30	post hole	post-1907
	31	privy	post-1930
	38	privy	post-1940s
	47	pier	1907-1960s
	50	cellar	1910s-1960s
	53	privy	post-1907
Findlows' house*	33	metal post	post-1909
	34	post hole	post-1909
	35	privy	1909-1950s?
	36	septic tank	1950-1960s
	46	cellar	1909-mid-1940s
	48	privy	1909-1950s?
	51	post hole	post-1909
Street South of d*	37	drain/refuse pit	? to 1960s
Feature 111*	5	drain	post mid-1920s
	108	cellar	ca. 1896-1900s
	111	store foundation	ca. 1900-1969
	114	pier	post-1930
	115	post hole	post-1930
	116	post hole	post-1930
	117	pier	post-1930
	119	post hole	post-1900
	120	well	1900-late 1910s

* = structure not given a letter designation in phase II investigation

Table 22. (Cont'd.)

Structure Designation	Feature Number	Function	Temporal Range
e/f	107	well	1911-1920s
	109	refuse pit	1910s-1940s
	110	cellar	1910s-1920s
	112	pit	unknown
	113	post hole	unknown
	122	post hole	unknown
P	52	cellar	1860s-1890s or early 1900
	54	metal post	20th century
	55	poss. mortar pit	unknown
	56	post/post hole	unknown
	57	well	? to 1960s
	58	septic tank	1950s-1960s
	59	post hole	unknown
	60	pipeline	1950s-1960s
	61	treefall	unknown
	62	shallow pit	unknown
	63	pier	unknown
	64	metal post	20th century
	69	privy	? to 1940s or 1950s
I	44	post hole	20th century
	65	bone pit	unknown
	66	refuse barrel	post-1940
	67	drain	? to mid-20th century
	68	privy/refuse pit	1903-ca. 1915
	70	post hole	post-1894
	71	post hole	post-1894
	74	post	post-1894
	75	metal post	20th century
	76	post hole	post-1894
	77	post hole	post-1894
	81	pipeline/drain	20th century
	90	cellar	ca. 1894-mid 20th c.
H	22	trench/dripline	post-1924
	23	post hole	post-1924
	24	post hole	unknown
	25	post/post hole	unknown
	26	post/post hole	unknown
	27	post hole	unknown
	32	privy	1929-1950s
	39	post hole	unknown
	40	privy	post-1940
	41	privy	post-1933
	43	post hole	unknown

Table 22. (Cont'd.)

Structure Designation	Feature Number	Function	Temporal Range
Feature 6*	6	store/house cellar	1882-1913
		interior fill	1913-1924
	9	refuse pit	1880s-1930s
	21	builder's trench	1882
	28	possible pier	1882-1913
	29	privy	1890s-1913
Feature 6 & Str. H	45	privy	post-1904
	49	privy	unknown
G	72	post hole	unknown
	73	cellar	ca. 1905-1940s or 1950s
F	80	cellar	ca. 1916-1940s or 1950s
	89	privy	late 1910s-1920s
	106	post hole	unknown
E	78	privy	1950s-1960s
	79	privy	1960s
	82	post hole	unknown
	83	post hole	unknown
	84	post hole	unknown
	85	post hole	unknown
	86	post hole	unknown
	87	privy	post-1890s
	88	sandpoint	post-1890s to mid-20th c.
	91	privy	post-1890s
	92	privy	post-1890s
	93	refuse barrel	1950s-1960s
	94	post hole	unknown
	95	post hole	unknown
	96	post hole	unknown
	97	post hole	unknown
	98	metal post	20th century
	99	privy	post-1890s
	100	cesspool	1950s-1960s
	101	post hole	unknown
	102	pipeline	unknown
	103	cesspool	1950s-1960s
	104	drain	unknown
	105	pipeline	20th century
	121	cellar	1910s or 1920s to 1960

northwest corner of the plat and going in a counter-clockwise manner (Figure 30).

Structure d. The lot encompassing this structure was located in the northwest portion of Percy (Figure 30). It measured approximately 20 m x 40 m; however, as noted above, adjustments had to be made after the initial scraping of the lot. The structure, designated "d" by the phase II investigation, was a house built in 1907 by Clarence Taylor, the telegraph operator and depot agent for the railroad. According to the 1910 U. S. Population Census, Taylor was 28 years old and had been born in Missouri. His household consisted only of his wife, Stella, who was 29 years old and a native Iowan. The 1925 Iowa State Census listed Taylor, his wife, and a daughter, Kathleen. The Taylors lived in the house until the late 1920s, when they moved to Missouri. Taylor rented the house first to the new depot agent, Charles Morgan, and then to Ernest Cochran and his family. In 1931, Taylor sold the property to Tom Fawcett, who traded houses with Nate Cowman in 1932 (Cochran 1989). Following the death of Cowman in 1957, Carl ("Tink") and Dee Owens purchased the house and lot (Mikesell 1966:28). Carl eventually worked for Maytag while living in Percy. The house was still occupied by Dee Owens in the 1960s.

The RICOL acquisition file (Tract No. 1357) described the house as a small, five-room house, "not modern," with softwood floors and plastered walls. The photograph of the house showed a one-story Hipped Cottage with a massed rectangle ground plan and a hipped roof (a rear view photograph is shown in Appendix B, Figure 5c; for the front view see Appendix L, Figure 5b in McNerney and Stanley 1988:573). The walls

were narrow-reveal horizontal boards (clapboards?), and the roof was covered with composition shingles. There was a wide band of trim below the eave overhang. The facade was dominated by an integral, full-width front porch about a foot or two above grade, with three round wooden columns with simple bases and capitals and a low balustrade on three sides. Fenestration was symmetrical throughout the house, with one-over-one doublehung windows. There was a single tall, slender interior brick chimney. The most conspicuous architectural detail was the three-sided gabled bay on the side of the house, where a pent roof enclosed the gable over the three one-over-one doublehung windows.

The RICOE acquisition file also noted that there was a grassed street and alley bounding the lot, with a concrete walk from the main street in Percy paralleling the south lot line of this property. Other structures on the lot included a combination garage/coal shed and outhouse. Water was supplied by a sandpoint well 25 ft in depth. The yard was described as "well maintained and the placement of the various trees presents a neat appearance" (RICOE file Tract No. 1357). A barbed wire fence demarcated the west property boundary line.

The garage was a gabled structure with board and batten siding. Wood shingles covered half of the roof, with the rest being metal. There were two large doors in the gable end. The rafter tails were exposed under the eaves (Appendix B, Figure 5d).

A total of 17 features was uncovered in the lot surrounding structure d (Table 22). Figure 31 shows the location of these features in relation to structure d, represented archaeologically by a concrete foundation designated as feature 15. Because of the lot adjustment

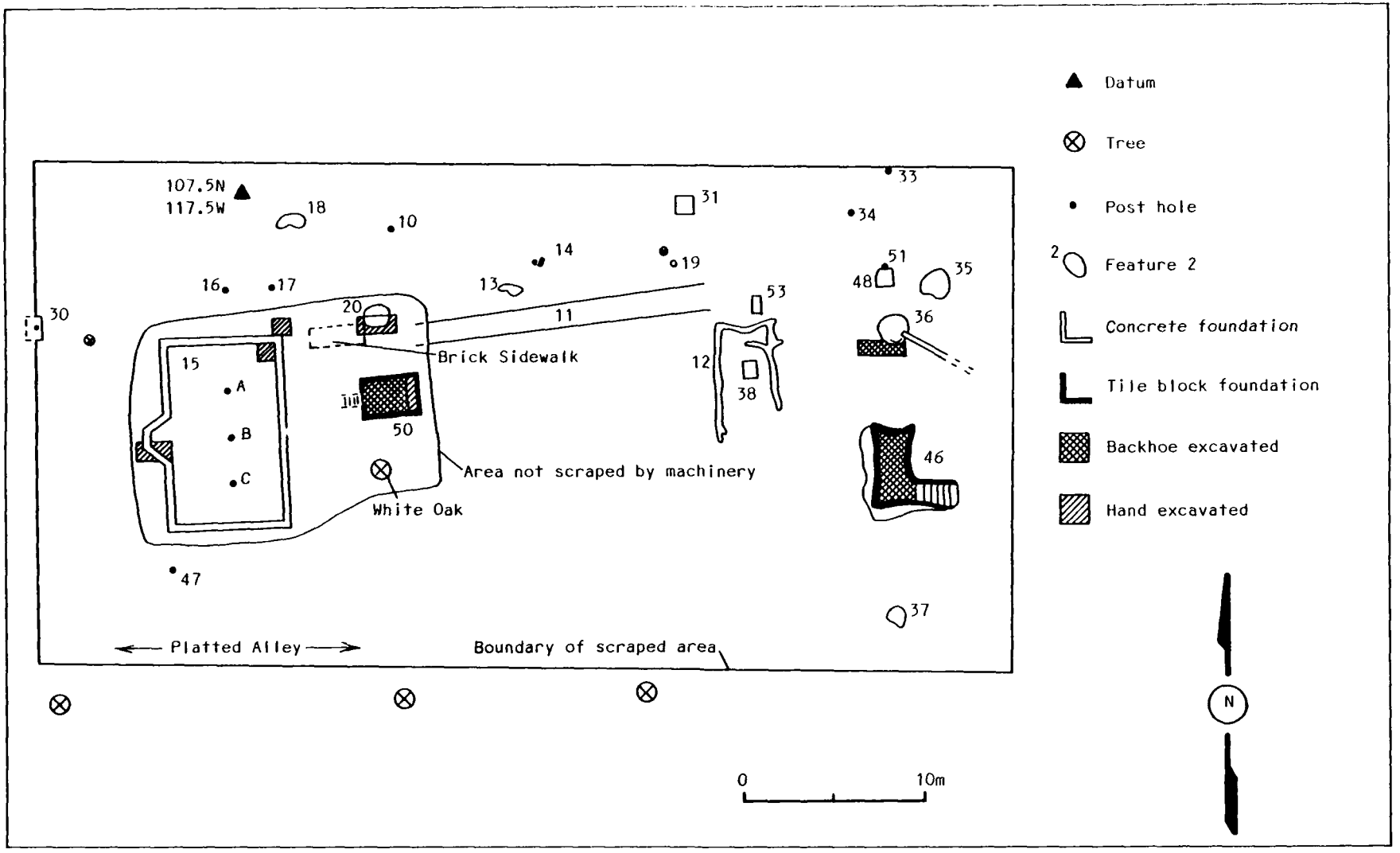


Figure 31. Site plan, structure d (feature 15), site 13MA347.

problems in surveying the data recovery boundaries, the easternmost 10 m of the excavated area was found to be actually part of the adjacent lot last owned and occupied by Ike Findlow. Therefore, features 33-37, 46, 48, and 51 are more properly associated with that house site and not that of structure d (Figure 31). These features included 2 privies, 3 post holes, 1 septic tank, 1 cellar, and 1 drain/refuse barrel buried in what was once the street.

The foundation of structure d (feature 15) measured 10.4 m by 6.7 m, with a three-sided bay window foundation on the west side. The interior of the foundation revealed three concrete posts designated as A-C on Figure 31. These likely represent the main floor joist supports. The foundation itself was constructed by the hand excavation of a 2 ft deep trench which was then filled with a crude mixture of lime, riverbed sand, and gravel. This had been mixed by hand and placed without reinforcing rod. The entire foundation, including the bay window, was poured as a single unit (Appendix A, Figure 6b). A concrete pier (feature 47) located off the southwest corner of the foundation (Figure 31) was likely one of the front porch supports.

The only major structural feature associated with the house foundation was a subterranean cellar (feature 50) located on the east side of the foundation (Figure 31) (see also Appendix A, Figure 7a). This cellar was constructed of ceramic tile blocks and appeared to have been supported by 3 ft long ceramic tile block units which had concrete poured over them and earth placed on top. The steps into the cellar were located on the west side facing the house structure.

The use of ceramic tile blocks in cellar and basement construction

peaked in popularity in the 1920s-1930s, when it was found that the blocks did not stand up well under long-term pressure and changes in moisture and temperature (Betteridge, personal communication 1988). This cellar had been filled in one episode with loose earthen fill, concrete and tile block rubble, and artifacts (from test unit 1). The latter included 1960s vintage glass jars still filled with canned tomatoes and likely indicate that the cellar was filled (bulldozed?), with some stored items left inside. Therefore, from available evidence it would appear that the cellar was constructed in the 1910s-1920s and was still in use in the 1960s. All of the oral history informants recalled this cellar in use.

Another possible structural feature was that designated as feature 12 (Figure 31). This was located east of structure d along the east boundary of the actual town lot. This feature consisted of what appeared to be a shallow wall trench, three sides of which were well defined but which showed some irregularities (Figure 31). This may be the remains of the combination garage/coal shed. The only problem with this conclusion is the presence of feature 38 (Figure 31) within the interior of feature 12. Feature 38 was a privy dating from the 1960s. It is possible that during this period, the garage was used as an enclosure for this privy rather than for its original purpose.

Feature 38 was a wood-lined privy with three major zones of fill (Figure 32). The bottommost zone (D) had a high organic content and represented actual use deposits, while the upper two zones (B and C) appeared to be capping layers to seal the privy. Prior to the deposition of the sealing layers, two ceramic tile blocks had been thrown down into

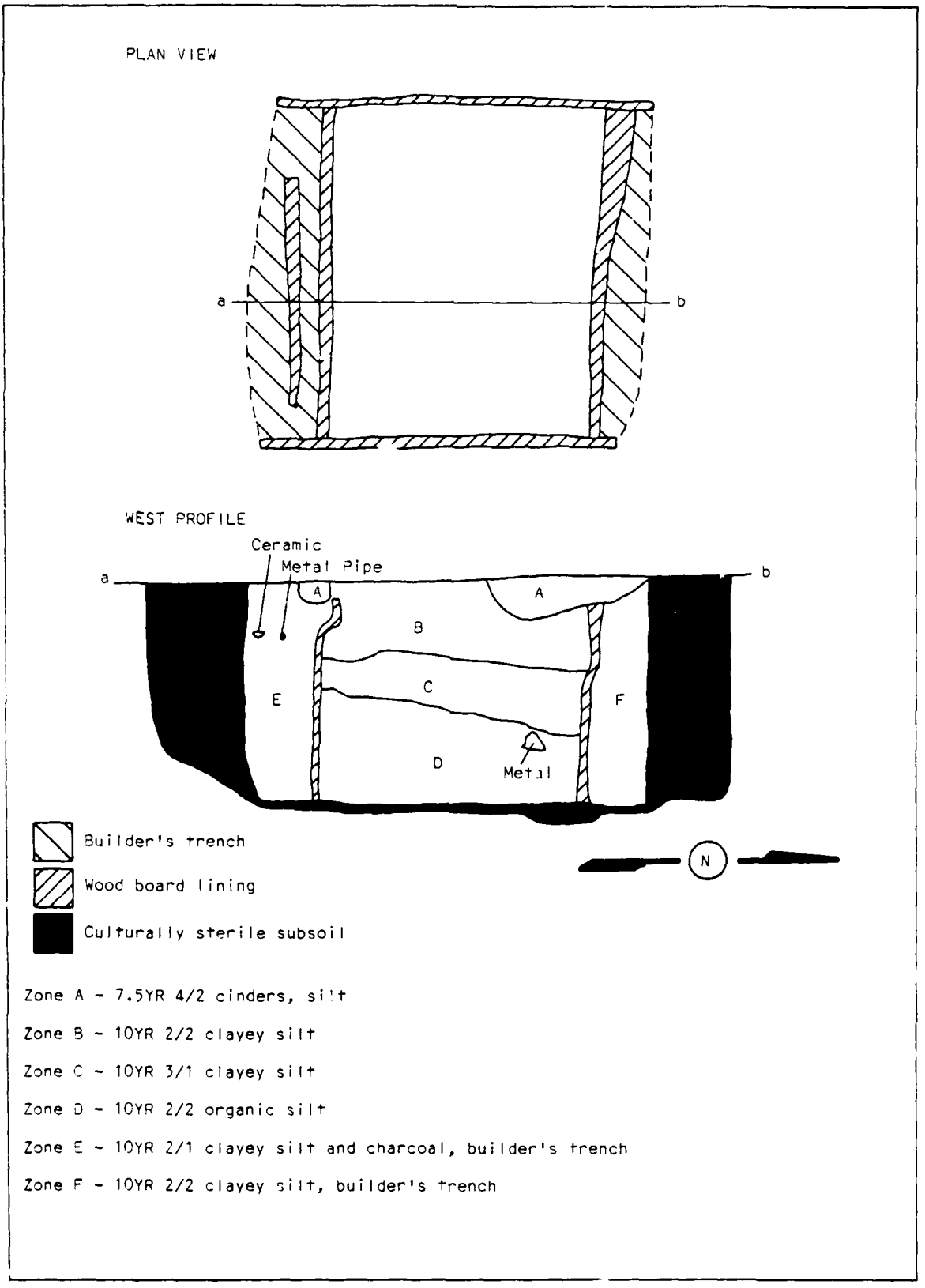


Figure 32. Plan view and profile of feature 38, site 13MA347.

zone D. The construction of this privy was somewhat distinctive from other privies uncovered at Percy in that the wood lining was set down into a larger hole with substantial builder's trenches left on two sides. The majority of the wood lined privies were constructed by placing the wood lining in a hole the same size as the lining. The ceramic assemblage from the entire feature had a mean date of 1931.2, with diagnostic glass in zone D having a post-1919 temporal range. A plastic disposable individual ice cream container in zone B suggests a post-1940s fill date.

Two other privies were situated within the lot boundaries associated with structure d. These were designated as features 31 and 53 (Figure 31). Both privies were wood lined, with the lining up against the sides of the excavated holes. Feature 31 had two zones of fill, the bottom layer being the highly organic use episode capped by an upper layer of fill dirt. Some pockets of lime were present in the top zone, further indicating an attempt to cap or seal the privy. The fill of the use episode contained paper catalog fragments, indicating the use of this material as toilet paper. Newspaper was another common item in the privy fills excavated at Percy. Both the diagnostic ceramic and glass material from feature 31 had a mean date of 1927, although there was definite post-1930s material in the fill, some of which was recovered from zone B, including a plastic tag, plastic cigar mouthpiece, and an applied color labeled machine pressed tumbler.

Feature 53 had three zones of fill, with the upper two zones consisting of a layer of lime and fill dirt to seal the use deposit. A

scarcity of diagnostic items precludes definition of a temporal range for this feature.

A sandpoint well was uncovered off the northeast corner of structure d and designated as feature 20 (Figure 31). The well was lined with unmortared ceramic tile blocks to a depth of 1.3 m below the original ground surface and contained extremely loose fill. The iron cylinder of the sandpoint was present at 1 m below the original ground surface. According to the RICOE acquisition file, this well was still open in the 1960s. Because of the use of ceramic tile block in its construction, it is likely that this well dates from the 1910s-1920s, although the tile block may simply represent a later relining of an earlier well.

The remaining features associated with structure d include a telephone or electric pole post hole located off the northwest corner of the house, three post holes on the north side of the house, a pit and concrete/tile post to the northeast, a shale concentration on the north side, a buried can by a tree in the northeast corner of the lot, and a shale sidewalk extending from the northeast corner of the house out to the area of the privies (Figure 31). The sidewalk was present just below the original ground surface and was extremely shallow. On the other side of the well the sidewalk consisted of bricks set into the sod (Figure 31).

The buried can (feature 19) by the small tree may represent someone's "treasure trove," although it contained no artifacts. It may have been emptied of its "treasure" prior to the present investigation. It appeared to serve no other logical purpose.

The post holes designated as features 16 and 17 may represent support holes for clothesline poles, one of which is visible off the northeast corner of the rear of the house in Appendix B, Figure 5c. However, the two post holes were not alike and reached varying depths. Specifically, feature 17 (Figure 33) consisted of a wooden post set into a hole originally excavated by a post hole digger and reached a depth of 70 cm below the scraped surface. Feature 16, on the other hand, was a circular flat-bottomed post hole reaching a depth of only 32 cm below the scraped surface.

The function of the post hole designated as feature 10 is unknown (Figure 31). The remaining post, feature 14, consisted of a pit into which gravel, a concrete chunk, and a ceramic tile block with adhering concrete had been set (Figure 31). Both the concrete chunk and tile block were wrapped with wire. It is conjectured that the concrete and tile block supported a post of unknown function.

Feature 13 (Figure 31) was a shallow pit filled with loose clay loam fill containing pockets of clay and a wooden board at the base. The artifacts included a plastic caramels bag indicating a 1950s-1960s date for the filling episode. The profile showed only one zone of fill and a regular basin-shaped outline. This indicates that the pit was not simply a filled-in natural depression but rather an excavated pit of unknown function.

Four large trees and stumps were also associated with structure d. One of these was a live White Oak located off the south side of the cellar (Figure 31). In addition was a row of three large tree stumps

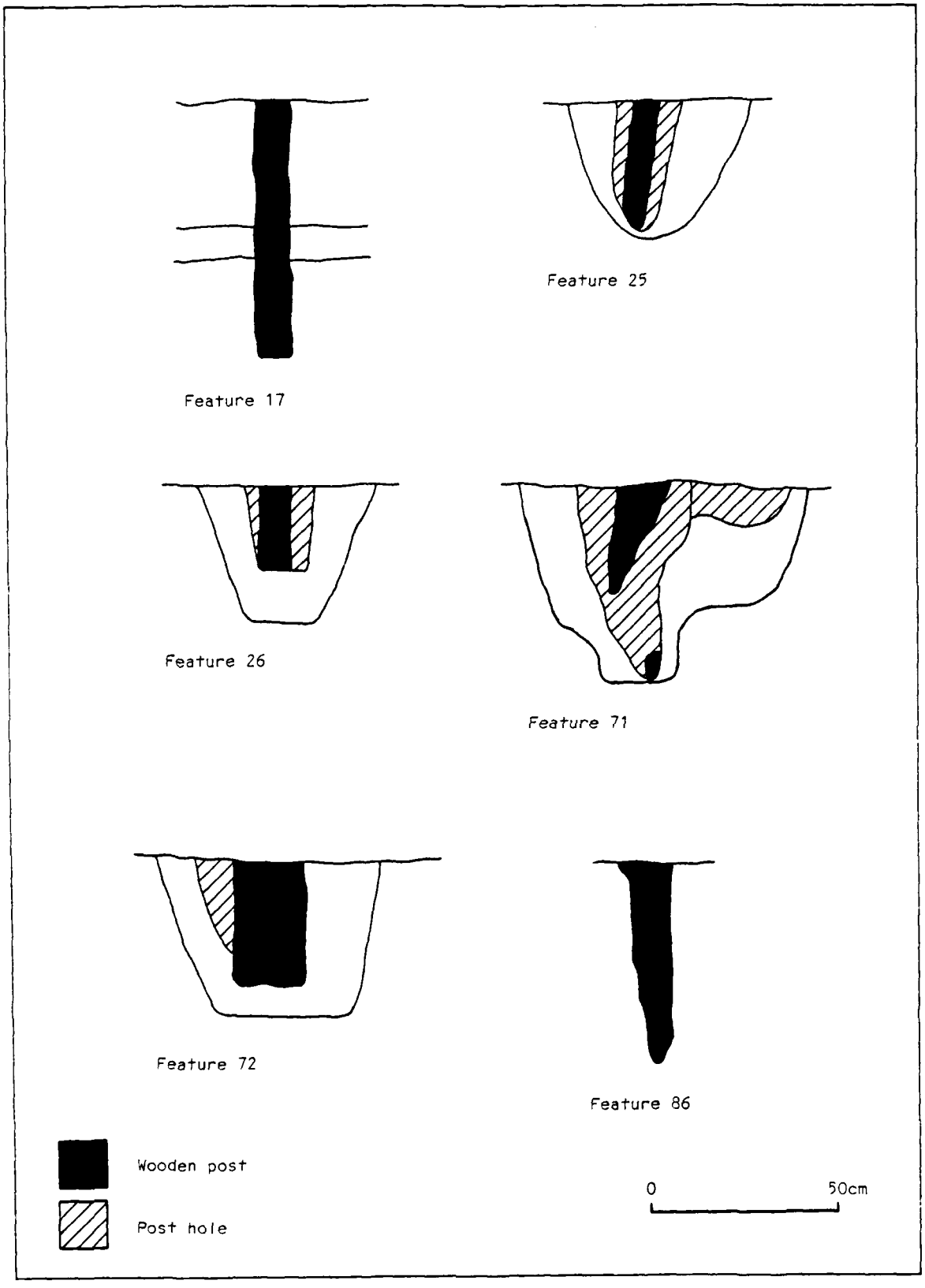


Figure 33. Profiles of posts and post holes, site 13MA347.

paralleling the southern lot boundary. These would have lined the south side of the former alley which ran west-east out to the main road.

The remaining features excavated in the vicinity of structure d were all situated along the east side of the scraped area. They were further situated 2.5 to 3 m east of the actual lot boundary of structure d (Figure 31). As noted above, these features are associated with the house structure last owned and occupied by Ike Findlow, who operated a general store in Percy until 1969. This house was built west of Percy in 1905 by the Baker brothers. It was moved to its Percy location in 1909 by R. R. Emerson. J. L. Cochran and his family lived in the house from the early 1920s into the mid-1940s. During that time, Cochran was operating the general store situated next to and south of this house. After J. L. Cochran died in 1942, his sons operated the store until 1945, when they rented the store and one of their houses (they owned two in town) to the Findlows (Cochran 1989; Mikesell 1966). Ike Findlow eventually bought the house north of the store.

The RICOE acquisition file (Tract No. 1355) described the Cochran/Findlow house as being a five-room dwelling with indoor plumbing but lacking central heating. The photograph (Appendix B, Figure 6a) showed a vernacular Gabled Ell, one and one-half stories in height, with an L-shaped floor plan, porches, and a rear addition. The wall cladding material was composition siding. The steeply pitched roof was covered with composition shingles, had boxed eaves, and was equipped with K-type gutters and lightning rods. There was a single interior brick chimney. The full-width front porch was on grade, with a dropped roof supported by four wooden columns. The partial-width rear porch was enclosed by a

shed roof and glazing. A one-story addition was inset in the "L" between the gable front core and the ell.

The file also noted the presence of a three-room storage shed, an outhouse which had not been used since the installation of the indoor plumbing, a well, a cistern, sidewalks, trees, shrubs, flowers, and a septic tank and cesspool. The latter was represented archaeologically by feature 36 (Figure 31). It consisted of a ceramic pipeline extending out from the Findlow house to a circular, ceramic tile-lined septic tank. This feature was one of three such sewage systems uncovered in the present investigation. The other two were brick lined and associated with structure E (Figure 30).

In addition to the septic tank were 2 privies (features 35 and 48), 3 post holes (features 33, 34, and 51), a cellar (feature 46), and a trash barrel/drain (feature 37). The latter was not specifically associated with either structure d or the Findlow house but rather was situated in the alleyway and may represent a street drain that was later sealed with refuse (Figure 31). The profile of feature 37 (Figure 34) showed two metal barrels set down into a hole to a depth of 2.25 m below the scraped surface. The majority of the feature fill consisted of silty clay loam, with the top 35 cm consisting of ash, cinders, artifacts, and burned bones. The artifacts included plastic wrappers, crown caps, beer cans, and nails, some dating from the 1950s-1960s. One of the glass bottles was a Clairol hair tint bottle dating from post-1959. The top refuse fill indicated that the final use of this feature was as a trash burning pit.

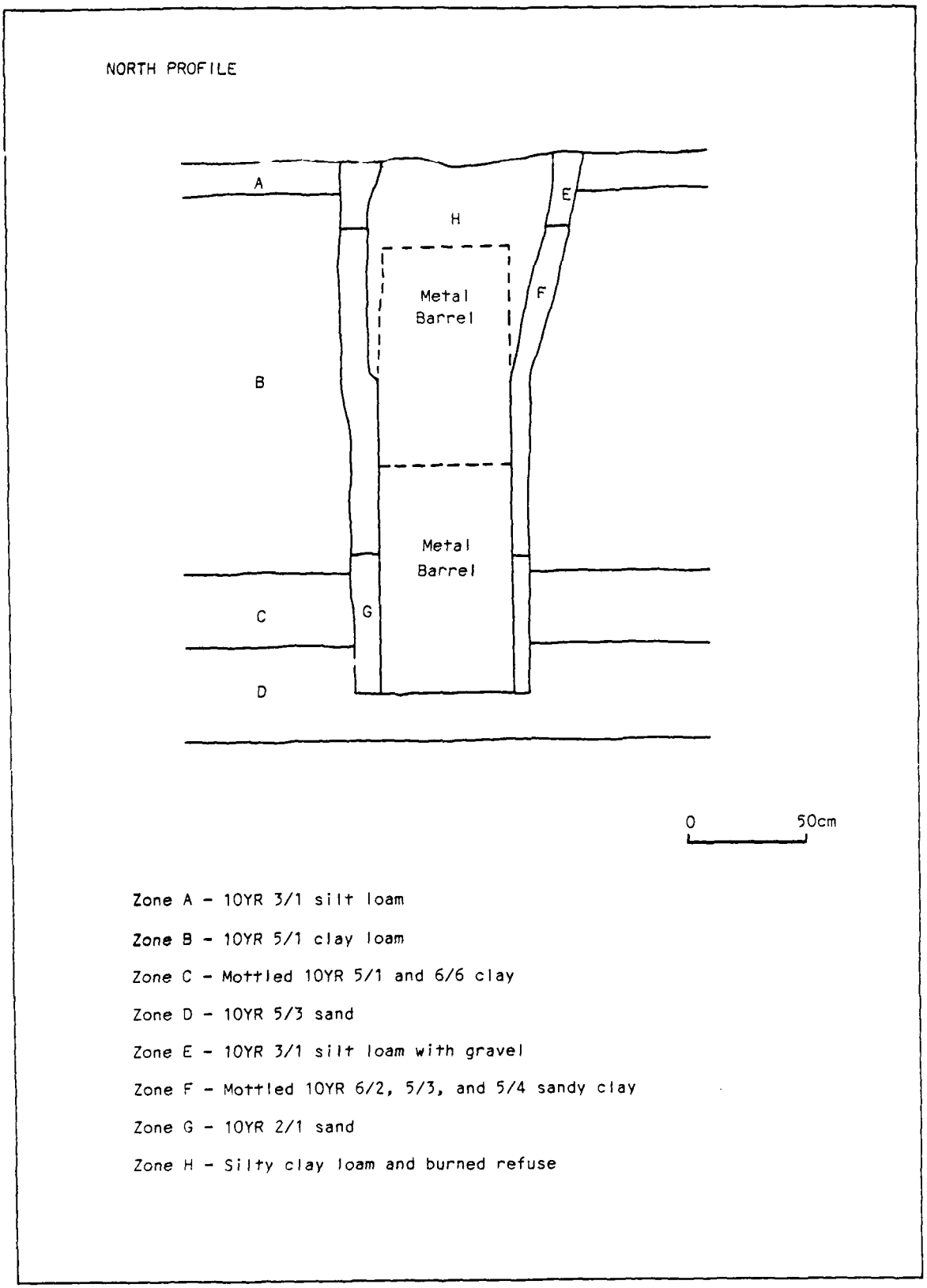


Figure 34. Profile of feature 37, site 13MA347.

The two privies were located on the north side of the septic tank (Figure 31). Feature 35 was an unlined privy with three zones of fill. The bottommost layer consisted of a highly organic privy use deposit, and the upper two layers represented fill layers to seal the privy. There were few diagnostic items in the privy use fill and a paucity of diagnostic items in the upper zones. The sparse ceramic assemblage had a mean date of 1933, while one machine made nonstandardized threaded jar lip had a temporal range of 1903-ca. 1920.

Feature 48 was wood lined and contained four zones of fill. The bottom two layers represented successive privy use deposits, while the upper two zones represented fill layers to seal the privy. A ceramic tile block had been thrown into the uppermost zone. A builder's trench was present on the south side, indicating that the wood cribbing was placed down into the excavated hole and up against the north side. The excess area on the south side was then filled with soil. As noted above, the majority of the privies excavated at Percy consisted of wood lining which conformed to the walls of the original excavated holes. A post hole (feature 51) on the north edge of this privy may have supported the superstructure of the privy (Figure 31). The builder's trench contained the only diagnostic material which consisted of 3 ceramic sherds with 1 undecorated whiteware, 1 ivory tinted decalcomania whiteware (mean date of 1934.5), and 1 gilded porcelain (mean date of 1924.5).

The post hole located on the north edge of the lot (feature 33) may have been part of a boundary fenceline, although associated post holes were not uncovered. The post hole represented by feature 34 (Figure 31) appeared to have been the hole for a metal fence post such as that used

for chicken wire. Once again, however, no associated post holes were uncovered in this lot.

The final feature in the eastern portion of the lot was an L-shaped cellar designated as feature 46 (Figure 31). This cellar was unusual because it was the only cellar of this configuration uncovered at Percy. It was constructed of cemented ceramic tile blocks with well-made concrete steps descending from the east. The fill of this feature consisted of one zone of very loose soil, rubble, and dense artifacts. The walls had begun collapsing inward.

This cellar was in use while the Cochran family occupied the house. Ernest Cochran (1989) recalled that his grandmother used to store milk and canned goods in the cellar. The cellar was still in use in the early 1940s; however, while his brother, Kenneth, was living in the house between 1941-1945, the structure over the cellar burned. He believed that the cellar might have been filled in at that time (Cochran 1989). Ike Findlow et al. (1988) did not remember this cellar at all, so it is likely that it was filled by the mid-1940s, when his family purchased the house. Cochran (1989) could not recall when the cellar was constructed. He believed that it had already been built by the time his family moved into the house in the early 1920s.

Interpretations. Structure d represented the remains of a five-room house successively occupied by several families. It was built in 1907 by Clarence Taylor and occupied by him and his family until the 1920s, a period of 15-17 years. The house, cellar, and sandpoint well were likely constructed during this period. The next occupants in the late 1920s to early 1930s were renters, including the Charles Morgan

family and the Ernest Cochran family. The next owner/occupant was the Nate Cowman family from 1932-1957. The final decade of occupation was by the Carl Owens family. Unfortunately, the privy features contained little definitive material from which to pinpoint specific occupation associations. Privies 31 and 38 did, however, conclusively postdate the Taylor occupation.

The front yard of the house was kept quite clean; the only feature located in this area was associated with the house structure (i.e., a porch support). An alleyway fronted the property, and it is known that a concrete sidewalk once paralleled this alley. Adding to the aesthetic value of the front yard area were large shade trees lining the alley and situated near the house. The west side yard also saw little activity, with the east yard serving as the primary activity area. The cellar and well were situated close to the house for easy access, while the privies were located 20-25 m northeast of the house--close enough for accessibility yet far enough to reduce unpleasant odors. A cinder sidewalk leading from the house out to the privy area was likely an asset during rainy periods.

The boundary between the two adjacent lots (that of structure d and the Findlows' property) appeared to be a real demarcation based on the town plat. It was interesting that many of the informants referred to specific property boundaries by the platted lots. Even in this small community, the boundary lines of the town plat had real meaning to the townspeople and appeared to be a reality in the ground as well.

Structures e and f. The lot encompassing both structures e and f (Figure 30) was found to contain the foundation remains of four

structures, including a general store (feature 111), a restaurant (structure e), a barber shop (a portion of structure e), and a restaurant/store (structure f). The surrounding lot contained 14 features including 2 keyhole cellars, post holes and concrete piers, 2 sandpoint wells, 1 refuse pit, 1 shallow pit, and a wooden water drain. Other features noted but not assigned feature numbers included a buried gasoline tank, the foundation of the scales, and a concrete sidewalk which ran the entire length of the lot and paralleled the main road located on the east side of the lot (Figure 35).

The structure represented by feature 111 (Figure 35) was a general store. The sandstone portion of the foundation supported the original store structure built ca. 1900, while the concrete foundation and piers supported later additions to that structure. The store was built by Walker Leuty and operated by him until ca. 1910, when it was purchased by J. L. Cochran. There is some discrepancy in the construction and sale dates of this store. Mikesell (1966:44) stated that it was built in 1900 and sold to Cochran in 1908, while Fawcett (1958:11) stated that it was built in 1910 and sold in 1913. The lot transfer data indicate that Leuty bought the property in 1902, while Cochran purchased it in 1910. Ernest Cochran, son of J. L., has in his possession his father's account book from the store for the year 1911. Therefore, from the above data it would appear that the store was built ca. 1900-1902 and purchased by Cochran ca. 1910-1911. The later dates reported by Fawcett (1958:11) are in error.

The Cochran family operated the store until 1945, when it was taken over by the Findlow family (Mikesell 1966:44). They leased the store

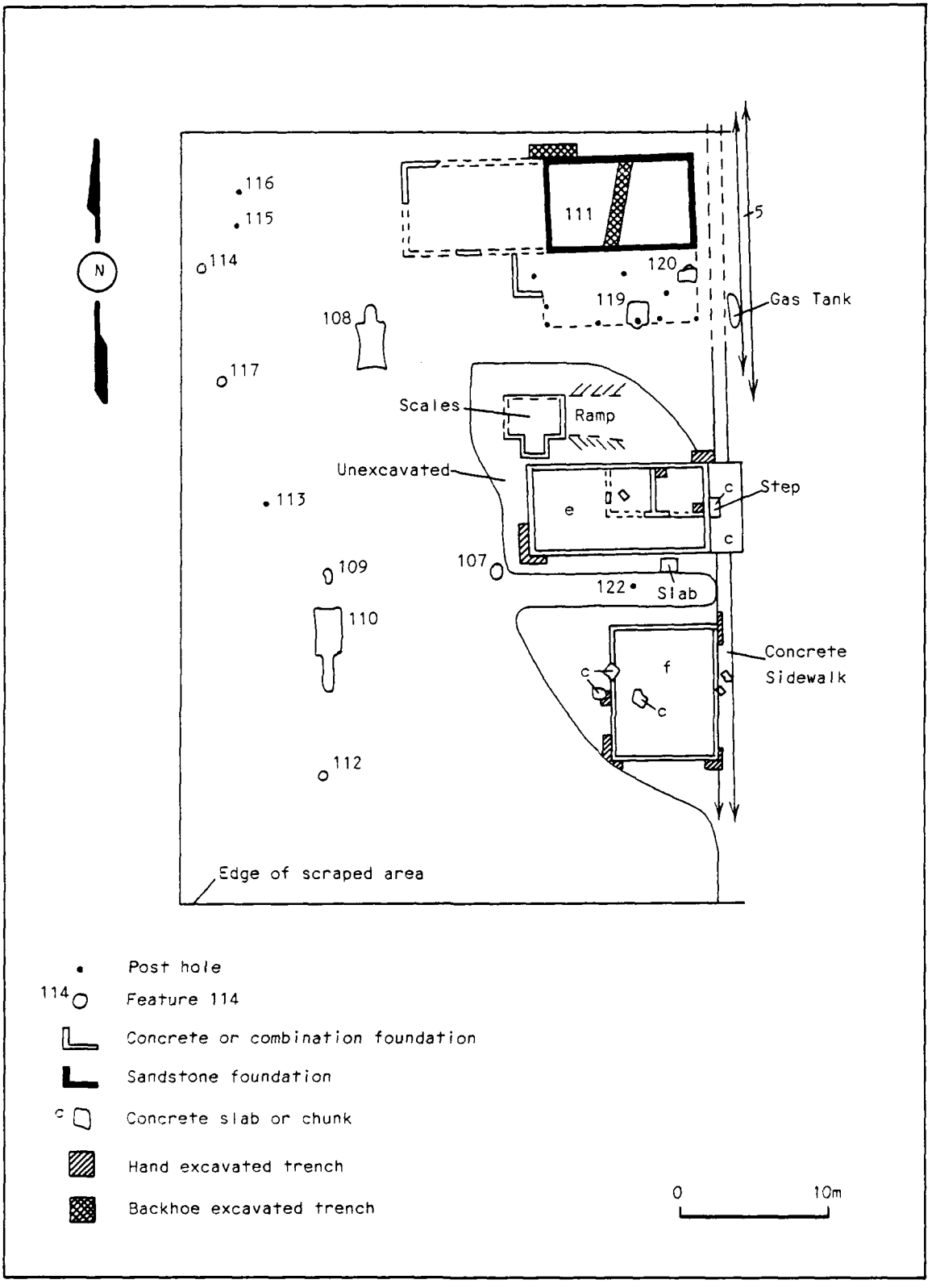


Figure 35. Site plan, structures e, f, and 111, site 13MA347.

from the Cochrans and operated it until 1969, when the completion of Lake Red Rock forced its closure. J. L. Cochran and Ike Findlow each served as the Percy postmaster while they operated the store. The post office closed in 1954 (Fawcett 1958:12).

Figure 36 is a memory drawing of the store as it looked ca. 1908. By that time a rear addition had been constructed. The store was fronted by a board sidewalk, had an outside entrance to the upper story, and had a well on the south side. This well was represented archaeologically by feature 120 (Figure 35). It was actually situated a little further east than indicated by the drawing. The worth of these memory drawings by Ray Mikesell (1966) cannot be understated. They were an integral part of the excavation strategy and aided in the interpretation of features and potential impacts. The excavation results attest to the overall accuracy of these drawings.

Ernest Cochran (1989), who was born in Percy in 1912, noted that the south addition had already been made to the store by his first memory. The original south addition, however, was only one story. At that time the entrance to the upper story was moved to the west side extending over the roof of the west addition. When the Cochrans added a second story to the south addition, the upper entrance on the south side was reopened and entry was gained from the interior. The south and west additions served as a warehouse, coal shed, and were later used for egg grading. In the later years, the Findlows employed four or five women to wash, grade, and carton eggs for shipment by truck to Des Moines (Findlow et al. 1988:286).

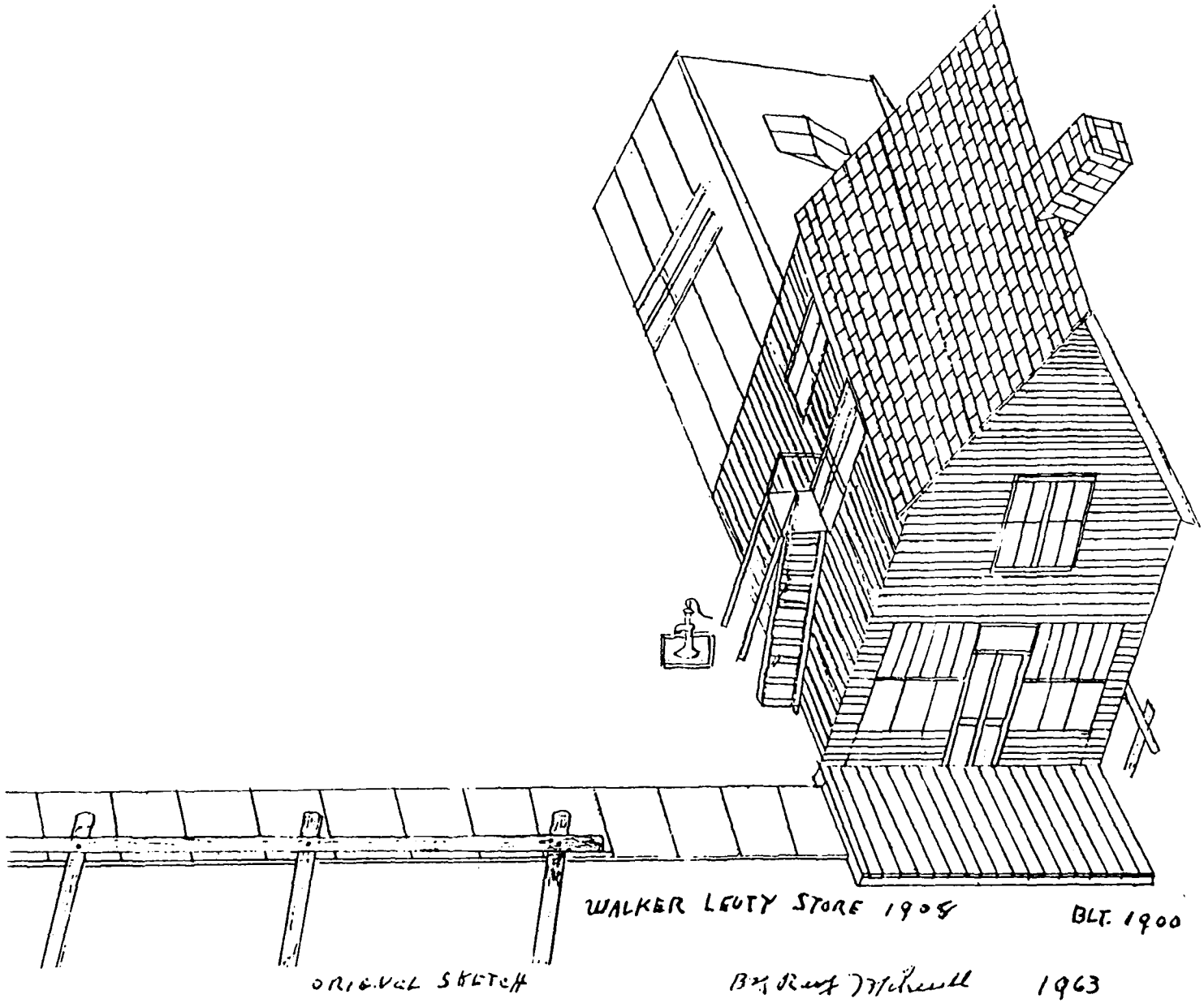


Figure 36. Memory drawing of Leuty store (feature 111), Percy.

The store always had a line of merchandise and services for nearly every conceivable need. According to J. L. Cochran's 1911 account book, the store carried staples such as flour and sugar, spices, canned vegetables, some fresh fruit (including oranges, apples, and lemons), syrup, honey, butter, eggs, bread, crackers, coffee, tea, potatoes, onions, oysters, candy, coconut, nuts, extracts, and tapioca, to mention but a few. The only types of meats sold were preserved meats such as bacon. In addition to the foodstuffs, the store handled patent medicines including Swamp Root, soap, all types of clothing, work and dress shoes, shoe laces, cloth (including "India Linen," percale, ticking, muslin, cotton batts, and calico), blankets, sewing and knitting supplies, hair nets, buttons, pins, combs, matches, clothespins, wash boards and boilers, envelopes, bluing, lye, canning supplies, utensils, ceramic dishes, crocks, churns, pots and pans, brooms, postcards, tobacco, cigars, lamps and chimneys, batteries, school books, pencils, wire screen, hinges, rope and twine, fishing gear, tools, machine oil, harness hardware, wagon parts (and even whole wagons, one of which sold for $77.50), stovepipes, sandpoints, tarpaper, Plaster of Paris, oil cloth, barrels, buckets, whetstones, shades, shelf paper, mouse traps, flypaper (or "tanglefoot"), ammunition, and guns.

Examples of the prices included a 49 lb. sack of flour for $1.35, brooms for 35 cents, shirts for 50 cents, and shoes for $2.75. Familiar brand names included Post Toasties cereal, Bonami cleanser, Naptha soap, and Palm Olive soap. In 1911, people paid their accounts in several different ways or combinations of ways. Most settled the majority of their charges with cash supplemented by selling butter, eggs, and lard

to the store. Others supplemented cash payments with labor donated to the store's operation. In 1911, the store shipped $3,967.99 worth of butter and eggs. Good, sweet butter was sold right at the store. Ernest Cochran (1989) noted that everyone knew who always had the best butter, and they would line up with their bowls when that person came to trade. The bad butter was shipped to Des Moines, where cream was added and the butter rechurned. This was known as "renovated butter," a commodity that was avoided if anything better was available.

Dishes were sold in sets and as individual pieces depending on the customer's needs. The 1911 account book had several notations for individual pieces such as plate, pitcher, and cup and saucer. Cochran (1989) noted that the dishes were shipped direct from Germany and later from Japan.

Cochran (1989) also recalled that the store later sold cultivators (assembled at the store or in the field), toys, and dynamite in addition to the above inventory. There was not much that they did not sell, and they could always order what they did not normally carry in stock. Informants recalled that anytime you needed anything, the Cochrans would open up the store (Schrader 1988). They also had the first telephone, located in their house, which people could use to call the doctor anytime day or night. It was noted that "J. L. never growled" when people got him out of bed to use the phone (Kain 1988).

In the 1930s, when farmers were scrambling to make ends meet, people began trading corn on their grocery bills. The Percy elevator had burned down by the early 1930s, and it was at this time that J. L. Cochran built several cribs and began buying corn. He hired a sheller

and shipped the kernels. Jack Leuty also had a large crib by the depot. All the cribs were quickly filled to capacity, with Leuty's holding 7,000 bushels. Many a farmer was helped by their willingness to gamble on the corn market (Cochran 1989; Mikesell 1966:2).

After the Findlows took over at the close of World War II, hardware was much in demand. Bill Findlow noted that this was followed by "the television trend," with commercial feed and seed becoming the big items by the late 1950s (Fawcett 1958:12). The store did, however, continue to carry a general line of merchandise up to the very end. Informants noted that Cochran and Findlow carried a lot of people through lean times (Cowman 1988; Kain 1988).

The 1960s RICOE acquisition file (Tract No. 1351) described the store as having a coal shed and a four-room apartment. The latter was located in the second story of the main structure and was being used only for storage at the time of acquisition. It was noted that the general store part of the operation occupied the north part of the structure, extending the full length except the back 10 ft which was used for inventory storage. The south addition was used for the egg grading part of the business, a coal shed, and a cooler pump room. The upstairs of the south addition also provided storage space.

The acquisition photograph (Appendix B, Figure 6b) showed a one and one-half story frame building. It had a massed rectangle ground plan with a small rear appendage and was covered by both a flat and a gable roof. The facade was oriented perpendicular to the axis of the gabled roof. While the street facade was sided with horizontal boards, the

sides were metal clad, and the rear addition was constructed of tile block (Appendix B, Figure 6c). The flat-roofed section of the store was an addition to the gabled structure. It had a door at street level and a large second-floor access, also on the street facade, but no other windows were visible. The gabled store-front was dominated by large display windows, with six panes of glass on each side of the centered entry, covered by a pent or visor supported by wood braces. Under the gable on the street facade was a paired set of one-over-one doublehung windows. The one-story rear addition had a flat roof and no windows or doors visible. The acquisition file also noted the presence of a small shed used for oil storage located adjacent to and south of the store.

The archaeological remains of the store structure included the sandstone and concrete foundation designated as feature 111, 8 unnumbered concrete piers that remained in situ, and a post hole designated as feature 119 (Figure 35). Appendix A, Figure 7b shows the remnant foundation of the store following removal of the topsoil. Backhoe trenches excavated along the buff-colored sandstone foundation revealed only a shallow remnant extending less than 20 cm below the scraped surface. This portion of the foundation was constructed by the excavation of a shallow trench filled with small stones and quarry chips that served as a base for a cut stone foundation that was salvaged or removed by postoccupation activity. The cut stone was not removed during the topsoil removal, and there were no visible foundation stones on the original ground surface.

The west addition to the foundation consisted of a 50 cm deep concrete foundation that was hand mixed, with rock and scrap ceramic

tile inclusions. The south addition of the foundation consisted of holes excavated with a post hole digger and filled with concrete. The sill plates of the structure were then secured to the top of the piers with a bolt. These piers reached a depth of 45 cm below the scraped surface. Figure 37 shows a profile of one of these piers designated as feature 111a, or the southeast corner pier (Figure 35). The post hole designated as feature 119 (Figure 35) was within a square-shaped, disturbed area of unknown origin. The profile of this area was irregular and shallow, with only the square, flat-bottomed profile of the post hole being clearly defined. This feature may be related to the remodeling of the south addition or even its original construction. It was not similar in either depth or configuration to the concrete piers which comprised the remainder of the south addition foundation.

Other features associated with the store structure included the sandpoint well designated as feature 120, the gas tank in front of the structure, 2 concrete piers and 2 post holes designated as features 114, 117, 115, and 116, respectively, and possibly a keyhole cellar designated as feature 108 (Figure 35). The latter group of features was situated in the former location of a corn crib utilized by the store. Some or all of these post holes and piers are likely related to that structure. This group did not have a regular, discernible pattern; however, the scraper had difficulty with this area because of debris and uprooted several concrete piers that were set in shallower holes. The exact location of these uprooted piers could not be determined, but they were from this same area.

The 1931 fire insurance map of Percy (see Rogers 1988:150) showed

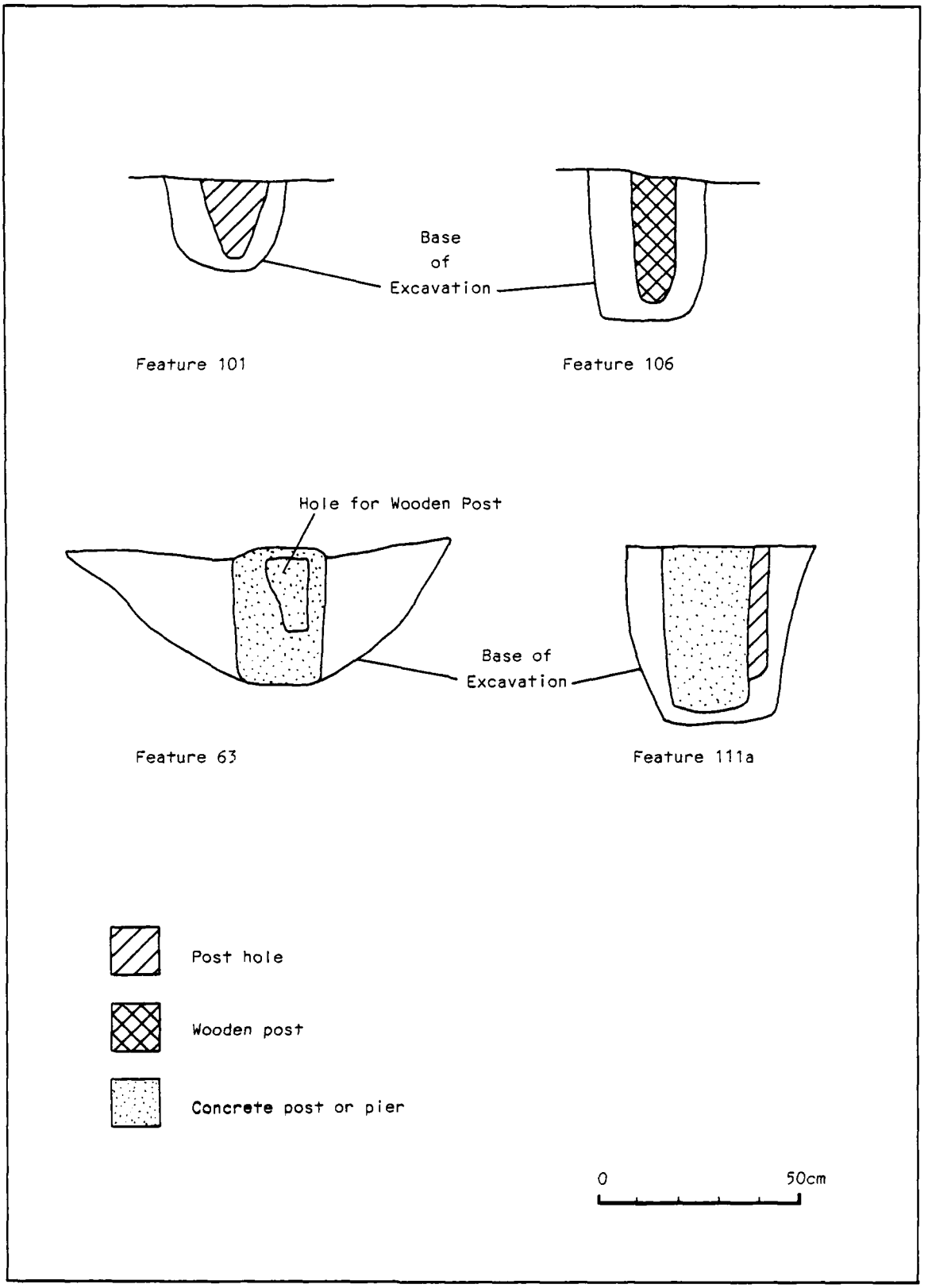


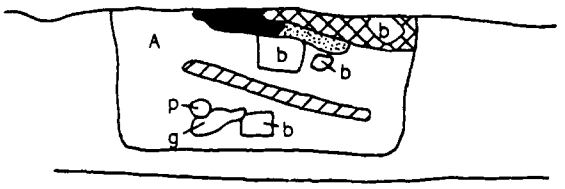
Figure 37. Post profiles, site 13MA347.

three structures behind the general store. The largest of these was set at the back (west) edge of the lot including the area of features 114-117. Two smaller structures were located between this structure and the store, with very little space between structures. These smaller buildings likely were storage sheds, although one might have been the ice house known to have been used by the Cochrans. That structure had double walls filled with sawdust to preserve the ice and did not have an excavated hole unlike some ice houses (Cochran 1989). This type of small structure would have left little archaeological evidence.

Feature 120 was the sandpoint well to the original store structure. It was filled in and covered over when the south addition was constructed. Oral history data indicate that the addition was constructed by the late 1910s. Therefore, the well was in use for less than 20 years. Ernest Cochran (1989) always thought that there was a cistern under this addition; however, the feature conformed to the known configuration of sandpoint wells. Specifically, these wells consisted of a chamber excavated to a depth of approximately 1 m with a sandpoint driven into the base and a metal pipe or cylinder inserted to a depth approaching 25 ft below ground surface. Therefore, the actual feature fill bottoms out at the base of the shallow chamber. The cistern that Mr. Cochran recalled may have been located in the area directly south of the store addition; however, this area was so highly disturbed by post-occupation activity that this possible feature could not be defined.

The profile of feature 120 is shown in Figure 38. The chamber portion of the well was lined with wood boards to a depth of 68 cm below the scraped surface. Underneath the base of the lining, the feature fill

FEATURE 109
WEST PROFILE

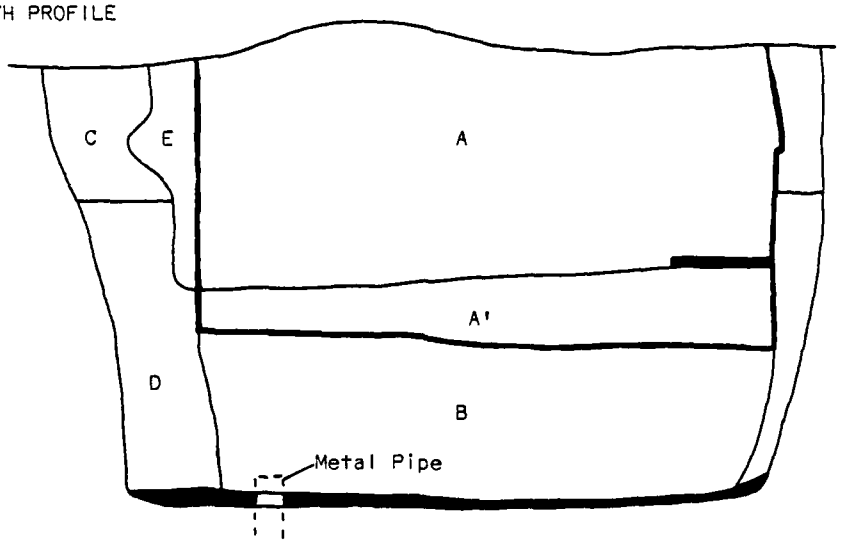


Zone A - 10YR 2/2 mottled silt loam

- 10YR 4/1 silt loam
- Charcoal
- Metal concentration and gravel
- Ash
- b Brick
- g Glass bottle
- p Metal pipe

0 50cm

FEATURE 120
NORTH PROFILE



- Wood lining
- Culturally sterile subsoil

Zone A - Mottled 10YR 5/3 and 2/2 silty clay loam

Zone A'- Loose boards and mottled silt loam and clay

Zone B - Loose 10YR 3/1 silty clay loam

Zone C - 10YR 2/1 silt loam

Zone D - 10YR 3/1 compacted silty clay loam

Zone E - Sand, gravel, and mortar, builder's trench

Figure 38. Profiles of features 109 and 120, site 13MA347.

extended to a depth of 1 m, where the metal cylinder was uncovered protruding from the culturally sterile subsoil.

The ceramic assemblage of the builder's trench of feature 120 had a mean date of 1903.4, with the interior fill having a mean date of 1907.6. Items of interest included detached stem pipes and pipe fragments recovered from the interior fill (Appendix C, Figure 2a). The glass assemblage had a mean date of 1897.8 and included only pre-1915 nonmachine-made glass. Therefore, the feature assemblage supports a 1900 to late 1910s use period and terminal fill date.

The remains of a metal gas tank still buried in the ground was uncovered off the southeast corner of the store foundation (Figure 35). The pump for this tank is visible in the photograph in Appendix B, Figure 6b. The tank was filled with oily water that smelled strongly of gasoline. This feature was not further excavated. According to oral history data, the tank sprung a leak and was not repaired (Findlow et al. 1988).

The final feature possibly associated with the store structure was feature 108, a keyhole cellar (Figure 35). This feature was located approximately 3 m south and slightly west of the southwest corner of the store. It was wood lined and contained the collapsed remains of a wooden storage box, floor, and shelves (Figure 39) (see also Appendix A, Figure 8a). The floor area of the cellar measured 6.04 m^2.

The profile (Figure 39) showed basically one major episode of fill (zone D), with thin lenses of fill and rodent burrows in the upper portion of the profile. At the base of the cellar, the remains of a wooden floor was uncovered as well as the remains of the center post, 1

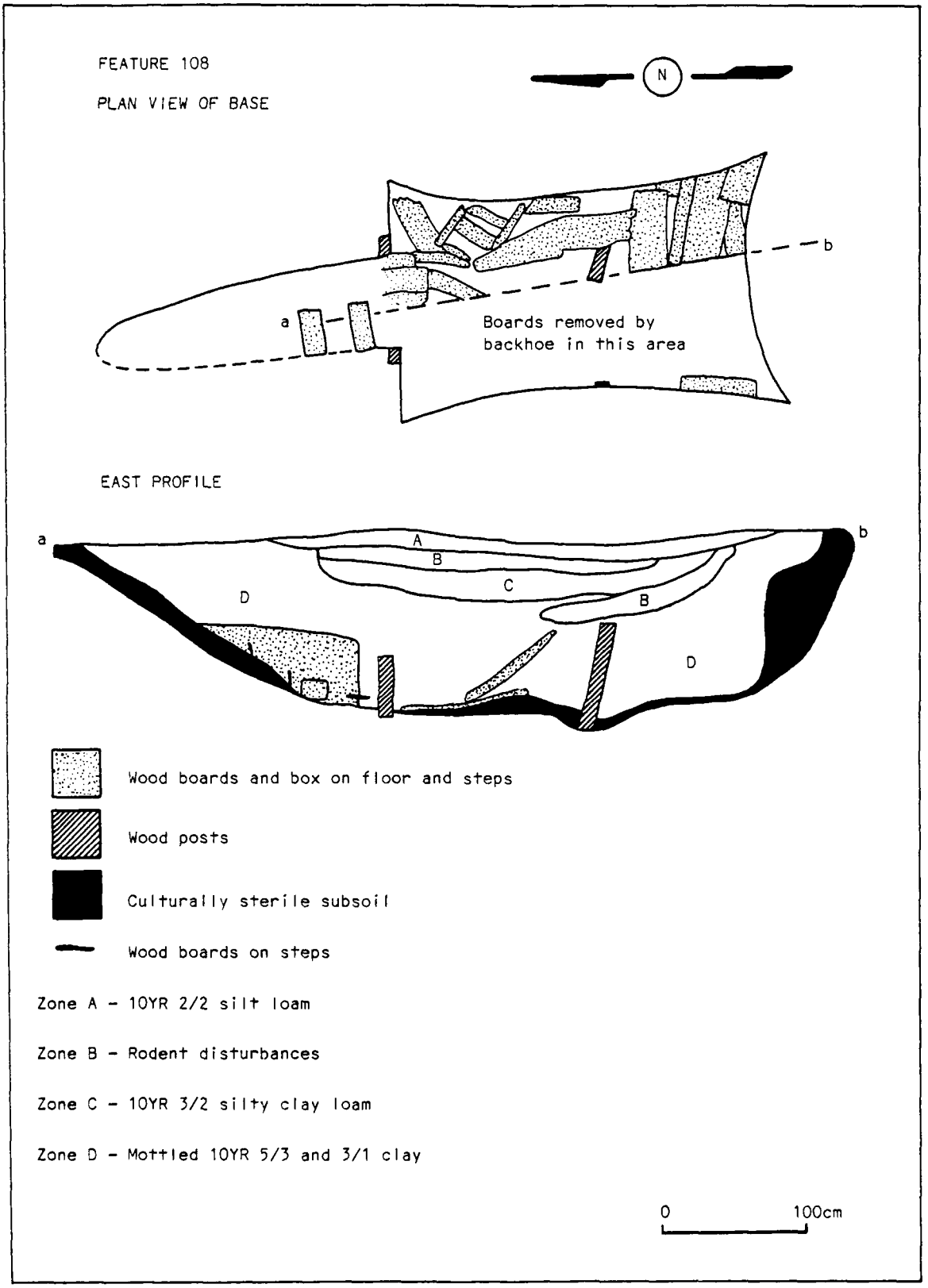


Figure 39. Plan view and profile, feature 108, site 13MA347.

wall post, and 2 posts on either side of the entrance. Some loose boards at the base of the cellar consisted of unfinished split boards with the bark remaining on one side. The steps also consisted of wooden boards. This feature was difficult to define initially because of the extremely dark color of the subsoil in this lot. To expedite the definition of this feature, the backhoe was utilized to reach the base of the cross-sectioned portion (Figure 39). In doing so, a portion of the wood flooring and wall was removed.

The ceramic assemblage had the following mean dates by zone: 1907 (zone A), 1934 (zone B), 1919.8 (zone C), and 1909.3 (zone D). Glass mean dates were: 1914.5 (zone A), 1944 (zone B), and 1890 (zone D). The 1934 and 1944 dates for zone B support the contention that this zone was created by rodent burrowing after the feature had been filled. The earlier glass mean date for zone D results from the assemblage containing only pre-1915 nonmachine-made glass, while the upper zones contained machine-made glass. Items of interest included a Foley's Honey and Tar medicine bottle (a brand known to have been sold in the Cochran store) and a complete salt Bristol/Albany slip glazed stoneware step-shouldered jug (Appendix C, Figure 5).

The walls of the cellar had been pushed inward from water and freezing pressures. The high water table in the townsite area suggests that water was always a problem in the subterranean cellars. This may have been one reason that this cellar was abandoned. Most of the cellars uncovered in the present investigation were wood lined and had wood floors, indicating an attempt to alleviate some of the dampness. The

warping of the wood lining may have been a problem during the cellars' use.

None of the oral history informants could recall this cellar. Two of these individuals, Ike Findlow and Ernest Cochran, had been directly associated with the store and lot. Both had been born in Percy, Findlow in 1923 and Cochran in 1912. Therefore, it appears that this cellar was filled in by the late 1910s. Ike Findlow could recall a concentration of refuse in this area, likely the exposed surface layer of the cellar fill. The final fill deposition (zone A) was likely to fill in a depression created by the settling of the cellar fill.

Archival data indicated that the west half of the store lot had been purchased earlier and remained separate from the store lot until 1923, when Cochran purchased the remainder of the lot from Okly Decker. Earlier purchasers included J. W. Parmenter in 1900 and W. F. Cowman in 1901. According to the 1900 U. S. Population Census, Jasper Parmenter was a 44-year-old coal mine engineer in Percy. His household included his wife, their six children, and one farm laborer boarder.

Mikesell (1966:27) noted that the old section house had been moved to "a half business lot back of the Walker Leuty store by Dr. Puckett ca. 1896."

> W. F. "Wild Bill" Cowman purchased it from Dr. Puckett in 1901. A Mr. Parementer [sic] occupied it at that time. In 1903, it was again moved to a permanent site west of the alley (Mikesell 1966:27).

This would indicate the likely possibility that feature 108 was a cellar associated with this house site occupation. It would therefore date from ca. 1896 to ca. 1903, although it might have been used by the store for

a time after the house site was moved. The section house was a two to three room frame "shack." One informant noted that Wild Bill's house later rotted and fell down. He had been married twice and had seventeen children. He "never set the world afire" and usually just "monkeyed around, first one thing and then another" (Schrader 1988). Another informant noted that he was "kind of a wild character!" (Hughes 1988). The house must have been a crowded one throughout its occupation history considering that Parmenter had a household of 9 persons and Cowman had something approaching 19 at various times.

Along the east edge of the lot near the main street was a feature that was first thought to have been a board sidewalk. A portion of this feature was excavated in the phase II investigation on the east side of structure f (Rogers 1988:157-161). It was designated feature 5 by that investigation. An 11 m section of this feature was uncovered in the present investigation (Figure 35). It was found through oral historical data that this feature was actually a water drain constructed in the mid-1920s to alleviate the drainage problem (Cochran 1989). It extended from just north of the general store southward to just past the store/restaurant indicated by structure f. This was the only area where such a drain was constructed; the east side of the road simply had an open ditch.

The base of feature 5 consisted of rows of parallel, thick planks placed on their sides and 61 cm apart. Nailed to the top of these planks were rows of two planks laid flat, creating a hollow structure 38 cm in height. It was buried underneath 30 cm of fill. The phase II investigation indicated the presence of a builder's trench on the east

side of the drain (Rogers 1988:160). The portion of the feature uncovered by the present investigation showed two 5 cm diameter holes drilled through the top and at either end of one of the planks. These holes might have facilitated drainage from above. The planks were creosoted bridge planks (Cochran 1989).

The second major structure in this excavated area was designated as structure e in the phase II investigation (Rogers 1988:131). This foundation was located directly south of the store foundation (feature 111) (Figure 35). The present investigation found that this foundation may have actually supported two different structures at different points in time. The original foundation was evidenced by the largest extent of the foundation and was constructed of concrete and brick (Appendix A, Figure 8b). The succeeding foundation utilized only the northeast corner of the original foundation, with the south and west walls constructed of mortared tile blocks. The two structures represented by these remains were a restaurant and a barber shop, respectively.

The restaurant was built in 1911 by John Bivans and had a pool hall upstairs. Subsequent owners and operators included Monte Conn, Mattie Watter, May and Hattie Woods, Hank Huffman, Clyde Forman, Jean Miley, B. C. Roush, and Edd Findlow. The structure was destroyed by fire in 1918. At that time, Edd Findlow built a smaller restaurant to the south (structure f) (Mikesell 1966:46). Fawcett (1958:11) provided a somewhat different operation history for the store. She claimed that the restaurant was first operated by Mattie Watter, who also "baked bread and sold it to farmers for thrashing dinners" (Fawcett 1958:11). Watter than sold out to John Bivans, who in turn sold it to Gene and Ethel

Miley. They sold it to Ben Roush, who subsequently sold it to Edd Findlow. However, the lot transfer history indicated that Bivans purchased the lot in 1911 from Constant Keller, who was the Percy mail carrier (Cowman 1988). Keller did not live in Percy, nor did he operate a business. Therefore, the archival data appear to support Mikesell's (1966) contention that Bivans built the store in 1911.

Figure 40 is a memory drawing by Ray Mikesell (1966) of the restaurant showing a two-story frame structure with a false front. Two of the oral history informants remembered when this structure burned (Cochran 1989; Schrader 1988). It was an intense conflagration that nearly took the Cochran store with it; a small barber shop located between the restaurant and the store was destroyed by the fire. No archaeological evidence of that structure was observed in the field; however, as noted above this area was highly impacted by postoccupation activity.

Another barber shop was then constructed utilizing a portion of the restaurant foundation. This structure was present on the 1931 fire insurance map of Percy (Rogers 1988:150); it was still standing at the time of acquisition but was only used for storage at that time. Pete Hanning was the last barber in Percy. Roy Schrader (1988) noted that the shop was hardly big enough inside to turn around. The acquisition photograph (Appendix B, Figure 6d) shows a small, one-story frame building with its facade oriented perpendicular to the axis of the gabled roof. There was also a small, shed-roofed side addition. The walls appeared to be clad with horizontal boards (probably drop siding)

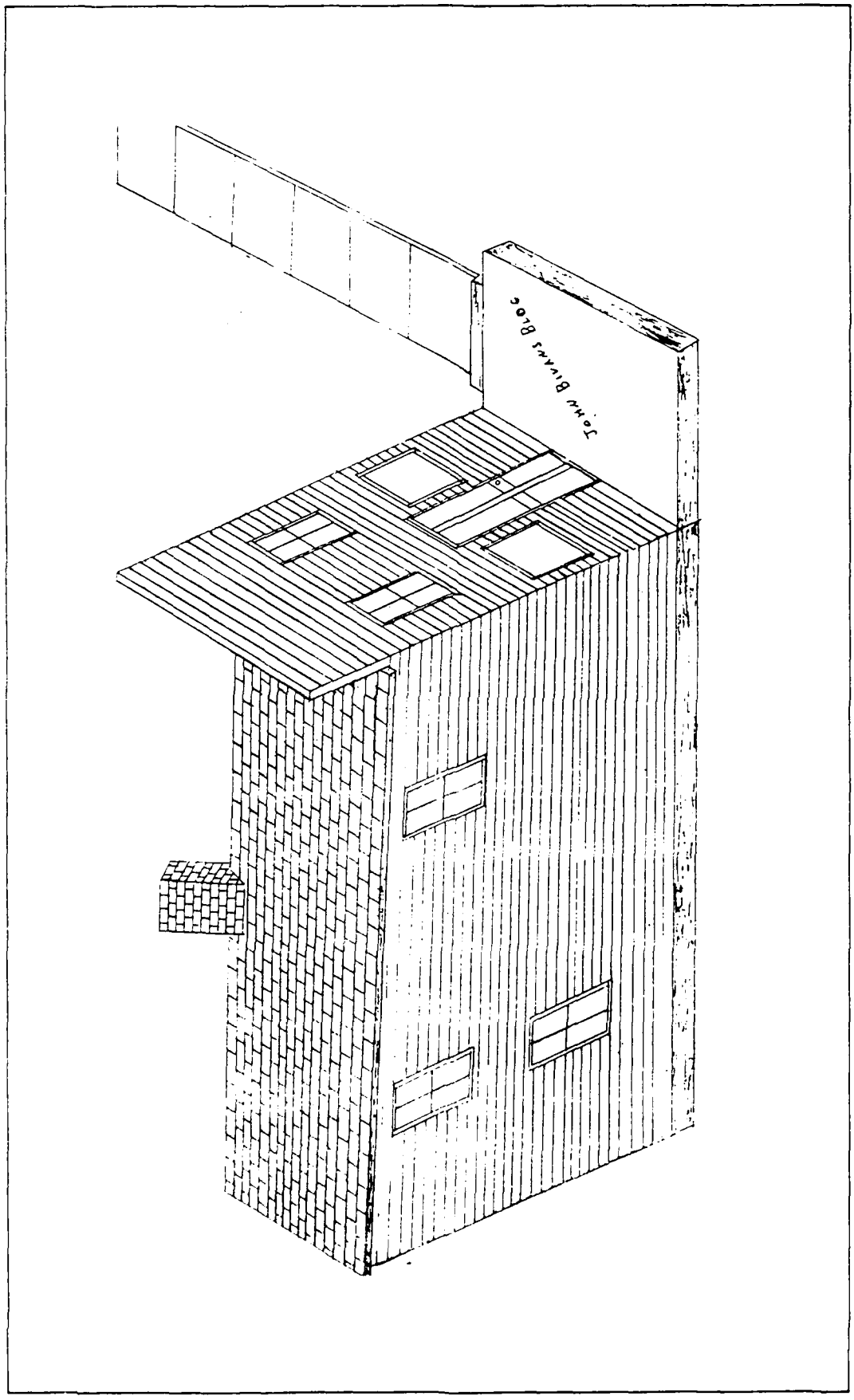


Figure 40. Memory drawing of structure e, Percy.

with corner boards. The roofing was described as a "good roll roof," possibly composition shingles (RICOE acquisition file, Tract No. 1347).

A small concrete foundation with an earthen ramp leading up to it was located off the northwest corner of structure e (Figure 35). Oral history data indicate that this was the scales used by the Cochran and Findlow operations of the general store (Cochran 1989; Findlow et al. 1988). The interior of the foundation was filled with recent refuse, which Ike Findlow can recall depositing to fill in the scales pit (Findlow et al. 1988). The scales were likely constructed when the store operation expanded to include coal and corn buying and shipping in the 1930s.

One feature appeared to have an association with the restaurant structure. This was a sandpoint well designated as feature 107 (Figure 35). None of the oral history informants recalled this well, and its proximity to the restaurant structure suggests an association. The feature consisted of a circular, brick-lined chamber that reached a depth of 90 cm below the scraped surface. At that level the chamber bottomed out, but no actual sandpoint hole was visible. It is likely that the small sandpoint drill hole had silted in and was no longer apparent in the sterile subsoil. The siltation of sandpoints was a common problem at the townsite.

The chamber was lined with dry-laid brick that appeared to have been salvaged from a chimney (Appendix A, Figure 9a). They were unusually thin and were reminiscent of early nineteenth century-type brick (Betteridge, personal communication 1988). The chamber was filled with dense artifactual material, including a quantity of melted glass

and some burned ceramics, and a mixture of differing soil lenses. The ceramic assemblage had a mean date of 1907, while the glass assemblage had a mean date of 1933.7. The latter date was more recent because of the predominance of post-1903 machine-made bottle glass. Several bottles were embossed with marks from a Knoxville bottling company, one in Colfax Springs, Iowa, and from companies in Des Moines. One bottle was embossed with "Lucky Tiger/For Scalp/Eczema & Dandruff/Lucky Tiger/Remedy Co./Kansas City, Mo." dating from post-1915 (Fike 1987:68) and was likely from one of the nearby barber shops. It is likely that the sandpoint chamber was filled in post-1918 utilizing some material burned in the fire; however, the majority of the assemblage showed little evidence of burning. Because none of the oral history informants recall this feature, it is likely that the feature was filled in rapidly after the restaurant burned down.

A post hole with a wooden post remnant, feature 122, was situated between structures e and f. Its good state of preservation suggests a more recent date of origin, and it is likely associated with the restaurant/store of structure f (Figure 35).

The foundation designated as structure f in the phase II investigation (Rogers 1988:132) was the remains of a structure built in 1918 or 1919 by Edd Findlow. The operation was taken over by Edd's son, Bill, in 1921, when Edd Findlow moved to Swan. It functioned as a restaurant/store/cream station/fur buying operation until 1945, when Bill and his son, Ike, leased the Cochran store and moved their operation there. The structure was subsequently utilized to store

surplus store merchandise and feed (Findlow 1987; Findlow et al. 1988; Schrader 1988).

The RICOE acquisition data (Tract No. 1347) indicated that this structure was a one-story frame building covered with composition siding and an asphalt shingle roof (Appendix B, Figure 7a). It had an exterior chimney. Fenestration was symmetrical, with an entry and stoop between two large windows (boarded up in the photograph). The foundation was constructed of mortared ceramic tile blocks three to four courses to sill height (approximately 30 cm) (Appendix A, Figure 9b).

Two outbuildings were present on the lots containing structure e and f at the time of RICOE acquisition. These included an abandoned railroad box car used for storage and a garage. The specific location of these outbuildings is not known, although the 1931 fire insurance map (Rogers 1988:150) showed two small structures at the rear of structure f and one long structure behind structure e. None of these fit the configuration of the garage; however, either one of the two long structures could have been the box car shed. No definite archaeological evidence of any of these outbuildings was uncovered in the present investigation. Ike Findlow (et al. 1988) indicated that the concrete foundation for the garage was situated to the south between the restaurant/store and the Percy bank. As such, it was likely in the unexcavated portion of the lot to the south.

The box car was a typical specimen of late nineteenth or early twentieth century North American rolling stock. It was essentially a long, rectangular wooden box covered by a low gabled roof, with a large central door flanked by two sets of small, square windows. The wheels

had been removed, and it rested on grade. The exterior siding was vertical boards, and the interior was covered with horizontal boards.

The garage was a two-stall gable-roofed garage with its facade oriented perpendicular to the roof axis. The siding was vertical boards reportedly salvaged from another structure (Tract No. 1347). The roof was covered with composition shingles.

In the lot behind structures e and f, a total of four features was uncovered. These included a keyhole cellar (feature 110), a refuse pit (feature 109), a shallow pit (feature 112), and a post hole (feature 113).

The cellar was situated approximately 17 m from the northwest corner of structure f (Figure 35). Wooden steps, lining, flooring, and shelving were evident at the base of the cellar (Figure 41). Also evident were support posts for the superstructure and smaller posts for the shelves along the east wall. Similar to the other wood-lined cellars uncovered at Percy, the walls of this cellar had been pushed inward by natural pressure and frost heaving. The profile showed three major zones of fill. The bottommost zone (C) lined the base of the cellar and may represent a silted layer deposited after the superstructure was removed and the hole left open for a time. The next zone deposited was also the thickest (zone B). The uppermost zone (A) was the final sealing layer. These two zones may have been deposited during the same filling episode.

Diagnostic material was relatively sparse among the zone layers of feature 110. The entire ceramic assemblage had a mean date of 1910.7, while the glass assemblage had a mean date of 1914. Bottle marks included "Chamberlain & Co./Des Moines Iowa/2" and "Dr. S. B. H. & Co.

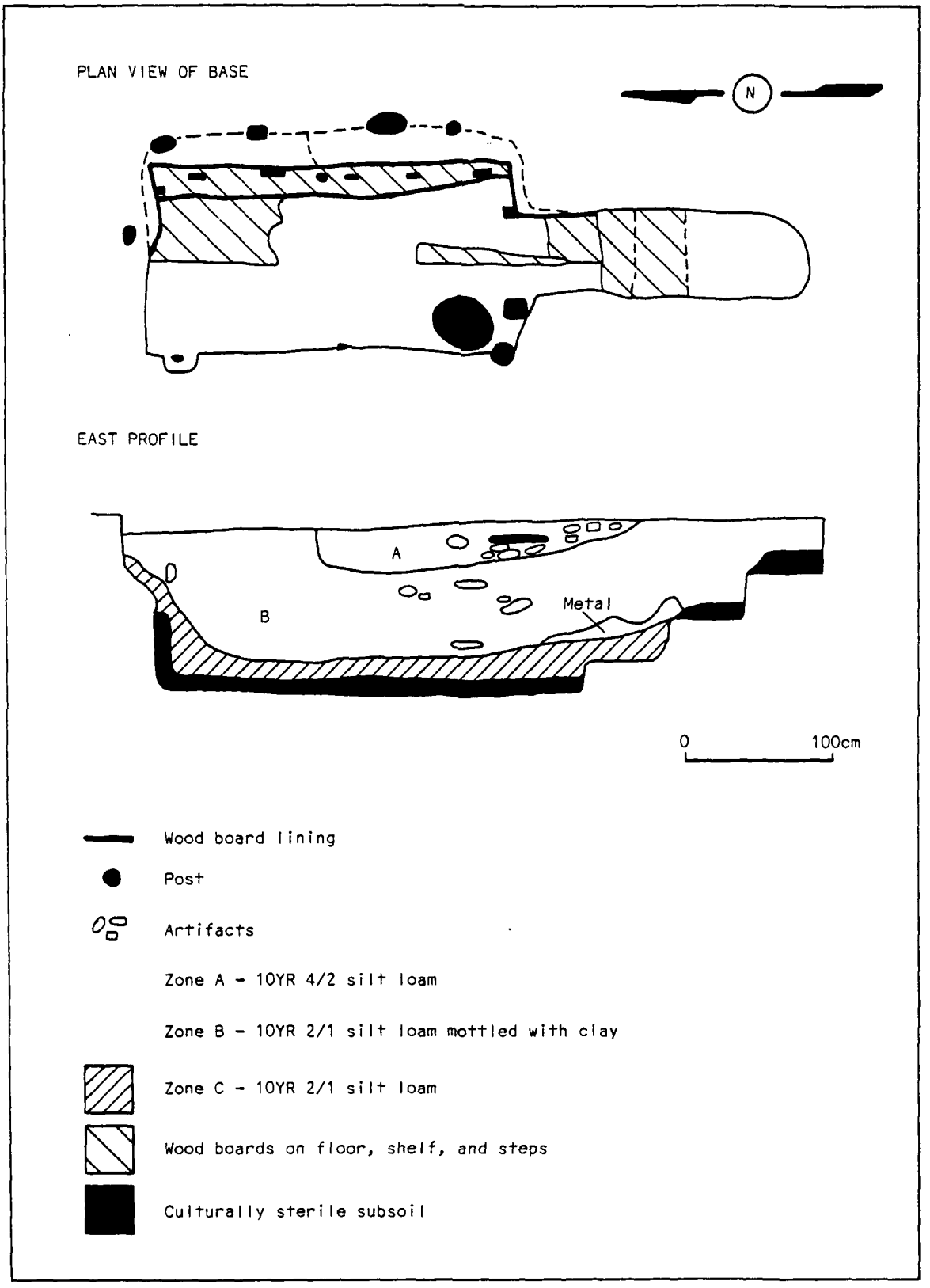


Figure 41. Plan view and profile, feature 110, site 13MA347.

PR/Registered/72." Both were on three-piece plate-bottom improved tooled cork finished bottles; therefore, the former dates from 1881-1892, and the latter dates from 1879-ca. 1915 (Deiss 1981; Fike 1987:62; 206).

The entrance to this cellar faced the south side of the lot and as such should be more closely associated with structure f (Figure 35). None of the oral history informants, however, have any recollection of this cellar. It may be that it was a cellar built ca. 1918 by Edd Findlow for his restaurant/store but was abandoned after a short period, thereby not distinguishing itself in the collective memory. Mr. Findlow's grandson, however, had no memory of this cellar (Findlow et al. 1988). It is known from oral and archival data that there was no other occupation in the vicinity of this cellar either in this lot or the adjacent lots. Therefore, it must have been associated with one of the restaurant operations located on this lot. Its orientation to the south suggests a stronger association with Findlow's restaurant/store.

Feature 109 was a small refuse pit located approximately 1.5 m north of the cellar (Figure 35). It was oval in plan view and flat-bottomed in profile (Figure 38). The fill consisted primarily of one zone, with a thin layer of charcoal, ash, and silt loam on the surface. The ceramic assemblage had a mean date of 1904, and the glass had a mean date of 1924.3. The presence of some pre-1915 glass items suggests an association with the structure e restaurant; however, these items could have been secondary deposits from midden areas ound the lot. The location of the feature is more on the lot behind structure e; however, in later years the adjoining lots were all owned by the Findlows. The

stronger association, perhaps, is with the Findlow business (structure f) built ca. 1918 and operating until 1945.

Feature 113 was a shallow post hole of unknown association (Figure 35). It was situated at the back of the lot behind structure e. Feature 112 (Figure 35) was a circular, shallow pit filled with gravel and a few unidentifiable nails. It may simply represent a low area that unintentionally became filled with debris.

Interpretations. The excavated area of this block included a major portion of the commercial district in Percy from ca. 1900 up to 1969. The largest and longest operating general store in town was situated in the northeast corner of this lot. The original structure underwent a number of remodeling and expansion changes. A sandpoint well and possible outbuilding remnant were the major features associated with this store. The store provided nearly every consumer need of the town; however, for much of its history it was not the only store operating in town. One other store operated until it burned down in 1913, another operated until the early 1930s, and the structure f restaurant/store operated until 1945. Oral history indicates that the general stores all sold basically the same merchandise (Kain 1988). This indicates that the town was thriving to the point that it could support more than one store of this type. That one of the stores closed down during the Great Depression indicates the impact of that national event on the local economy. The large general store (feature 111) survived this period by expanding its operation to include the shipment of corn and coal.

The remaining commercial structures evidenced on this lot were a large restaurant that burned in 1918 after operating for only seven

years. A small barber shop structure was also destroyed by this fire, but it was not evidenced archaeologically. Another small barber shop was subsequently built over a portion of the former restaurant foundation, and it operated into the 1940s or 1950s. The final structure was a small restaurant/store built to replace the burned restaurant in 1918. It was not built over the previous foundation, however, but rather was situated a short distance south.

A cellar was located behind the restaurant/store, although its association with this structure is tentative. The only other major feature situated behind the restaurant structures was a sandpoint well. It appeared to be associated with the burned restaurant. Another cellar located behind the large general store appeared to have a greater association with an earlier house site occupation in the west half of that lot.

The placement of the commercial structures was along the edge of the main street of Percy, with the structures close together but not touching. The very real danger of fire may have prompted the spacing of these buildings. Percy did not have a fire department, and once a fire got going there was little alternative other than to let it burn itself out. The entire commercial block was fronted by a concrete sidewalk in the mid-twentieth century which replaced an earlier board sidewalk. The latter was not evidenced archaeologically. It is likely that it was removed when the concrete sidewalk was laid. All of the structures had either a stoop or a slab at the entrance into the buildings.

Drainage was and still is a problem at the townsite. Evidence of the town's attempt to alleviate the problem is present in a wooden drain

buried between the sidewalk and the main street in front of the store buildings. This was constructed in the mid-1920s. Elsewhere in the town, drainage was provided simply by open ditches along the roadside. The water problem was further evidenced by the warping and collapsing of the wooden walls of the subterranean cellars. It is possible that this was one of the reasons for their abandonment.

Structure P. This structure was situated south of the railroad tracks and just south of the original town plat; therefore, the configuration of the excavated lot area is an arbitrary size selected to encompass the majority of the house yard surrounding the former house structure (Figure 30). There were farm outbuildings associated with this house, but these areas were avoided. While this farmstead dated from the pre-Percy era, it became closely associated with that town following its establishment. Oral history indicates that it was always considered by the residents to be a part of the town. The purpose in selecting this area for data recovery was to compare a "hinterland" house site with the actual "in-town" house sites.

A house structure was shown on the 1875 plat map of this area (Figure 28). It was then owned by Enos Jones, a farmer. According to the 1900 U. S. Population Census, his household included his wife, their four children, his elderly father, and four boarders. The latter were Sandy (?) (the name was illegible), a grain dealer; Clarence Troth, a telegraph operator; Laurence Cochran (J. L.), a schoolteacher; and Morey Flora, a student. Jones' estate sold the property to Edd Quick in 1912. Subsequent transactions were from Quick to Bert Kane in 1919, Kane back to Quick in 1926, Quick's estate to someone named Stubbs in 1952, Stubbs

to Warren Taylor in 1955, and Taylor to the government in 1964. Oral history informants recalled a transaction by a man named Shepard of Newton, Iowa, prior to Taylor's purchase (Findlow et al. 1988).

Beginning in the early 1900s, the actual occupation of the house was by renters. Known renters included J. L. Cochran from 1907 to 1908, Winfield Roush in 1909, Bob Kingery in 1910, Edd "Swede" Kane in 1911, McKinley Brown from 1923 to 1949, and Russell Quick from 1950 to 1951 (Mikesell 1966:40). Oral history informants recalled that a family by the name of Cunningham rented the property in later years (Findlow et al. 1988). The RICOE acquisition file (Tract No. 1312) noted that the house had been rented to a series of renters up until 1963.

The acquisition photograph (Appendix B, Figure 7b) showed a vernacular Gabled Ell house, one and one-half stories in height, with an L-shaped ground plan. The facade was oriented parallel to the axis of the gabled roof, which was steeply pitched and had boxed eaves. The walls were covered with medium-reveal horizontal board siding with corner boards. The facade was balanced and the entry flanked by a pair of one-over-one doublehung windows. There were no windows upstairs on the principal facade; the gable end had four one-over-one doublehungs, two up and two down. The roof was covered with composition shingles. There was a partial front porch, on grade and open, under a hip roof supported by four round wooden columns. An addition to the side of the house infilled the "L" between the gable front core and rear wing of the house. A shed-roofed one-story rear addition was visible in the photograph, presumably the rebuilt rear porch mentioned in the acquisition file. There was a single interior brick chimney.

Oral history informants recalled that the house had four rooms down and three rooms upstairs. In later years, someone remodeled the interior and put in a bathroom. The addition on the back was a porch (Findlow et al. 1988).

The foundation remains indicated a second porch on the west side of the main structure (Figure 42). A portion of this was impacted by post-occupation activity (bulldozing ?). A cellar was present underneath the southwest corner of the main portion of the house. It was constructed of mortared, buff-colored sandstone and had a poured concrete floor. The latter was likely a later remodeling of the original cellar floor, probably to alleviate dampness. The cellar was partially filled with 1960s era debris and subsequent siltation. A backhoe trench reached the cellar floor at a depth of 1.54 m below the present ground surface. The cellar entrance was constructed of mortared ceramic tile blocks. It may have had wooden steps that were subsequently removed because no steps were found in the shovel tests excavated at the entrance. The entrance originally was likely open to the outside, but the later rear addition may have enclosed the entrance.

The remainder of the foundation was a combination of concrete and mixed stone, some of which were glaciated boulders. The top portion of the foundation consisted of concrete blocks cemented over a poured concrete layer which covered the stone base. The concrete was quite literally poured over the stone and allowed to harden without further finishing.

Other structures on the farm property included a barn and corn crib, 2 storage sheds, a machine shed, 2 garages, and a double corn

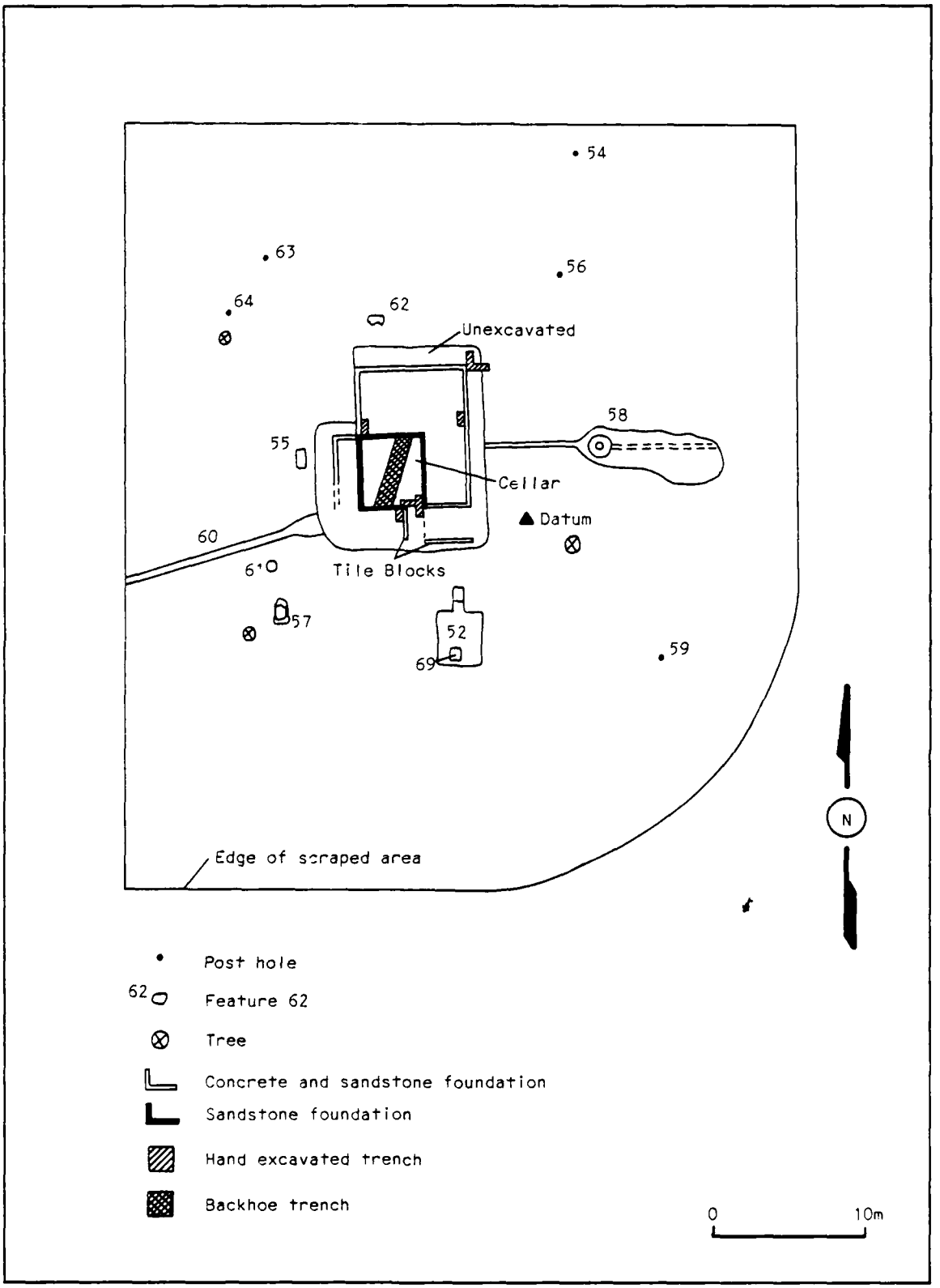


Figure 42. Site plan, structure P, 13MA347.

crib. The barn/corn crib was a two-story, gambrel roofed barn with an attached shed-roofed corn crib (Appendix B, Figure 7c). Both structures had horizontal board siding. The photograph did not show the ground level entry to the barn. The roof on both structures appeared to be metal. Oral history informants recalled a shed off the southeast corner of the house with a privy directly behind the shed. In addition were several sheds to the southwest, likely corresponding to the shed noted in the acquisition file (Findlow et al. 1988).

A total of 13 features was uncovered in the 45 m x 45 m area surrounding the house foundation (Table 22) (Figure 42). The original scraped area was 5 m less on the east side and 10 m less on the south side. This area was later expanded to uncover the full extent of feature 58 and to investigate more of the back yard area. The southeast corner was scraped on a curve to minimize damage to the adjacent corn crop.

The features included 2 metal posts (features 54 and 64), 1 wooden post and post hole (feature 56), 1 post hole (feature 59), 1 concrete post (feature 63, see Figure 37 for a profile), 1 shallow pit (feature 62), 1 possible mortar production pit (feature 55), 1 natural treefall depression filled with debris (feature 61), 1 pipeline (feature 60), 1 sandpoint well (feature 57), 1 privy (feature 69), 1 keyhole cellar (feature 52), and 1 septic tank and builder's trench (feature 58) (Figure 42). The post features were situated in no discernible pattern, and none could be specifically related to one another. The shallow pit in the front yard (feature 62) was filled with cinders but had an amorphous plan and profile. It may represent the remains of a cinder sidewalk that was removed with the topsoil.

The possible mortar production pit was an unusual feature. It appeared as a distinct rectangular mortar stain on the scraped surface, but it had no profile depth. It is possible that the stain represented the base of a shallow pit. The concentration of mortar, with no other artifactual material, suggests a possible function in the production of mortar for the stone foundation construction. Such features have been found on several sites in Illinois in association with the construction of large fireplace/chimneys (Mansberger 1982a). A possible mortar production pit was found near the house sandstone foundation on the Stortes/Crookham farmstead site (Rogers et al. 1988:173). The cellar foundation of structure P consisted of cut sandstone with a lime mortar. The location of feature 55 off the west side of the cellar perhaps suggests an association in the cellar construction (Figure 42).

The southwest portion of the house yard had only three other features (Figure 42). The natural treefall (feature 61) was very indistinct in plan and profile and was marked primarily by a concentration of artifacts that extended to a depth of 58 cm below the scraped surface. It is likely that after the tree had fallen, the gaping hole was filled in with whatever debris was handy. However, the hole was not an excavated pit.

The circular chamber of the sandpoint well (feature 57) was constructed of drylaid brick. It extended to a depth of 1 m below the scraped surface, where the chamber bottomed out in culturally sterile subsoil and the metal cylinder was visible. The fill in the chamber consisted of one zone of loose soil and artifacts. Plastic items including bread wrappers and other items including Heinz 57 metal screw

caps and color labeled machine-made bottles (post-1930s) in the fill indicate a relatively recent fill episode likely in the 1960s. One of the plastic wrappers was for "Ulrich's Genuine Pella Bologna Prepared since 1868 from the Original Recipe of John Ulrich, Pella, Iowa." Oral history informants recalled this well in use (Findlow et al. 1988).

A pipeline was uncovered in the southwest corner of the yard which extended downslope and southwesterly out from the southwest corner of the house. It continued beyond the excavated area in the direction of a terrace slope edge. The trench for the pipeline was 1.44 m in depth and narrowed to a width of 30 cm at the base. Two pipes were uncovered near the base of the trench, one a narrow iron pipe and the other a larger diameter black plastic pipe indicating a fairly recent origin. The RICOE acquisition file (Tract No. 1312) noted that the house had hot and cold water. The water heater was likely situated in the cellar toward which direction this pipeline was oriented. The metal pipe may have been the water pipe and the plastic pipe more of a drainline. The latter was situated lower than the metal pipe. One of the oral history informants thought that it was likely that the cellar had a drain out to the slough southwest of the house (Findlow et al. 1988).

The only feature aside from post features in the east side yard was a large septic tank system (Figure 42). It consisted of a circular concrete tank with the lid seal still in place and the interior open to the base of the tank. The only visible fill was a sludge layer approximately 1.5 m below the top of the tank. Surrounding the tank was a large builder's trench that had been originally excavated by a bulldozer. It sloped downward from the east edge and was filled with

mottled clay fill and few artifacts. A metal pipeline extended out from the tank to the east and west to the house (Figure 42). Oral history data and the nature of this feature indicated a 1950s to 1960s construction date (Findlow et al. 1988).

The remaining features in the back yard area were situated approximately 5.5 m south of the southeast corner of the house. These included a privy (feature 69) that was intrusive to a keyhole cellar (feature 52). Oral history informants noted that the location of feature 69 closely approximated the privy used during their memories of the house in the 1930s and 1940s (Findlow et al. 1988). It would have been directly behind a shed which was not evidenced archaeologically.

The cross-section profile of feature 52 also profiled the privy feature (Figure 43) (see also Appendix A, Figure 10a). The privy was also visible on the surface of the cellar stain and was a well-defined dark, square stain approximately 1 m x 1 m (Figure 42). The profile (Figure 43) showed two zones of fill. The glass assemblage from zone B had a mean date of 1938.1, while the ceramics had a mean date of 1921.2. Zone A contained little diagnostic material. Nails were recovered from only the outer edges of the privy fill, perhaps indicating the one-time presence of a wood lining. It is expected that with numerous, changing occupants there would have been more than one privy unless the privy was routinely cleaned out, which would have been the purpose of a wood lining. No other privies were present within a 20-25 m radius of the house. The lack of definite 1960s era material in the privy fill as well as the fact that the later occupations of the house had indoor plumbing suggests that this final use of this privy dates from the 1940s-1950s.

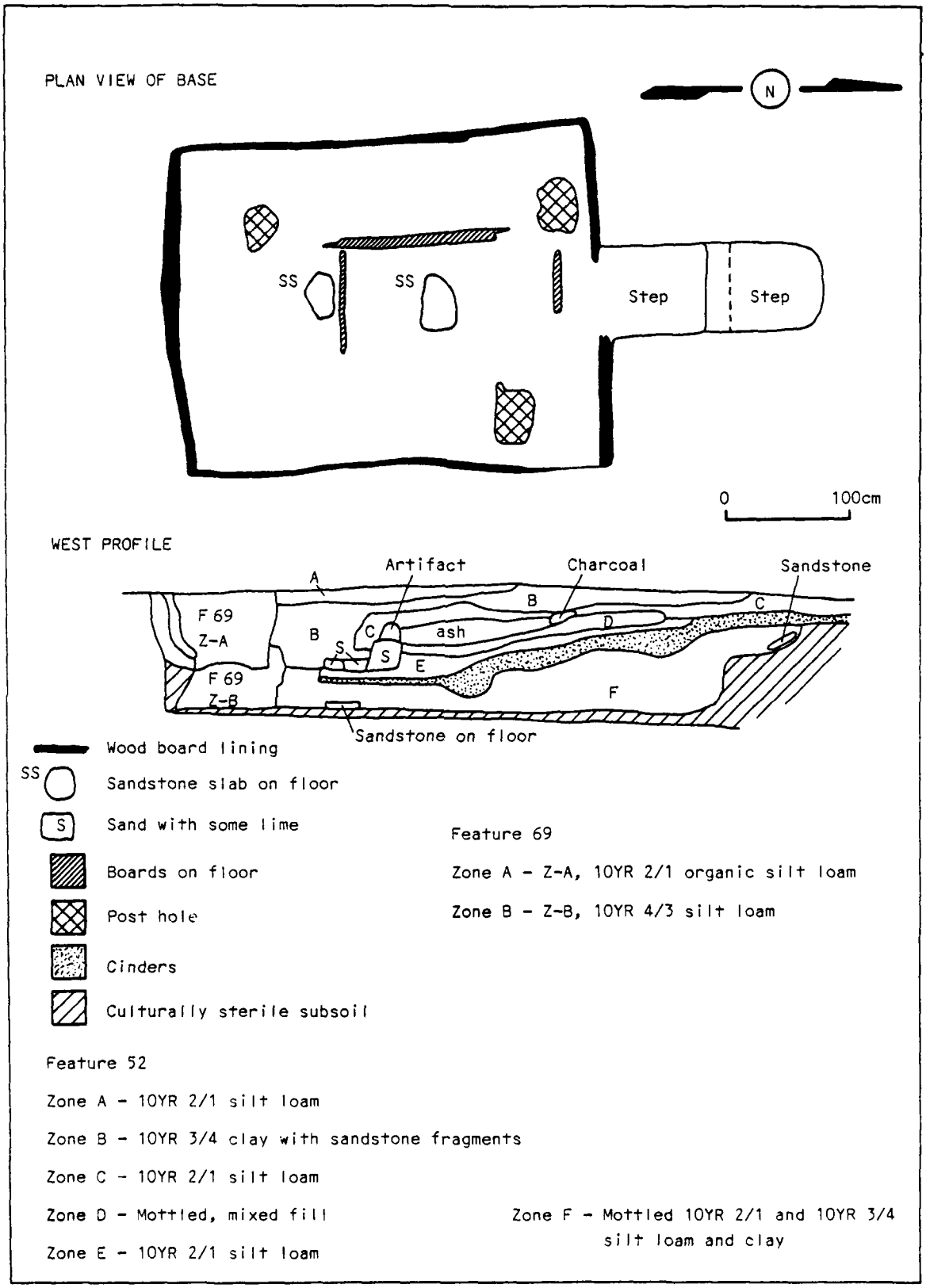


Figure 43. Plan view of feature 52, profiles of features 52 and 69, site 13MA347.

Feature 52 was a large keyhole cellar with a stepped entrance facing the back of the house (Figure 42). Table 23 presents a comparison of the dimensions of similar keyhole cellars excavated at the three data recovery sites and one of the farmstead sites mitigated in 1988. In comparison, the feature 52 cellar was the largest cellar in floor area, with the next closest cellar being feature 48 at site 262 (the Stortes/Crookham site). It is substantially larger than the majority of the comparison sample, which has an average floor area size of 6.53 m^2.

The profile of the cellar (Figure 43) showed numerous layers of fill, with two primary zones (B and F). All of the zones represent intentional fill episodes of various fill types after the structure had been abandoned. The diagnostic ceramics and glass from all the zones were consistently the same, indicating the likelihood that the cellar was filled in a short period of time. The only definite twentieth century material was recovered from the east half which, was removed as one level and included half of feature 69; therefore, this material is likely related to that intrusion. The entire feature assemblage had a Mean Ceramic Date of 1895.3 and a mean glass date of 1904. When the east half assemblage is excluded from consideration, the Mean Ceramic Date is 1892.4, and the mean glass date is lowered to 1882.9. Items of interest included several sherds from a blue shell edged ceramic toy plate or cup plate (Appendix C, Figure 6a). This vessel was impressed with the mark of Enoch Wood and Sons of Burslem, England, dating from 1818-1846 (Kovel and Kovel 1986:24). The lack of pre-1860s glass from the overall assemblage lowers the potential of an occupation of this farmstead dating from the ante-bellum period. This ceramic vessel is likely a

Table 23. Comparisons of Keyhole Cellar Dimensions from Lake Red Rock Historic Sites.

Site Number	Feature Number	Floor Length	Floor Width	Minimum Depth	Floor Space
262*	24	2.55 m	2.50 m	1.05 m	6.37 m^2
	48	3.87 m	2.60 m	1.30 m	10.10 m^2
266	3	3.15 m	1.90 m	0.84 m	5.98 m^2
449	2	3.25 m	2.15 m	0.75 m	6.99 m^2
	6	1.75 m	0.85 m	1.05 m	1.49 m^2
347	46	4.00 m	2.00 m	1.50 m	8.00 m^2
	50	2.95 m	1.85 m	1.65 m	5.46 m^2
	52	3.50 m	2.90 m	1.01 m	10.15 m^2
	73	3.55 m	1.75 m	1.74 m	6.21 m^2
	80	2.75 m	1.75 m	1.33 m	4.81 m^2
	90	4.05 m	1.72 m	1.50 m	6.97 m^2
	108	3.10 m	1.95 m	1.78 m	6.04 m^2
	110	2.90 m	1.55 m	1.66 m	4.49 m^2
	121	3.50 m	2.40 m	1.75 m	8.40 m^2

* = Stortes/Crookham site investigated in 1987-88 by Rogers et al. 1988.

curated item, especially considering its unusual size. Bottle marks included that of "A. Harless & Co./Druggists/St. Louis, Mo./ W T & Co/A. C." found on a three-piece plate-bottom improved tooled cork finished bottle. The lack of twentieth century items in the undisturbed portion of the cellar fill, coupled with the fact that none of the oral history informants recalled this cellar indicates that it was filled by the early 1900s, possibly in the 1890s.

At the base of the cellar, there was evidence of wood-lined walls and possibly a wooden floor, although the remnant evidence of that was

sparse (Figure 43) (see also Appendix A, Figure 10b). Two sandstone slabs were present at the base and likely supported roof posts. Additional superstructure support was evidenced by large post holes in three of the corners (Figure 43). An additional circular stain was present near the south wall in the center of the cellar, but this proved to be a rodent burrow. There was no remnant evidence of a post in the southeast corner of the cellar.

The only other area of interest uncovered in the house yard area was a plowed midden remnant situated between 2-5 m south and 12-14 m east of the site datum (Figure 42). This consisted of a dense concentration of artifacts that bottomed out at the base of the plow zone. There was no excavated pit or depression in this area, simply a concentration of artifacts. These included nails, an ice skate, utensils, hardware, lead shot, glass (some melted), and ceramics. This area was obviously utilized for the general broadcast deposition of secondary refuse in the late nineteenth and twentieth century occupation of the house site.

Interpretations. The archaeological evidence in the house yard of structure P indicates that despite its relatively lengthy occupational history, little activity involved subsurface excavation. An interesting contrast is with the house yard area of the Stortes/Crookham site, a farmstead occupied from the late 1850s up to the 1950s. Its twentieth century history was also characterized by a series of tenant occupations. The archaeological evidence in that house yard was extensive and datable from the full occupation span of the house, while the same area of structure P is by contrast mostly undisturbed. Granted,

a portion of the disturbance at the Stortes/Crookham site was related to the construction of two successive house structures, but there were still numerous privies, an outbuilding, lines of fenceposts, and various refuse and storage pits.

Both sites had house structures with internal cellars and free-standing keyhole cellars; however, the keyhole cellars at the Stortes/Crookham site pre-dated the construction of the house cellar. After its construction, the main foodstuff storage shifted to the house cellar. Architectural evidence at structure P indicates that the house cellar was built at the same time as the original stone house foundation. The house standing at the time of RICOE acquisition was a National Folk House type commonly built after ca. 1850-1890 (McAlester and McAlester 1984:89). It is known to have been standing at least by the early 1900s but more likely was constructed in the late nineteenth century. The artifactual data from the keyhole cellar indicates that it was in use in the late nineteenth century. Therefore, it appears that the keyhole cellar and the internal house cellar were contemporaneous. The large size of both cellars suggests that the foodstuff storage needs of this farmstead were fairly substantial.

When the house yard utilization pattern at structure P is compared with the other house yards excavated at Percy, the contrast is not as great. Feature density at all of the house sites was not high compared to the density at the Stortes/Crookham site. Three of the house sites did have more than one privy, but nearly all had a keyhole cellar, a sandpoint well, and post holes. These comparisons suggest that there was a greater difference in the house yard utilization behavior between the

Percy associated sites and the Stortes/Crookham farmstead, located over 5 mi from Percy, than there was between the sites only associated with Percy. Comparisons with the Dunreath house sites is difficult because it is not certain that entire house site areas were investigated and further because of the severe erosion and intensive cultivation of that area that likely destroyed some shallow and subtle features.

Structure I. This structure was situated within the town of Percy on the north side of the railroad tracks (Figure 30). It was further situated on the east side of the main street. Mikesell's (1966:35) account of the history of this structure is somewhat erroneous. He listed the construction date as 1903 and its next sale date to John Cowman as 1901. The house was built for John Worley, but the lot transfer history indicates that he bought this lot in 1894 and sold it to John Cowman in 1903. According to Fawcett (1958), Worley operated a general store in Percy in association with G. W. Gadberry from 1891 to 1901, which further approximates the lot transfer data. However, tax data indicate that Gadberry and Worley operated the store as early as 1889. Whatever the case, it is likely that this house was built by Worley ca. 1894 when the lot was bought. The store of which Worley was part-owner was the first store built in Percy; it burned down in 1913. The archaeological remains of that structure will be discussed in detail in the section designated by structure H. It is located in the adjacent lot on the north side of structure I.

According to the 1895 Iowa State Census, Worley's household included his wife, their son and his wife, and Worley's elderly father-in-law. Worley was listed as a merchant. By 1900 his household was much

the same with the addition of a granddaughter. Worley's profession was listed as "dry goods and grocery." His son, Charles, was listed as a farmer. Allegedly, when Gadberry and Worley sold the store in 1901, they bought another in Missouri and moved there (Fawcett 1958).

John H. Cowman occupied the Worley house from ca. 1903 until 1921, when it was sold to Benjamin C. Roush. According to Fawcett (1958:11), Cowman ran a boarding house in Percy "in its early period" and that he sold out to Ben Roush. She further noted that "Ben found this a profitable business for many years, [until] like others it too was no more in demand" (Fawcett 1958:11). There is some disagreement among the oral history informants as to whether or not Roush operated a boarding house or "hotel." Only a few informants recalled that Roush and his wife operated one for a time (Kain 1988; Schrader 1988). Roush was a section hand for the railroad, and the boarding house was operated for a time in addition to that profession. Clyde Kain (1988) recalled that the "hotel" was run by Ben and his wife and that a lot of railroad men stayed there. Roy Schrader (1988) noted that Mrs. Roush used to have boarders and set out meals for people mainly off the train. His father used to eat there when he was in Percy selling livestock. He further noted that:

> She [Mrs. Roush] would really set a table. Had quite a few roomers, off the railroad, work crews. That was the only way she could make a living (Schrader 1988).

Mrs. Roush also had an apple orchard south of the house from which the local children liked to steal apples. All the informants noted that she chewed tobacco and would spit at the children to scare them away from her orchard.

Most of the informants did recall that this house was used as a

boarding house for a number of years. Some referred to it as the "Percy Hotel." According to the 1910 U. S. Population Census, John H. Cowman, while listed as a farmer by profession, did have a boarder in his household, specifically Runnells Harbour, aged 61. The only other person listed in the household was Cowman's wife, "Ella." She was an aunt to Ernest Cochran (1989), and he recalled that his "Aunt Ell" operated a boarding house and that his Uncle John did not work much. Mikesell (1966:5) noted that Ellen operated a boarding house and two of "her star boards were Runnells Harbor and Kinch Jones." She also taught Sunday School in her home from 1908 to 1910.

Ben Roush sold the property to Caroline Wheeler in 1942, and she sold it to William E. Porter in 1948. The Porters occupied the house until 1959, when ill health forced the family to move to Newton where their doctor lived. They rented the house for a short time, but "undesirable experiences with tenants forced them to leave the house vacant" (RICOE acquisition file, Tract No. 1349). At the time of acquisition, it was used only for holiday parties and summer weekend stays. Oral history informants indicated that other occupants at one time included the Emerson family and the Buckinghams (Findlow et al. 1988). Roy Schrader (1988) recalled that the house was taken down; however, archaeological evidence indicated that it burned sometime after its 1965 appraisal for Lake Red Rock acquisition. It may be that the archaeological evidence was of burned scrap and unsalvagable materials following the dismantling of the house structure.

The acquisition file described the house as being fairly large, with six rooms on the ground floor and three mo[illegible] upstairs. It was

stated that "in its earlier age it was probably the best home in Percy, and it still shows quality features of a well built home (RICOE Acquisition Tract No. 1349)." The house had no basement, central heating, or indoor plumbing. The acquisition photograph (Appendix B, Figure 7d) (see also Appendix L, Figure 4b in McNerney and Stanley 1988:572) showed a house type identifiable as a Corn Belt Cube. The plan was a massed square, with a front porch and an addition that wrapped around the side and rear of the house. It was a full two stories in height, with a pyramidal hipped roof. Fenestration was symmetrical. The house was sided with horizontal boards, and the roof was covered with composition shingles. The one-story addition had the same roof shape and wall cladding as the body of the house. It had a side and rear entry flanked by two one-over-one doublehung windows. A brick chimney rose above the addition. The front porch was a small, on-grade portico with a flat roof supported by two slender wood columns with square bases and nice scroll-cut capitals that rose to a simple architrave. The 1931 fire insurance map of Percy (see Figure 2-25 in Rogers 1988:150) showed a dashed outline on the south side of the house which may have been a porch. This was not in evidence, however, by the early 1960s.

Outbuildings present at the time of acquisition included a barn, chicken house, and shed. The barn was a small, dilapidated frame structure with a gable roof oriented perpendicular to the axis of the facade. The siding was vertical board and batten, and the entry had double doors. The only interesting detail was the presence of two small windows under the gable (Appendix B, Figure 8a).

The chicken house was a shed-roofed coop with board and batten

siding. The low entry was centered between two windows, and there was another window above the door; these appeared to have been short, wide four-over-four windows (Appendix B, Figure 8b).

The shed was a side-gabled frame building with a metal roof and horizontal board siding. There were two entries located at either side of the facade and one small, square window. A chimney was barely visible at the rear of the shed (Appendix B, Figure 8c).

Oral history informants indicated that there were outbuildings "out back" including a "fair-sized barn," privy, a "great big shed" northeast of the house, and an old ice house which had sawdust-filled walls and no excavated hole. The ice house also had a lean-to on the west side utilized as a garage (Findlow et al. 1988). Roy Schrader (1988) thought there might have been a wash house behind the house at one time. He also noted that the interior of the house was always "painted up nice," and many informants remarked on the open staircase.

The foundation of structure P consisted of a buff-colored sandstone foundation approximately 40 cm in height. It appears that at some point the sill plates rotted. These plates were then removed along with the bottom row of siding, and a crude mortar was then worked into the space and troweled off smoothly surrounding the stud ends--an interesting solution to the problem (Betteridge, personal communication 1988). Appendix A, Figure 11a shows this method of repairing the foundation. The interior foundation walls (Figure 44) interlocked with the original foundation and were also constructed of sandstone. A backhoe trench excavated along the east-west interior wall exposed a section which extended deeper than the rest of the wall. Appendix A, Figure 11b shows

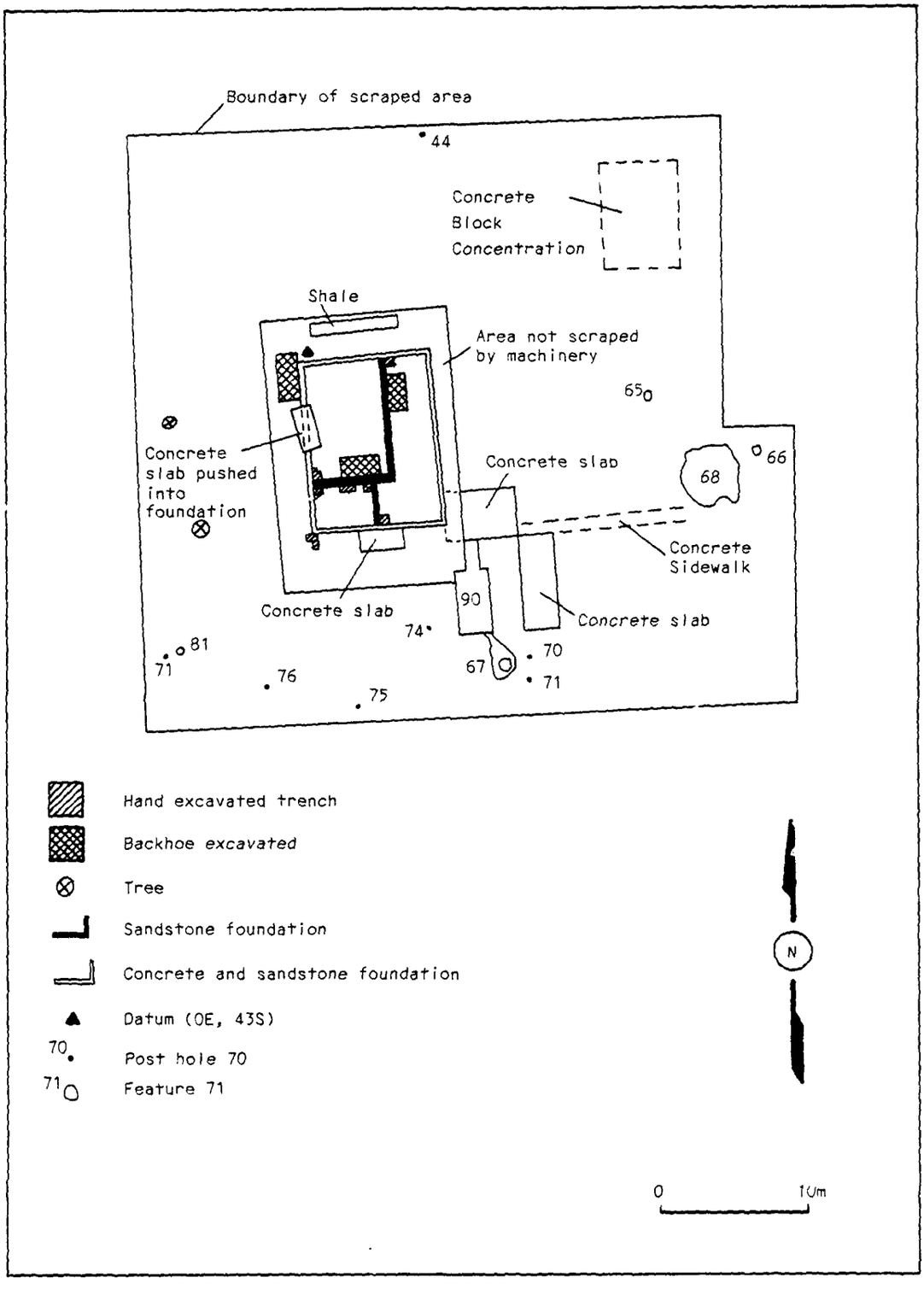


Figure 44. Site plan, structure I, site 13MA347.

the north profile of this wall. It was suspected that this was served as an additional footing for either the chimney or the staircase known to have been located along the south wall of the main portion of the house structure.

Two concrete porch slabs were present on the west (front) side and the south side of the foundation (Figure 44). The front porch slab had been pushed into the foundation by postoccupation disturbance. Off the southeast corner of the foundation was an L-shaped concrete slab which had also been disturbed by postoccupation activity. Extending off the south side of the northernmost slab was a keyhole cellar designated as feature 90 (Figure 44) (Appendix A, Figure 12a). The RICOE acquisition file (Tract No. 1349) made no mention of this cellar, indicating that it had been filled in by the early 1960s.

The cellar was constructed with mortared, vitrified road brick stamped with "IOWA." Roy Schrader (1988) remembered that they used to build streets with "IOWA" stamped bricks but did not know where these bricks were manufactured. A noted brick collector indicated that these bricks were manufactured in Des Moines either at the Flint Brick Company or the Des Moines Brick Company (Graves, personal communication 1989). The bricks in the floor were laid in a herringbone pattern (Appendix A, Figure 12b). Arched metal braces and concrete chunks in the fill of the cellar suggested that it had a domed concrete roof. Because of the heavy debris in the cellar, the backhoe was utilized to remove the fill from the south half and in the vicinity of the steps. The steps were poured concrete on top of a brick footing layer. The profile of the cellar revealed a single fill episode, and from the amount of broken concrete

and brick debris in the fill it would appear that the structure was bulldozed. The only diagnostic item recovered from the fill was a bottle base embossed with the mark of the Illinois Glass Company of Alton, Illinois, dating from 1916-1929 (Toulouse 1972:264).

In the extreme southeast corner of the cellar floor, two iron pipes were uncovered protruding from the corner and the floor (Appendix A, Figure 12b). The pipe in the extreme corner was angled in the direction of feature 67, located southeast of the cellar (Figure 44). It may be that feature 67 represents a drain for the cellar. This cellar was unique among the keyhole cellars uncovered at Percy, not by its size, which was close to the average (Table 23), but by its construction. This was the only brick-lined cellar at Percy, and the esthetic detailing of the herringbone floor indicates the care and craftsmanship that went into its construction. Because it required masonry skills in its construction, it was likely a more expensive cellar to construct. It is known that it was no longer in use in the 1960s. None of the oral history informants could specifically recall this cellar.

Feature 67, as noted above, was located southeast of the cellar (Figure 44). It consisted of a corrugated metal culvert buried upright to a depth of 1.9 below the scraped surface. The interior fill contained brick, concrete rubble, and loose matrix. Near the top a segment of a mortared brick chimney was thrown in the fill. The vitrified bricks of this chimney were stamped with "MISSOURI/MOBERLY MO/ BLOCK." These bricks were manufactured by the Moberly Paving Brick Company in Moberly, Missouri. A state listing of clay producers indicated that this company was in operation at least as early as 1918

and into the 1920s (Graves, personal communication 1989). A builder's trench surrounded the upper 1.3 m of the culvert, with the stain extending in a northwesterly direction to the southeast corner of the cellar (feature 90). It met the cellar wall at the same angle and location of the metal pipe in the corner of the cellar floor. The feature was originally thought to have been a sandpoint well; however, the pipe leading from the cellar floor to this feature suggests a drain. Because of the high water table in this area, a drain would have helped alleviate cellar dampness.

Oral history data indicate that this house did have a sandpoint well. Because feature 67 appeared to be more of a drain than a sandpoint, the well may have been located either in the unexcavated portion on the south side of the house or further south in what is now a cultivated field area at the edge of the house lot. This area was still part of the landholdings associated with this structure, but it has been disturbed by cultivation for a number of years. It was planted in corn at the time of the present investigation. Oral history indicates that there was an apple orchard in that portion of the lot in the twentieth century.

Eleven other features were uncovered in the house yard area of structure I (Table 22) (Figure 44). Seven of these were posts and post holes (features 44, 70, 71, and 74-77), 1 was a shallow pit filled with bone (feature 65), 1 was a buried refuse barrel (feature 66), 1 was a pipeline or drain (feature 81), and 1 was a large privy/refuse pit (feature 68) (Table 21).

A profile of feature 71 is shown in Figure 33. It contained a

remnant of a pointed wooden post. The post directly north of feature 71 also had a post remnant, but this was a flat-bottomed post with a flat-bottomed post hole. It would appear from the differing construction that these posts may not be directly related to one another. The other post features were in no discernible pattern or association. The post on the north edge of the lot (feature 44) was identifiable as an electric/ telephone pole-type post hole. Extra support for the base of this pole was provided by sandstone slabs inserted into the hole along the former post.

Feature 81 was located at the west edge of the lot southwest of the house foundation (Figure 44). It consisted of a metal pipeline running north-south and covered by a circular metal lid in a manhole-type configuration. Whether this was a gas or water pipeline or simply a drain is not known. Because house structure I had no indoor plumbing or gas heating, this feature does not appear to have a direct association with this house.

Feature 65 (Figure 44) was a shallow pit with little matrix and contained pig bones. It had a fairly regular oval plan view and was basin shaped but only 10 cm in depth. This feature may represent a natural depression filled with kitchen refuse. The lack of diagnostic artifacts makes an occupational association impossible.

In order to fully uncover the large feature (68) on the east edge of the lot, a 5 m extension was scraped to the east (Figure 44). The full extent of feature 68 was uncovered in addition to another feature (66). The latter was an unusual feature consisting of a short, circular barrel buried and filled with unburned refuse (Appendix A, Figure 13a).

The barrel was complete but had no base or top. The glass assemblage had a mean date of 1937.6, with several items postdating 1940. Therefore, this feature would be associated with the Wheeler, Porter, and/or tenant occupations of the house.

The final feature uncovered in the house yard was the large privy/refuse pit designated as feature 68 (Figure 44). The original function of this feature was not readily apparent. During the excavation, it was first thought to have been a cellar because of the large surface stain. However, it was found to be circular and basin shaped and did not conform to either a keyhole or a pit cellar type. The profile (Figure 45) showed five zones of fill (see also Appendix A, Figure 13b). The lower zones contained a high density of artifacts, indicating the use of the hole for refuse deposition; however, lime deposits and some botanical material found in zones E and I suggested a privy function, possibly a "two-holer." The privy function remains somewhat questionable because the botanical material was not present in the same density that privy deposits commonly have; however, the presence of the lime deposits as well as the overall configuration of the feature and its profile suggests an original function as a privy. It is possible that the privy use deposits were routinely cleaned out and what remained were primarily refuse dumping episodes to fill the holes.

The topmost zone (A) showed evidence of burning and had a quantity of ash, cinders, clinkers, and artifacts. This zone appears to have been the final sealing episode. Zone C also appeared to have a slightly more recent date of deposition than the lower zones E and I. A wooden plank was uncovered at 48 cm below the scraped surface, and at the base of the

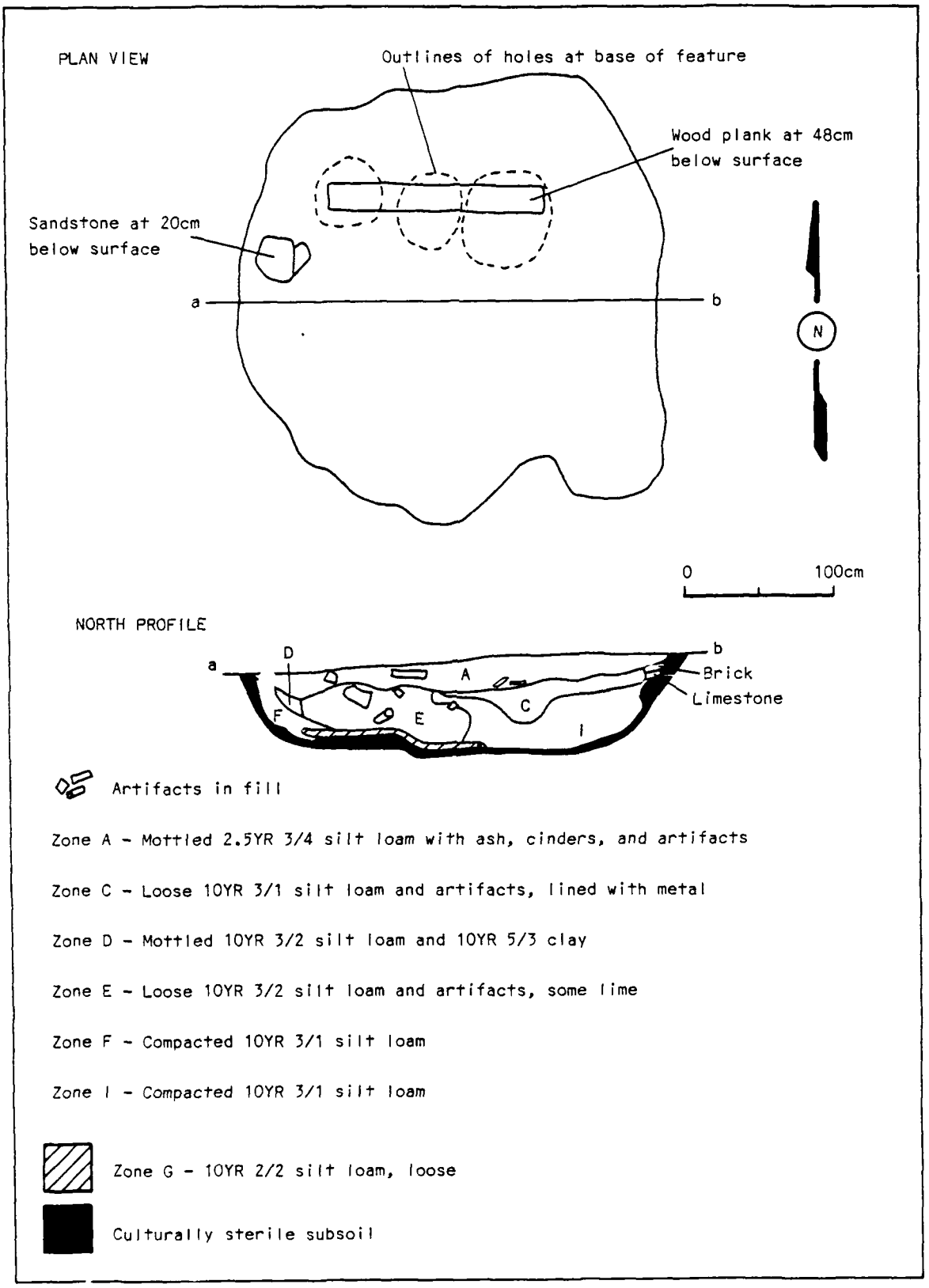


Figure 45. Plan view and profile, feature 68, site 13MA347.

feature three circular depressions were revealed (Figure 45). Whether these depressions indicate a "three-holer" is questionable.

The glass assemblage had the following mean dates by zone: zone A (1914.3), zone C (1910.1), zone E (1893.6), zone F (1892.5), and zone I (1893.1), while the ceramic assemblage had the following: zone A (1905.3), zone C (1901.4), zone E (1901.2), and zone I (1897.7). Associations between the deposition of zones E, I, and F were indicated by sherds from all zones mending together in addition to containing similar, unusual artifacts such as photographic glass plates. Mending vessels included a handpainted luster tea leaf decorated cup and saucer (Appendix C, Figure 9b) and an embossed ironstone cream pitcher (Appendix C, Figure 9b). Other items of interest included a large quantity of patent medicine bottles (e.g., see Appendix C, Figure 6b); a variety of other bottles including ink, perfume, and foodstuff bottles (Appendix C, Figure 7a); a large etched glass pitcher (Appendix C, Figure 8); porcelain doll heads (Appendix C, Figure 7b); a partial dental plate, a stoneware ink or bluing bottle from the Merrill Pottery in Akron, Ohio (Appendix C, Figure 4a); and several whole stoneware preserves jars (Appendix C, Figure 9a). The latter were of particular interest as they were wheelthrown and had similarities to locally made wares.

Zone E contained a large quantity of whole bottles and reconstructible glass tableware and ceramic vessels, including the etched pitcher noted above; a "set" of handpainted luster tea leaf decorated cups, saucers, and plates; and a handpainted pitcher and washbowl. In addition were a number of porcelain doll parts and men's,

women's, and children's shoes and boots. This suggests that zone E received a "house-cleaning" type episode of deposition, perhaps when the Worley family moved to Missouri and did not wish to take all their dishes, glassware, toys, and old shoes with them. However, the inclusion of post-1900 bottles in zone E indicated a closer association with the boarding house. These included "Kemp's Balsam" (bottle manufactured after 1900 [Fike 1987:25]) and several bottles marked with "Banner" dating from ca. 1910 to 1930 (Toulouse 1972:69). Therefore, it would appear that the lower zones were deposited during the boarding house occupation of the Cowman family from 1903 to 1921.

An unusual inclusion in the artifact assemblage of zones E and I was a large quantity of photographic glass plates of a variety of sizes. These were found stacked in the deposit, where they appeared to have been thrown in by the handful. Two bottles also were related to photography, one being a solution (with the original contents intact) made by "Eastman/Rochester, N. Y.," and the other marked with "Jas. H. Smith & Co./Mf'rs. Photographic Sundries/Chicago." These items suggest that someone either in Percy or traveling through was involved in photography but for some reason had discarded their inventory.

There was little evidence that this possible privy was wood-lined; the wooden plank near the base appeared to have been set there in isolation. It is conceivable that the plank is a remnant of a wooden floor that was later removed in a privy cleaning episode; however, the profile of the privy did not exhibit the straight walls that would be expected with a lined privy.

The large size of this feature suggests a greater association with

the boarding house utilization of the house structure. A privy would have to be larger, preferably a "two-holer," to accommodate a number of boarders. This appears to be supported by the dense quantity and variety of material deposited in zone E, in particular. While the artifact assemblage does have a temporal range extending into the late nineteenth century and could have been associated with the Worley occupation, the above noted 1910-1930 maker's mark indicates a later association with the Cowman occupation. Furthermore, the large amount of pre-1915 bottles in the fill indicates a tighter temporal range of 1903-ca. 1915. The lack of definitive mid-twentieth century material in this feature indicates that the privy or privies utilized by the post-1920s occupations of this site must have been located in the unexcavated portion of the lot to the east.

Three other features were situated in the house yard area but were not assigned specific feature numbers. These include a narrow concrete sidewalk on the surface that was removed by the scraper, a possible concrete block foundation that had been highly disturbed by post occupation activity, and a shale sidewalk or porch floor on the north side of the house foundation (Figure 44). The latter was visible on the ground surface and was not removed by the scraper. The concrete sidewalk appeared to have extended out from the back porch slab eastward toward the privy/refuse area.

The concentration of concrete block rubble in the northeast corner of the house yard was not in a definable foundation form; rather, it appeared to have been bulldozed and may not have even been in its original location. It is likely that this rubble was from the foundation

of one of the outbuildings noted in the RICOE acquisition file (Tract No. 1349).

The front yard of the house was framed by two large shade trees, the stumps of which are still extant (Figure 44). A concrete sidewalk ran the length of the lot (in fact, the entire east side of the main street) paralleling the road.

Interpretations. Structure I was likely built ca. 1894 by John Worley, a local merchant. It served as his family's residence for seven years, when it was sold to John Cowman. He, or more correctly his wife, operated a boarding house in the structure from ca. 1903 until 1921, when the property was sold to Ben Roush. His wife ran a boarding house for a time, while he worked for the railroad. After 1942, the house served simply as a family residence until ca. 1960, when it was abandoned.

The large size and quality of this structure suggests a higher economic level associated with the original owner. In comparison to the other houses in the town portion of Percy, it was the largest and obviously possessed some qualities that were impressive enough to prompt the RICOE appraiser to state that "in its earlier age it was probably the best home in Percy" (RICOE acquisition file, Tract No. 1349). The original owner was a merchant in Percy, and such persons were usually of influence and importance in the community. Whether or not his business made him wealthy is doubtful, but it must have been successful enough to provide him with the means to build a large, impressive home. A further indication of a higher economic level might be represented by the brick-lined cellar, a structure that was more elaborate and perhaps required

greater skill in construction than the majority of the keyhole cellars uncovered in Percy.

The early 1900s-1940s occupation of the house was characterized by its use as a boarding house. In this case, the large size of the house was more indicative of function than of economic level. After the 1940s, the occupation reverted back to that of simply residential. The town had began its downward decline by that time, and by the end of its history structure I was abandoned and badly deteriorated. Its final occupations were by tenants, although this seemed to have been for only a short period.

The house yard surrounding structure I had a low feature density, particularly the north side and front yards (Figure 44). It had basically the same types of features as the other Percy house sites except that only one large possible privy area was uncovered rather than a number of small privies, although other, more recent privies might have been located in the unexcavated area to the east. The large privy/refuse pit appeared to have been associated with early boarding house occupation between 1903-1921. In the mid-twentieth century, refuse was disposed of in a buried barrel in the back yard. The only typical feature type not found in the house yard was a well, although it is known that the house did have a sandpoint.

Structure H. The structure designated "H" by the phase II investigation was the foundation of a house moved by Clarence Vanderlinden in 1924 to this location from a farm northwest of Percy. He and Paul Grundman operated a grocery store in a two-story concrete block building that once stood across the street from structure H (Figure 30).

They operated this store from 1922-1930. That building also served as the IOOF Lodge, a roller skating rink, and a cream station in addition to having housed several successive grocery stores. It was torn down in the mid-1930s (Mikesell 1966:16; 41). In 1929, Vanderlinden sold the structure H property to Bill Findlow, who lived in the house until 1965. As noted previously, Bill Findlow's father, Edd, had operated a restaurant/grocery store in Percy, having his first restaurant at structure e, then at structure f. Bill Findlow took over this business in 1921 and operated it until 1945 when he and his son, Ike, took over the Cochran store (feature 111). Ike Findlow took over from his father in 1960.

The RICOE acquisition file (Tract No. 1348) noted that structure H had five rooms, a pantry, and two enclosed porches. The photographs (Appendix B, Figures 8d and 9a) showed a one-story Bungalow. The ground plan was rectangular, with a rear appendage. The house had two hipped roofs covered with composition shingles. Fenestration was symmetrical, with both wood and aluminum combination storm windows in four-over-four and one-over-one doublehung configurations. The exterior wall cladding was narrow-reveal horizontal board siding with corner boards. The house had K-type gutters, two brick chimneys, and the integral front porch was enclosed. There was an enclosed porch inset in the "L" between the core of the house and the rear addition. Interesting architectural details included the 10 four-over-four doublehung windows on the front porch and the unique roof shape with its two hipped elements, boxed eaves, and wide fascia trim. A shed outbuilding was present at the time of acquisition. Ike Findlow recalls that his father had an ice house in the

backyard, and like other ice houses in town it did not have an excavated hole. Instead the walls were filled with sawdust to keep the ice from melting (Findlow 1987).

It was found during the phase II investigation (Rogers 1988:163) that structure H had been built partially over a sandstone cellar foundation (Figure 46). This cellar was part of the first store in Percy, built in 1882 and burned in 1913. Following the destruction of the structure, the cellar hole was left open and the townspeople began filling it with refuse. Roy Schrader (1988) recalled both the cellar hole and the dump. He remembered that during visits to his aunt in Percy, the children would spend a lot of time around that cellar. His mother was afraid they would get hurt, but it was too fascinating a place to avoid. He recalled that the whole town used the cellar as a dump and probably some of the neighboring farmers as well. He noted that it "stood idle" for some time before the hole was finally filled.

The foundation of structure H partially overlapped the cellar foundation, and in that area the structure H foundation had to be 10 cm deeper than in the remaining areas, likely because of a slight depression left by the cellar. The concrete foundation of structure H was formed up with boards.

The store was the first general store in Percy. According to Mikesell (1966:14), the store was built in 1882 and was operated by Robert Putnam. Fawcett (1958) indicated that George Leuty had built the store, with Putnam as the operator. Putnam was also the first postmaster in Percy. After Putnam's death in 1891, the store was taken over by C. W. Gadberry and J. W. Worley, although 1889 tax data indicate an earlier

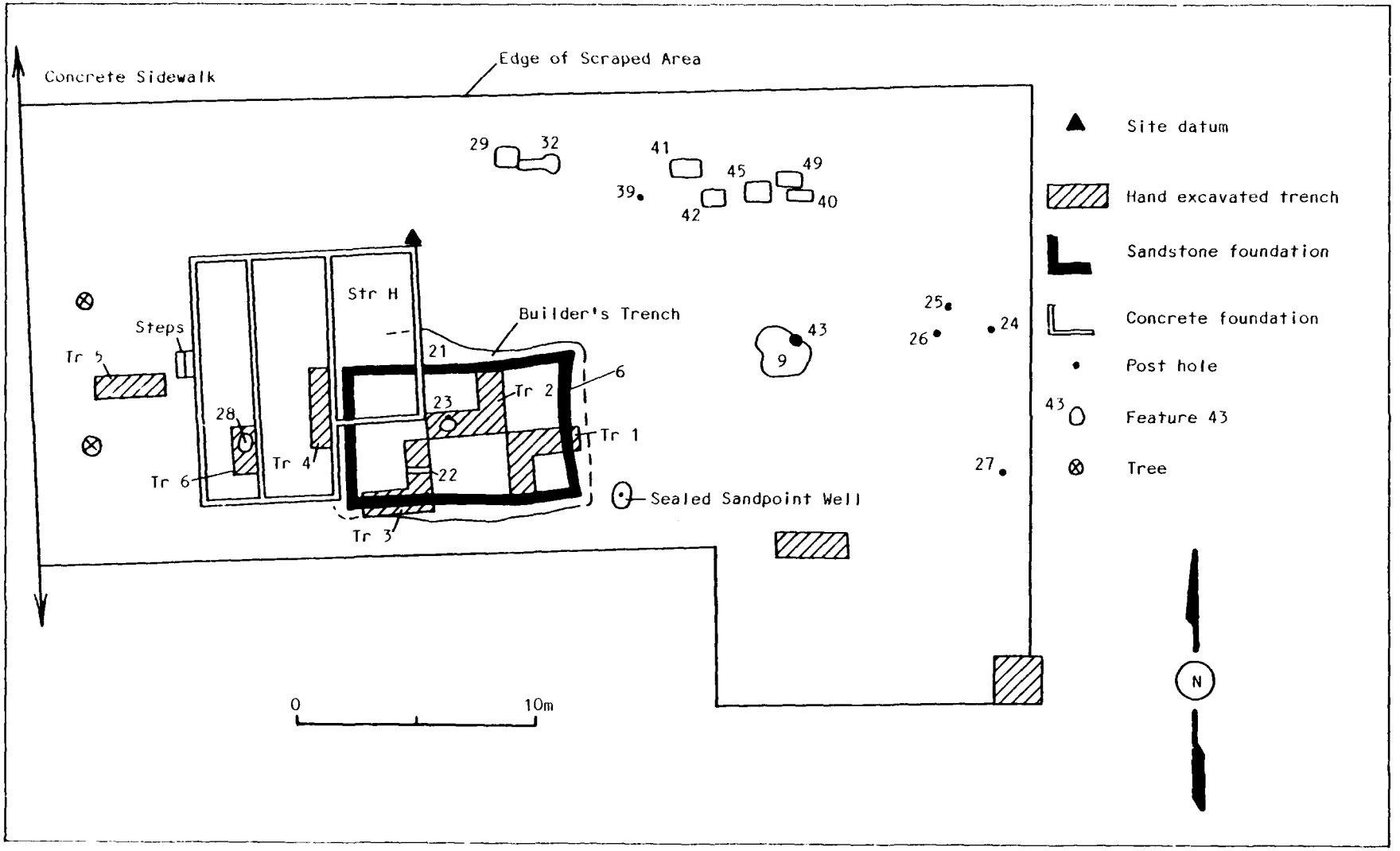


Figure 46. Site plan, structure H, site 13MA347.

date for their operation of the store. They operated the store until 1901, when it was purchased by H. C. Troth. Troth, in turn, sold it to W. M. and J. L. Cowman in 1902. According to Fawcett (1958), Gadberry and Worley had bought a store in Missouri and sold their Percy store to a man named Puckett, who then sold it to the Cowmans (father and son). The lot transfer data, however, showed Troth as the purchaser from Gadberry and Worley, indicating that the Mikesell data may be more accurate. The Cowmans, wishing to go back to farming, sold the store to R. M. Catlin in 1907. Fawcett (1958) claimed that Catlin sold it back to the Cowmans in 1908; however, according to Mikesell (1966), an E. A. Brown became the owner in 1908 who transferred it to the Cowmans. The Cowmans, however, soon went back to farming when Homer C. Hays became interested in their store and purchased it in 1909. After several years his health failed, and he was forced to give up the store. C. A. Miner became the last owner in 1911. He was operating the store and living in the adjoining residence when the structure caught fire. The story made front page news in the region. The following is an article from the November 6, 1913, edition of the Knoxville Journal:

ABOUT THE FIRE AT PERCY
C. A. Miner's Store and the Post-office Totally Destroyed.

The C. A. Miner general store and residence and the Percy post office were totally destroyed by fire between the hours of eleven and twelve on October 26th. Nothing was saved from the residence and store and only the records from the post office. Just as Mr. and Mrs. Miner were retiring, he looked out and saw that the lower part of his residence was all ablaze and found that the only way he and his family had to escape was by jumping out the upstairs window, this they did without getting any of their clothing. The fire soon spread to the store and post office and there was no way to stop its progress. Mr. Miner estimates his loss at $8,000 with $4,000 insurance. It is generally thought at Percy that some person started the

fire for some unknown reason. C. A. Miner is a nephew of A. R. and H. C. Miner of Bussey.

Figure 47 is a memory drawing of the the store by Ray Mikesell (1966:14). It shows a one and one-half story frame structure with a false front and a one-story side addition. There was an entrance to the upper floor on the south side. The store was fronted by a sidewalk along the main street. Attached to the back of the store structure was what appeared to be a one-story, possibly one and one-half story, frame house. It had a porch and entrance on the south side. Both the store and the house had chimneys, and there was a well off the east side of the house. The northeast back and side yard area was enclosed by a chicken wire fence. This enclosure and the well shown on the north side of the store were associated with the next house located to the north (i.e., structure G).

The notation in the above newspaper article that Miner had looked out a window and noticed the lower part of his residence ablaze indicates that either they had their bedroom in the upstairs of the store portion or that the residence did have an upper story or half-story. According to Fawcett (1958:2), the Miners lived above the store and "were awakened one night to find their store burning, the stairway already gone, they climbed out a window onto a roof of a shed that had been built onto the store building."

The data recovery excavations of this lot uncovered the entire cellar foundation. This had been designated as feature 6 by the phase II investigation (Rogers 1988). The backhoe was utilized to remove the topsoil covering the cellar. Its parameters were then defined and three

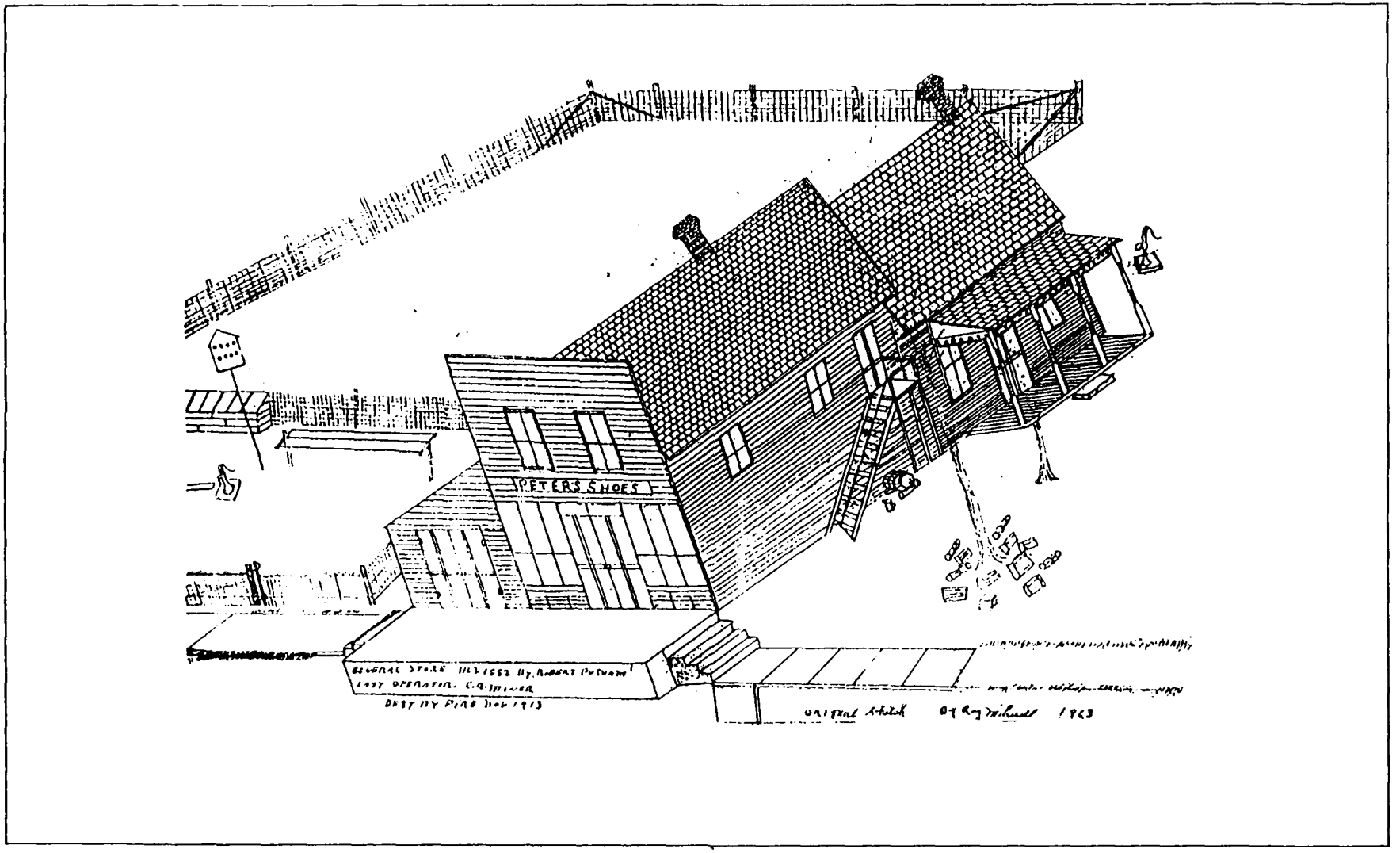


Figure 47. Memory drawing of Putnam store (feature 6), Percy.

L-shaped test trenches, 1 m x 3 m in dimension, were hand excavated in arbitrary 10 cm levels (Appendix A, Figure 14a). The placement of the trenches was dictated by the surface evidence of the foundation. The east and south walls were ill-defined on the surface; therefore, trenches 1 and 3 served to fully define the actual location of these walls (Figure 46). The artifacts from test trench 1 were retained as a sample. Large metal items were photographed in the field and left at the site. Dense quantities of metal can and bucket fragments, mortar, and brick were noted and weighed, but only a sample were kept. All three trenches were found to contain the same stratigraphy and general artifact types.

Figure 48 shows a profile of the east wall of trench 2 and the west wall of trench 1 combined for a full north-south profile of the cellar fill. The profile showed four major zones of fill (A, B, C, and E). Zone E represented a silty clay deposit underneath the burned floorboards of the cellar floor (zone D). Zone C was an ashy burned layer representing fill deposited when the structure burned. Zone B contained an extremely dense deposit of artifacts including large metal items such as cultivator parts; all manner of carriage, wagon, and automobile parts; machinery parts; stove parts; bed springs; pipes; cans; pots and pans; washtubs; and buckets, to mention but a few (Appendix A, Figure 15a). Trench 3 even had a whole sheet metal stove protruding from its east profile (Appendix A, Figure 14b). Shoes, boots, and bottles were other items found in mass quantities. Representative examples of the foodstuff bottles recovered from the refuse dump zone are shown in Appendix C, Figure 10. This zone represented the refuse deposited by the townspeople

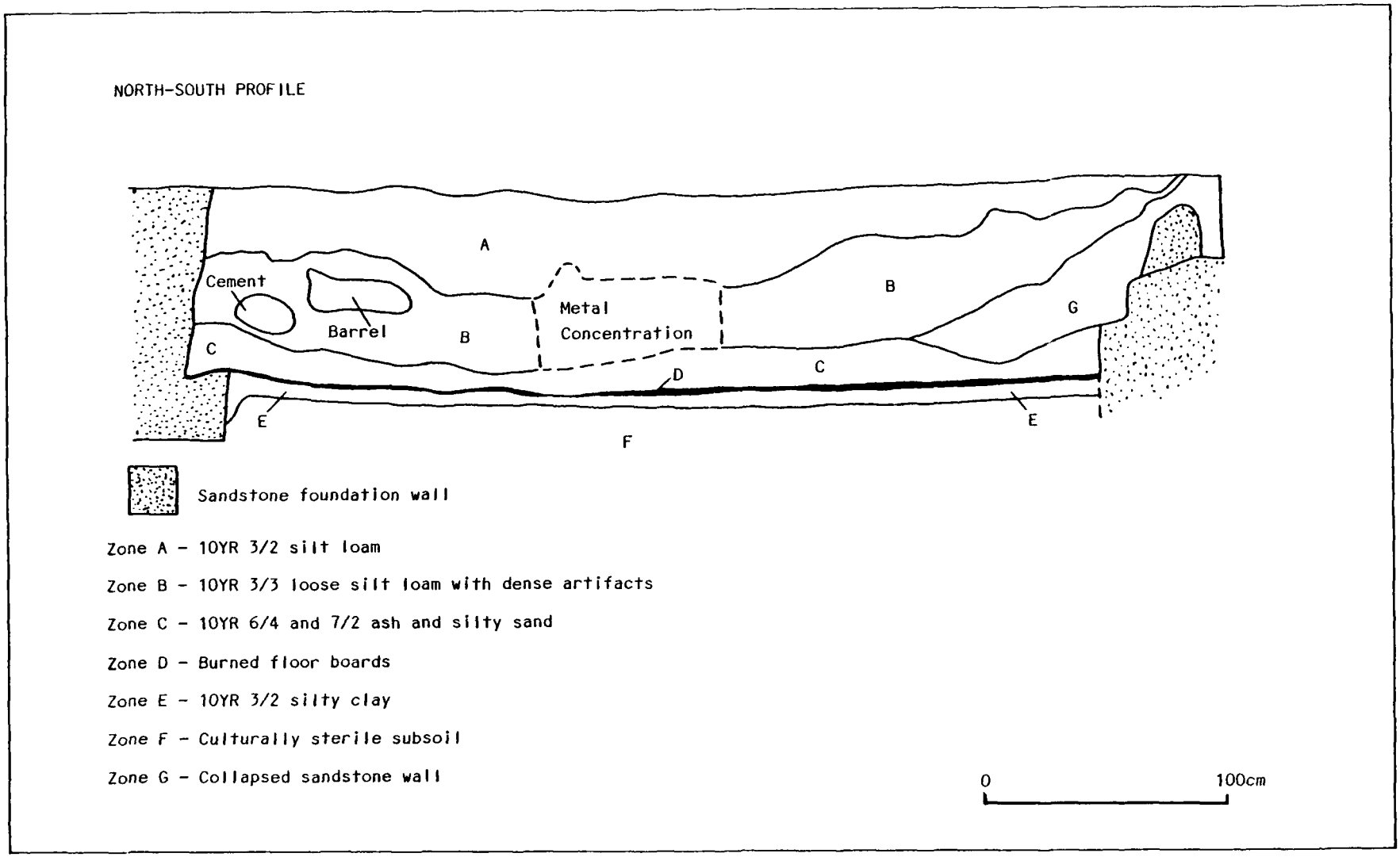


Figure 48. Profile of feature 6, site 13MA347.

between 1913 and 1924. The uppermost zone (A) contained fewer artifacts and appeared to be primarily a final, single episode of fill so that the foundation of structure H could be constructed. Zone G in the profile (Figure 48) was an area where the stone foundation wall had collapsed prior to the trash deposition. All of the foundation walls were collapsing inward prior to its final fill episode.

The ceramic assemblage from trench 1 had a mean date of 1919.6 and a mean glass date of 1925.9. The glass assemblage from zone C (the burned layer) had a mean date of 1916.3. Glass maker's marks from the refuse dump zones included that of the "A. B. C. Bottling Company of Des Moines, Iowa," "Neudermann and Company/Des Moines/Steam/Bottling/ Works," the Owens Bottle Company from 1911-1929 (Toulouse 1972:393), and the Illinois Glass Company from 1916-1929 (Toulouse 1972:264). Patent medicines included "Dr. Miles Nervine," "Dr. W. B. Caldwell's/Syrup Pepsin/Monticello, Illinois," "Chamberlain's Cough Remedy," "Hamlin's Wizard Oil/U. S. A./Chicago, Illinois," and "J. R. Watkins Medicine Company/Winona, Minn." Ceramic maker's marks included "Made in Germany," "Western Stoneware Company," "Sherwood Brothers Pottery of New Brighton, Pennsylvania," "Homer Laughlin/Made in U. S. A./D 3 N" (East Liverpool, Ohio, from 1900-1960 [Gates and Ormerod 1982:136]), and "Hall/China" (East Liverpool, Ohio, from 1903-1911 [Kovel and Kovel 1986:69]). Two coins were recovered from zone B and included a 1905 and an 1884 Indian head penny.

At the base of the cellar fill in trench 2, a square area had been cut into the charred floorboards (Appendix A, Figure 15b). This was likely for a post to support the floor of the upper residence structure.

It was not assigned a separate feature number. Two other features were encountered during the excavation of these trenches. These were features 22 and 23 (Figure 46). Feature 22 was visible on the scraped surface of trench 3. It was filled with loose soil and artifacts. The fill extended to a depth of 20 cm below the scraped surface. Its configuration and location approximate the location of the porch addition on structure H (Appendix B, Figure 9a). This feature likely represents either the dripline to that porch or a shallow wall trench.

Feature 23 was a post hole encountered between 0-34 cm below the scraped surface. It was circular with a pointed base. This feature was also associated with the occupation of structure H, although its specific function is unknown.

The foundation of the cellar was constructed of buff-colored sandstone blackened and reddened by the intense fire. The stones showed tooling marks from being worked into shape and were laid up with soft lime mortar. The north wall had a footing at its base, but the other three walls did not appear to have footings (Figure 48) (see also Appendix A, Figure 16a). The builder's trench of the cellar was visible around the outer edge of the foundation (Figure 46). This was designated as feature 21, and a small slit trench was excavated along the north wall to achieve a profile. The builder's trench was 56 cm deep, 60 cm wide at its top, and narrowed to 18 cm in width at the base.

A 1 m x 3.25 m trench (#4) was excavated along the interior wall of structure H (Figure 46). The scraped surface of the interior of the foundation was covered with a dense ash and artifact deposit. This trench and trench 6 (Figure 46) were excavated to sample this deposit

and search for further evidence of the former store structure. It appears that the original house structure was placed over the cellar foundation, with no evidence of a substantial foundation for the actual store structure. The burned deposit in trenches 4 and 6, however, contained an excellent sampling of some of the items that would have been for sale in the store in 1913 (see Appendix D, Table 5). The deposit reached a depth of 20-30 cm below the scraped surface.

The ceramic assemblage from trench 4 had a mean date of 1905.6, and the glass assemblage had a mean date of 1908. The primary ceramic decorative technique was decalcomania in combination with embossing and gilding. It was difficult to determine from the burned ceramics, but the primary decal appeared to be gold floral. Ceramic maker's marks included "Globe China" made by the Globe Pottery Company of East Liverpool, Ohio, dating from 1907-1912 (Gates and Ormerod 1982:51) and "Dresden China" made by the Potter's Co-operative Company of East Liverpool, Ohio, dating from ca. 1908-ca. 1915 (Gates and Ormerod 1982:218). Aside from the large quantity of ceramic dishes in the trench 4 assemblage, there were patent medicine bottles including that of Chamberlain and Company of Des Moines and Foley's Honey and Tar of Chicago; canning jars; glass tableware; kerosene chimneys; window screen; suspender clasps; shank, sew-through, and overall rivet buttons; and shoe parts.

The excavation of trench 6 revealed an oval, flat-bottomed pit that was a structural support of some sort (Figure 46) (Appendix A, Figure 16b). This feature (designated as #28) was filled with brick, ash, mortar, and burned artifacts, indicating that it was filled in shortly after or during the store fire. It is possible that this was a joist

support for the floor of the store. Shovel testing and soil core probing in all four directions out from this feature revealed no similar features in line with this possible pier. The ceramic assemblage of trench 6 had a mean date of 1905.5, while the ceramics from feature 28 had a mean date of 1907.2. Once again, decalcomania decoration was predominant.

An additional trench was excavated in the burned deposit that extended all the way from the cellar foundation west to the concrete sidewalk (Figure 46). This trench revealed no features, and the deposit, not as dense as that in trench 4, bottomed out at 10 cm below the scraped surface. The ceramic assemblage had a mean date of 1902.8. One item of interest was a stoneware figural whistle in the form of a seated woman (Appendix C, Figure 6a). To make it whistle, one has to blow into a slit at her feet. Artifact types in trench 5 did not differ greatly from that of trench 4, but the primary ceramic decorative technique was late flow blue/embossed/decal/gilded. More stoneware was also found in this area.

The scraped area of the house yard revealed 14 features (Table 22) (Figure 46). Seven of these were privies, 6 were post holes, and 1 was a refuse pit. The latter had been partially excavated during the phase II investigation and was designated as feature 9. It consisted of a shallow refuse pit containing, among other artifacts, a concentration of bottles. "Chamberlain's Colic, Cholera and Diarrhoea Remedy" and "Hall's Catarrh Cure" were common among the patent medicine bottles. It was fully excavated in the data recovery investigation prior to the removal of the topsoil. The glass assemblage had a mean date of 1913.5 and

included both late nineteenth and twentieth century items. The latter included some Depression glass tableware dating from the 1920s-1930s. The ceramic assemblage had a mean date of 1907.3. One ceramic maker's mark was that of the Johnson Brothers, England, dating from 1883-1913 (Kovel and Kovel 1986:12). The temporal range of the artifacts from this feature indicate an association with the late nineteenth century occupation of the store/residence, with some utilization following the store's destruction.

The post holes were primarily grouped at the east edge of the lot area, and some were likely fenceposts. A definite association or pattern, however, was not discernible. Figure 33 shows the profiles of two of these post holes which had wooden post remnants (i.e., features 25 and 26). One had a flat-bottomed profile, and the other was more round-bottomed. Likewise, the profiles of features 24 and 27 showed a round-bottomed (24) and a flat-bottomed (27) post hole with no remnant posts.

Feature 39 was a shallow, flat-bottomed post hole located in isolation in the area of the privy features, while feature 43 was a possible post hole intrusive to feature 9 (Figure 46). The specific functions of both were not discernible.

The phase II investigation also found a post hole south of feature 9 (see Figure 2-29 in Rogers 1988:162). That post hole was found in a long trench excavation extending from 5 m to 20 m east and 5 m south of the northeast corner of the structure H foundation. This trench exposed the middle portion of feature 9, a broken concrete basin near the ground surface (feature 7), and a narrow concrete sidewalk on the ground

surface angling northeast from the sandpoint well towards the privy area (Rogers 1988:162). The data recovery excavations found that the sidewalk extended 5-6 m northeast of the phase II test trench, placing it in the vicinity of the group of privies including features 40-42, 45, and 49. It is known that there used to be a concrete sidewalk on the south side of structure H leading from the street back to the porch addition and extending to the well. The angled sidewalk likely once connected with this sidewalk.

Two artifact concentrations were noted in the southeast corner of the lot (Figure 46). This area had been expanded by the necessity of room for the scraper to maneuver around backdirt piles. As a result, these areas were not as cleanly scraped as others but did exhibit a high artifact and cinder density. Two units were hand excavated in these areas. The deposits were 10-20 cm deep, and no features were revealed. They appear to represent midden remnants. According to Mikesell (1966:37), the first blacksmith shop, operated by Theodore Matheny, was located behind Bill Findlow's house (structure H). It was suspected that the concentration of cinders in the westernmost unit (Figure 46) at the edge of the lot might have been remnant evidence of this shop. The excavation was inconclusive, however, and no other structural evidence of this shop was found.

A sealed sandpoint well was situated off the southeast corner of the cellar foundation (Figure 46). This well was not excavated because it was sealed with concrete, with the pipe still protruding from the surface. It is known that this well was used by the occupants of

structure H. It was in the same general area of the well shown in Figure 47, and it is possible that it was the same well.

The remaining features in the house yard area were a group of privies situated along the north side of the lot (Figure 46). Feature 29 was a wood-lined privy having four zones of fill (Figure 49). All of the zones except the uppermost zone (A) were definite privy use deposits. Zone A was primarily ash and likely represents a sealing episode. The four walls of the privy lining were supported by wooden posts--a well constructed privy (Figure 49). The high density of nails, particularly in zone C, suggests that the wood lining was removed or replaced during the deposition of that zone. The lack of wooden walls above zone C (Figure 49) indicates removal more so than replacement.

The ceramic assemblage from feature 29 had a mean date of 1903.1, while the datable glass had a mean date of 1910.2. Items of interest included a dense quantity of kerosene glass chimney fragments, 2 shell buttons, and 1 bone button. In addition were dense concentrations of faunal and botanical material which will be discussed in detail later in this chapter. This privy appears to be associated with the general store occupation of this lot. The artifacts indicate a general temporal range of 1890s-1910s.

Feature 32 was a privy adjacent to, but not intrusive upon, feature 29 (Figure 46). This privy was also wood lined but had board supports nailed to the interior corners rather than actual post supports. The interior fill consisted of three major zones (A, C, and D). The uppermost zone, similar to feature 29, was a sealing deposit of ash and charcoal, while the lower zones appeared to be two use deposits. The

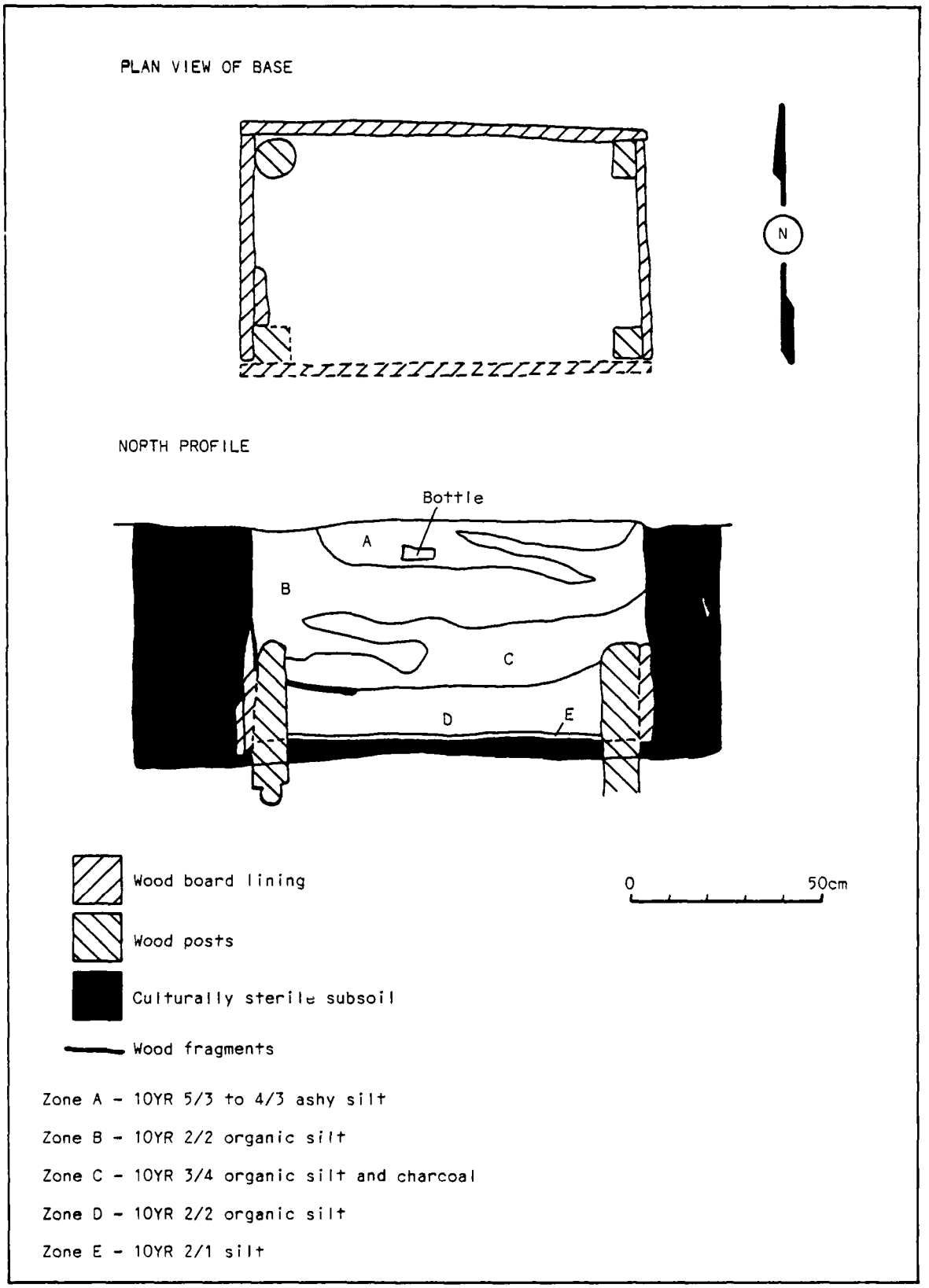


Figure 49. Plan view and profile of feature 29, site 13MA347.

bottommost zone (D) was 42 cm thick, while zone C was only 8-10 cm thick. The expanding stain visible on the east side of the surface of this privy (Figure 46) was a shallow, sloping deposit that likely represented privy overflow. A machine-made medicine bottle with an Owens Illinois Glass Company mark dating from 1929-1954 in zone C indicates that this privy is associated with the Findlow occupation of structure H.

Feature 41 was among the group of privies east of features 29 and 32 (Figure 46). It differed from these features in that it was not wood lined, its base configuration was erratic and difficult to define, and it was extremely shallow; the deposit was only 10-25 cm in depth from the scraped surface. The fill contained one basic episode of privy use, including lime, botanical matter, and newspaper fragments (likely toilet paper). The shallowness of this feature raises questions as to its feasibility as a true privy--it would not have taken long to fill it unless it was cleaned out frequently. It may be a temporary privy that was utilized while a more substantial one was constructed. The major diagnostic item in the privy fill were bottle fragments embossed with "Federal Law Prohibits Sale or Reuse of This Bottle" dating from 1933-1969. Therefore, this privy is also associated with the Findlow occupation of structure H.

Feature 42 was a privy situated southeast of feature 41 (Figure 46). It was wood lined at the base and had a profile which exhibited three zones of fill (see Appendix A, Figure 17a). The uppermost zone (A) was likely a sealing episode but did not contain ash deposits like that sealing features 29 and 32. Zone B contained a quantity of beer bottles

primarily deposited at the interface with zone A. All zones of feature 42 contain post-1920s artifacts including some dating from post-1940 (e.g., Duraglas marked bottles [Toulouse 1972:170]). Therefore, this privy was also associated with the Findlow occupation of structure H.

Feature 45 was a privy located east of feature 42 (Figure 46). It had wood-lined walls and three zones of fill. The bottommost layer was a thin lens of loose silty clay and may have been a siltation episode rather than a use deposit. The primary use episode was the next higher zone (B), with the top layer being a sealing deposit. Eleven pieces of buff-colored sandstone had been thrown into zone B, including one 40 cm in length. Few diagnostic items were recovered from this privy. The sparse glass assemblage had a mean date of 1920.8, suggesting an association with either the Vanderlinden or Findlow occupation of structure H. However, the general temporal range extends to 1904, and the possibility remains of an association with the general store occupation.

Features 40 and 49 were privies located east of feature 45, with feature 40 partially intrusive to 49 (Figure 46). Feature 40 had wood-lined walls supported by cross-piece boards nailed to the walls approximately 24 cm above the base of the privy. These cross supports likely kept the wood lining from warping. The fill episodes of this privy consisted of two thick use deposit layers, one at the top and one at the base, with six lenses of use deposits in-between. An enamelware chamberpot had been deposited in the privy. It was found upright and intruding through all six lenses and the uppermost zone. The diagnostic material from feature 40 included post-1929 bottle glass and a 1940

Liberty dime, indicating an association with the Findlow occupation of structure H.

Feature 49 was less complex in deposition, containing only one zone of fill. It was not wood lined or very deep (extending only 24 cm below the scraped surface). The organic nature of the matrix indicated a privy use deposit; however, similar to feature 41 its shallowness is somewhat puzzling unless it was only a temporary privy. There was no diagnostic material in the privy fill. It contained a sparse amount of wire nails, unidentifiable bottle glass, and a stoneware sherd. No associations can be made with specific occupations of this lot.

Oral history indicated that in twentieth century Percy the privies were commonly cleaned out. "Honey-dippers" used to come through and pump them out (Findlow 1987). Wood lining would have facilitated such cleaning episodes. Therefore, what remains in many of these privies likely represents only the final use episodes before the privies were abandoned and sealed. However, the number of privies associated with a single family's occupation (i.e., the three, possibly four privies associated with the Findlow occupation) indicates that even though the privies were cleaned out, there obviously came a time when they were abandoned for a new privy. This was likely the result of wood rotting or becoming unsanitary.

Interpretations. The excavation of this lot revealed features associated with both the first general store of Percy and a later house occupation (structure H). The remains of the general store provided data on some of the types of items available in the store when it burned down in 1913 as well as the items disposed of by the

townspeople between 1913 and 1924. A refuse pit and at least one privy were found to be associated with the store/residence occupation period. Comparisons of the artifact types recovered from the burned store deposit and those listed in J. L. Cochran's 1911 store account book indicates that both operations were carrying a similar line of merchandise. The data from the burned deposits, however, provides additional data on ceramic decoration types (decal and embossed late flow blue appeared to be common) and origins (primarily from East Liverpool, Ohio, potteries with some imports) not available from the 1911 account book.

As with the other house sites at Percy, overall feature density was low. The primary features in the house yard area were privies, the majority of which were associated with the Findlow occupation of structure H. Throughout its history, the occupation of this lot has been by merchants, with one possible blacksmith shop having been located in the backlot. No archaeological evidence was found of that shop expect for a concentration of cinders along the south boundary line. It is known that the blacksmith, Theodore Matheny, lived elsewhere in Percy.

Structures E-G. The final area excavated by the present investigation contained the foundation remains of three house structures designated as E, F, and G (Figures 30 and 50). Aside from the known house structures, this area once contained an early restaurant and a blacksmith shop. These were situated north of and adjacent to structure G. The actual house lot associated with structure G extended three platted lots further south; however, time and budget considerations did not allow for the excavation of that area (Figure 30). It is known from

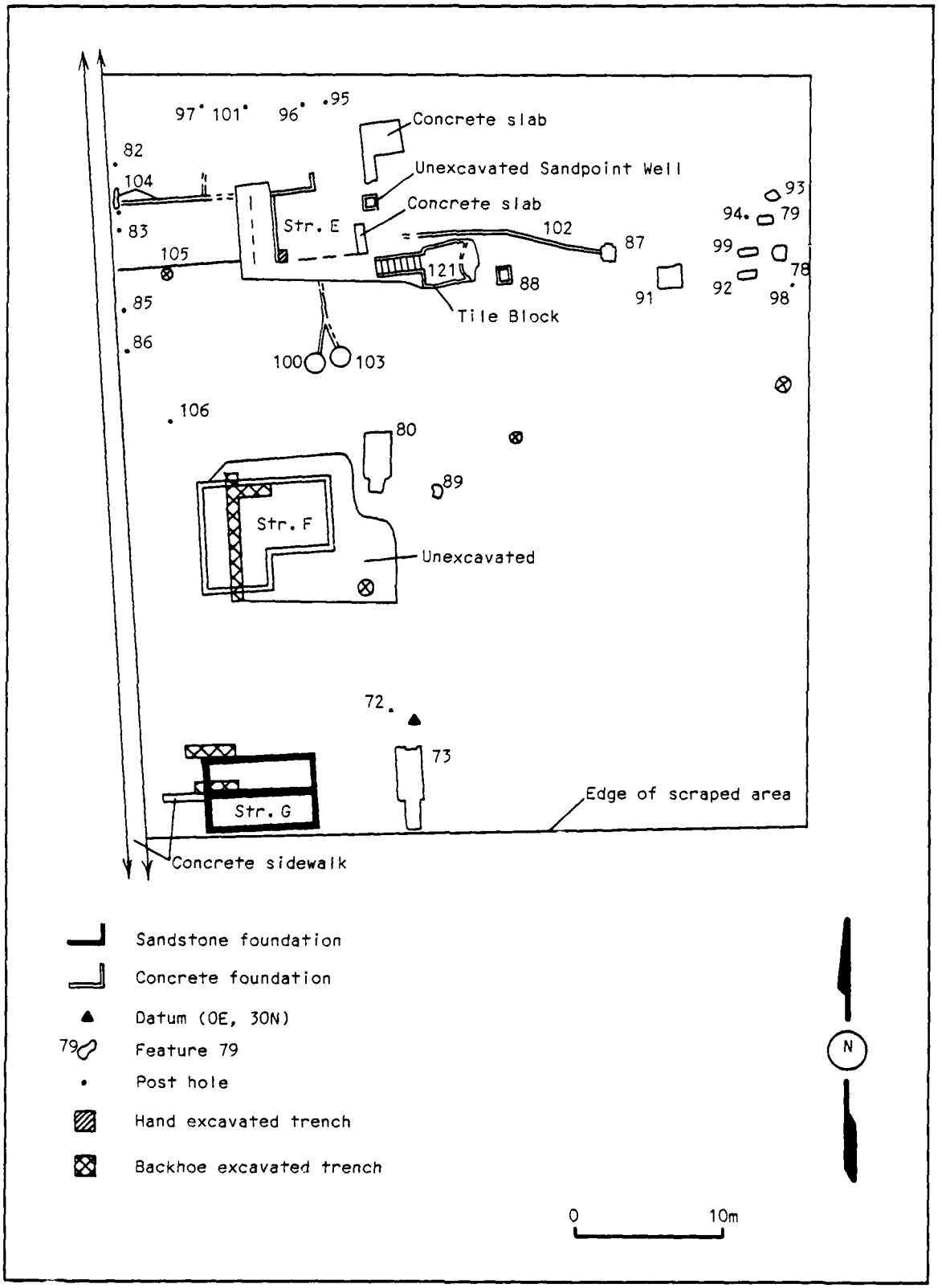


Figure 50. Site plan, structures E-G, Percy.

the phase II investigation that there was a brick-lined sandpoint well just off the southeast corner of structure G. This was partially excavated and found to contain 1960s era debris (Rogers 1988:170-171).

Structure G was built in 1905 by John Brown, a blacksmith. His shop was located north of the house, with a restaurant structure in-between. Figure 51 is a memory drawing by Ray Mikesell (1966) of these three structures. The shop was built in 1903, and John Brown operated it until 1909. It was then operated by Ely Waddle from 1909 to 1910, and then by John Oswald from 1910 to 1915. The shop was torn down in 1916 to make way for the moving in of the Neal Shaffer house (structure F) (Figure 50). Prior to building structure G and operating the blacksmith shop, John Brown and his wife operated a boarding house in the John Oswald house designated as structure D by the phase II investigation (Rogers 1988:113). The boarding house was operated from 1901 to 1905, when the family moved into structure G (Mikesell 1966:5, 19, 32). According to the 1910 U. S. Population Census, Brown was then working as a carpenter.

John Brown, or "Booker" as he was known locally, and his wife continued to occupy structure G until his death in the 1930s. After that, one of his daughters and her husband, Sam Koonce, or Koons, occupied the house for a time (Cochran, personal communication 1989). Sam Koonce was a barber in Percy (Fawcett 1958:7). The property was sold to Bill Findlow in 1942, and his mother lived in the house until her death. After that it stood vacant until it was torn down for Lake Red Rock.

Ernest Cochran (personal communication 1989) recalled that Brown had Purple Martin bird houses in his yard. It is interesting that the

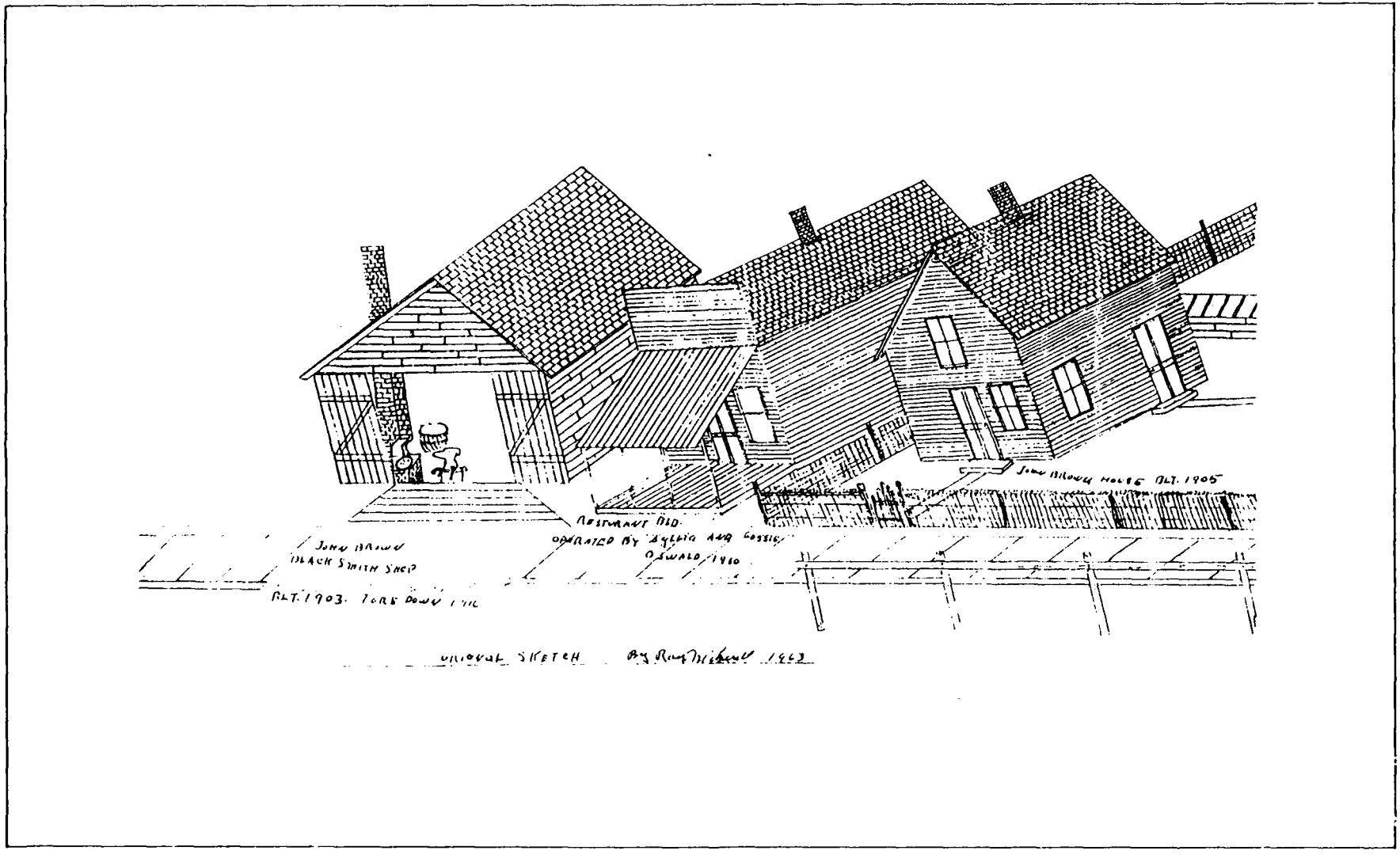


Figure 51. Memory drawing of blacksmith shop, restaurant, and structure G, Percy.

drawing by Mikesell (Figure 47) showed such a bird house in the yard north of the Putnam store in the house yard of structure G. Cochran (personal communication 1989) also noted that Brown was a handyman, a clock repairman, shoe cobbler, hunter, fisherman, bird-lover--a jack-of-all-trades. He was also the father-in-law of Neal Shaffer, who lived in structure F. Clyde Kain (1988) noted that Booker Brown used to make sorghum and that after he died Scott McDaniels and his wife, Bessie, lived in the house for a time. He also recalled "sitting up" with a corpse one night in the house but could not remember who the woman was who had died.

The restaurant once located north of structure G was moved to that location in 1910 by John Oswald and operated as a restaurant by his daughters, Sylvia and Jessie. The Oswalds lived in the house designated as structure D in the phase II investigation (Rogers 1988:113). Mikesell (1966:19) recalled that following the Oswalds, Mary Versteed operated the restaurant for a time, and then Rube McMasters operated a butcher shop in the structure. The building was destroyed by fire in 1913 or 1914.

The RICOE acquisition file (Tract No. 1348) noted that structure G was "cheaply constructed" and had been last occupied by Bill Findlow's mother. It was used for storage after 1964. It was described as having four rooms, two downstairs and two upstairs, and lacked a basement, indoor plumbing, and central heating. The photographs (Appendix B, Figure 9b; see also Appendix L, Figure 4a in McNerney and Stanley 1988:572) showed a vernacular Gable Front house type. It was one and one-half stories in height, and the facade was oriented perpendicular to

the gable roof. Composition siding covered the wall of the house down to the ground. The roof was covered with split wood shingles, and there was an interior brick chimney. Fenestration was asymmetrical; the front entry was centered, but there was only one front window, visible on the left-hand side in the photograph. The single side window was a four-over-four doublehung. There was also a side entry at the back of the house. The single rear window was centered and had an awning, and the small second-floor windows under the eaves appeared to have been boarded up. The acquisition file also noted that a shed and an outhouse were associated with this house. Roy Schrader (1988) recalled that there was a cave cellar behind the house and a wood shed and a privy to the southeast, likely the shed and privy noted by the acquisition file.

The foundation for structure G was constructed by filling a shallow trench with loose sandstone and placing the sill beams directly over the trench. A central beam was also indicated by the configuration of the foundation (Figure 50).

The only features uncovered in the house yard area were a post hole and a keyhole cellar situated behind the foundation (Table 22) (Figure 50). As noted above, however, the house yard to the south had a sandpoint well and at least one privy. The post hole (feature 72) was square in plan view and contained a flat-bottomed post remnant (see Figure 33). In isolation, its specific function is not known.

The keyhole cellar, designated as feature 73, was situated directly behind and approximately 10 m east of the house foundation. The stepped entrance was from the south. The acquisition file made no note of this structure in the mid-1960s, and the photograph did not show any evidence

of this cellar behind the house (Appendix B, Figure 9b). The base of the cellar had remnant evidence of wood flooring, post supports, shelving, wooden storage boxes, and wooden steps (Figure 52). There was also evidence of shelves cut into the subsoil on the east and west sides. The profile showed one main fill episode (zone A) over a mixed deposit of various fills at the base of the cellar. These bottom deposits may have been siltation which occurred after the cellar was abandoned and before the final sealing episode. The cellar had a floor area size of 6.21 m^2, close to the average size of the Lake Red Rock cellar sample (Table 23). The glass assemblage had a mean date of 1926.9. The only diagnostic ceramic recovered was a maker's mark for the Johnson Brothers, England, dating from 1883-1913 (Kovel and Kovel 1986:12). Glass canning jars predominated the glass assemblage, and several from the lower zone (D) had ground rims with screw threads dating from 1858-1915 (Deiss 1981). It would appear that the cellar was filled in prior to the 1960s and may have been constructed ca. 1905, when the house was built.

There was no remnant evidence of either the blacksmith shop or the restaurant structure uncovered by this investigation. Not all of the area surrounding the east and south sides of structure F could be excavated because of a large, live tree and its extensive root system; however, the area between structures G and F and along the west edge of the lot revealed no subsurface features other than the feature 72 post and hole. It would appear that both the blacksmith shop and restaurant structures did not have substantial foundations or that the structural remains were salvaged and removed from this location. It is known that the restaurant burned down, but there was no subsurface evidence of this

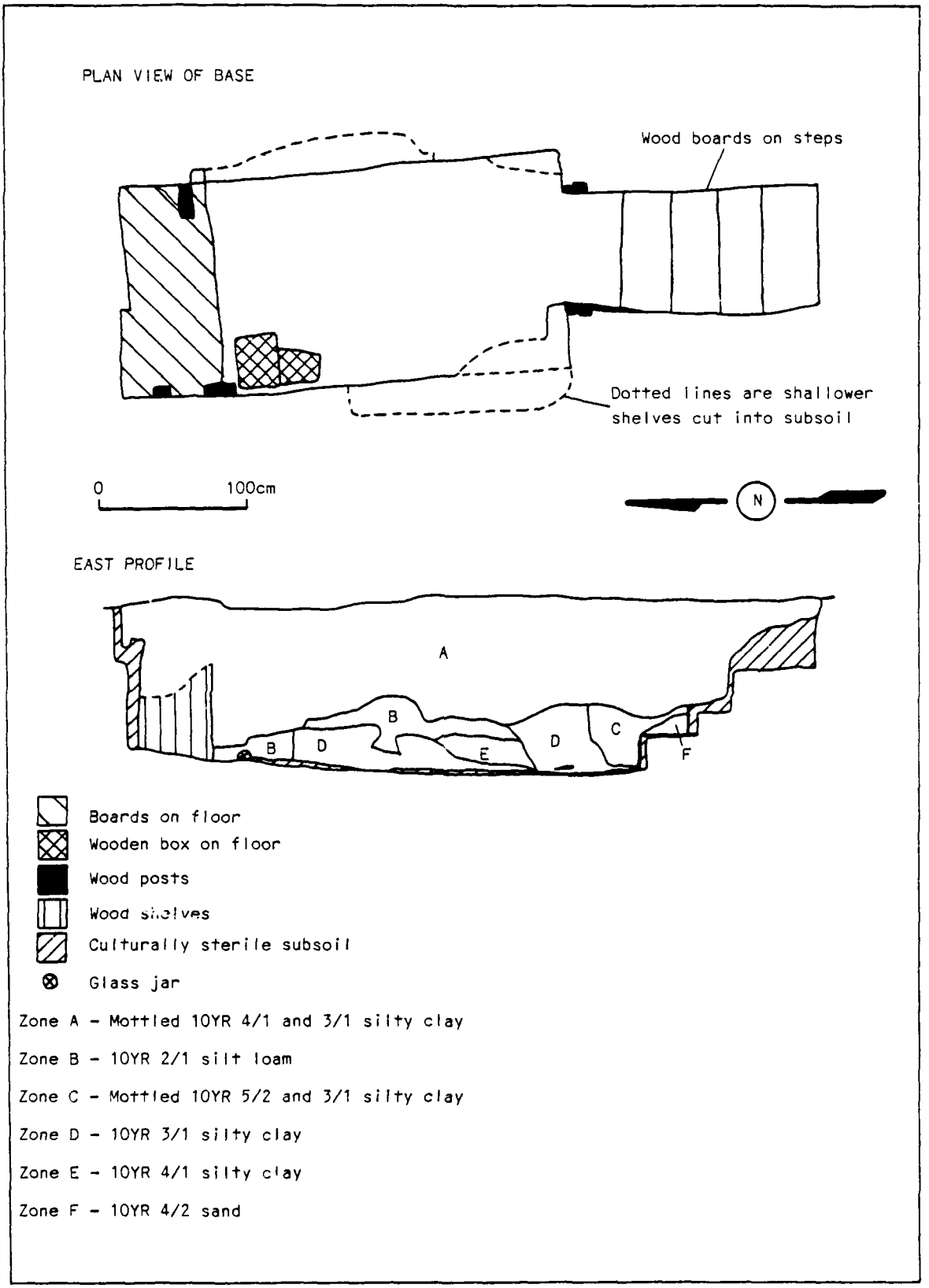


Figure 52. Plan view and profile of feature 73, site 13MA347.

event. The construction of the structure F foundation likely impacted much of the blacksmith shop location. There were cinders noted during the removal of the topsoil in the area between structures G and F but in no concentrated locations. Whether that constitutes evidence of the blacksmith shop or the burned restaurant is questionable.

The foundation of structure F was situated north and slightly east of structure G (Figure 50). It represents the remains of a house moved first in 1896 to another location in Percy and then to this site in 1916. According to Mikesell (1966:37), the house was moved by Cal Wheeler and subsequently occupied by Neal Shaffer. According to the 1900 U. S. Population Census, Shaffer was then a grain dealer living in Percy. The property was purchased by Mike Kingery in 1918, and it is known that he occupied the house for a time along with Carl Owens. Mike Kingery has been described as an old "happy-go-lucky Irishman" who did just about everything for a living (Cochran, personal communication 1989). After Kingery left, Carl and his father, Thornt Owens, lived in the house. Frank Ghoulings, Mike Near, and the Findlow family were subsequent occupants. Ike Findlow was born in this house in 1923 (Findlow 1987). Bill Findlow purchased this property along with that of structure G in 1941-1942.

The RICOE acquisition file (Tract No. 1348) indicated that the house, then owned by Bill Findlow, was uninhabited and used for storage. It was described as having five rooms, three on the ground floor and two upstairs, and no basement, indoor plumbing, or central heating. The photographs showed a Gabled Ell house with an L-shaped ground plan (Appendix B, Figure 9c; see also Appendix L, Figure 3b in McNerney and

Stanley 1988:571). The core of the house was one and one-half stories in height with a gable roof oriented parallel to the facade. It also had a one-story ell. Fenestration was symmetrical, and the front windows were tall with plain trim. The side windows were centered, one up and one down. The wall cladding was narrow-reveal horizontal boards (clapboards?) with corner boards. The steeply-pitched roof was covered with composition shingles likely over the original split wood shingle roof. A shed was located immediately behind the house (Appendix B, Figure 9c). It was a small, gabled structure with vertical board and batten siding and a wood shingle roof.

The foundation of structure F consisted of early concrete block possibly made on-site (Figure 50). It had a 10 cm deep concrete footing with a portion of the wall along the north side consisting of half-size ceramic tile blocks on top of the footing, possibly a later reworking of the foundation.

Two features were uncovered in association with structure F. These were a keyhole cellar (feature 80) and a privy (feature 89) (Table 22) (Figure 50). Both were situated at the rear of the house within 5-10 m. No evidence of the shed in the acquisition photograph was found, although a portion of the area where it would have been located was not excavated. Informants indicated that there had been a wash house directly behind the house, the north end of which went down into the cave (Findlow et al. 1988). They also recalled that the wash house burned down, nearly taking the house. The shed in the photograph is likely a later structure built to replace the wash house. There was no mention of a cellar in the acquisition file; therefore, this structure

was filled in by the mid-1960s, probably following the destruction of the wash house.

The cellar's stepped entrance was from the south side (Figure 50). The base of the cellar showed evidence of wood-lined walls and wooden floor supports. It also had wooden steps, post supports, and shelves cut into the subsoil (Figure 53). The floor size of the cellar was 4.81 m^2 (Table 23), 26% smaller than the average size of the other cellars in the Lake Red Rock sample. An additional post was located off the north side of the cellar and may have been part of the cellar's superstructure. The profile (Figure 53) of the feature revealed three zones of fill. Zone A had been artificially truncated by the backhoe during the topsoil removal. This fill was extremely loose, and it was difficult to define the feature stain until zone B was uncovered. Therefore, zone A is under-represented in the artifact assemblage. The entire glass assemblage had a mean date of 1937.5, while the ceramic assemblage had a mean date of 1903.1. The earlier date of the ceramics was the result of predominantly undecorated whitewares having a mean date of 1899.5. It is more likely that the cellar was built ca. 1916 when the house was moved to this location. It appears to have been filled in prior to the 1960s, possibly in the 1940s or 1950s.

Feature 89 was a privy located 3.5 m east of the cellar (Figure 50). The plan view of this privy was an irregular oval, but the profile showed a well-defined flat-bottomed pit with sloping walls. It reached a depth of 60 cm below the scraped surface and contained one zone of privy use fill mixed with lime deposits. None of the oral history informants recalled a privy this close to the house. They all remembered that the

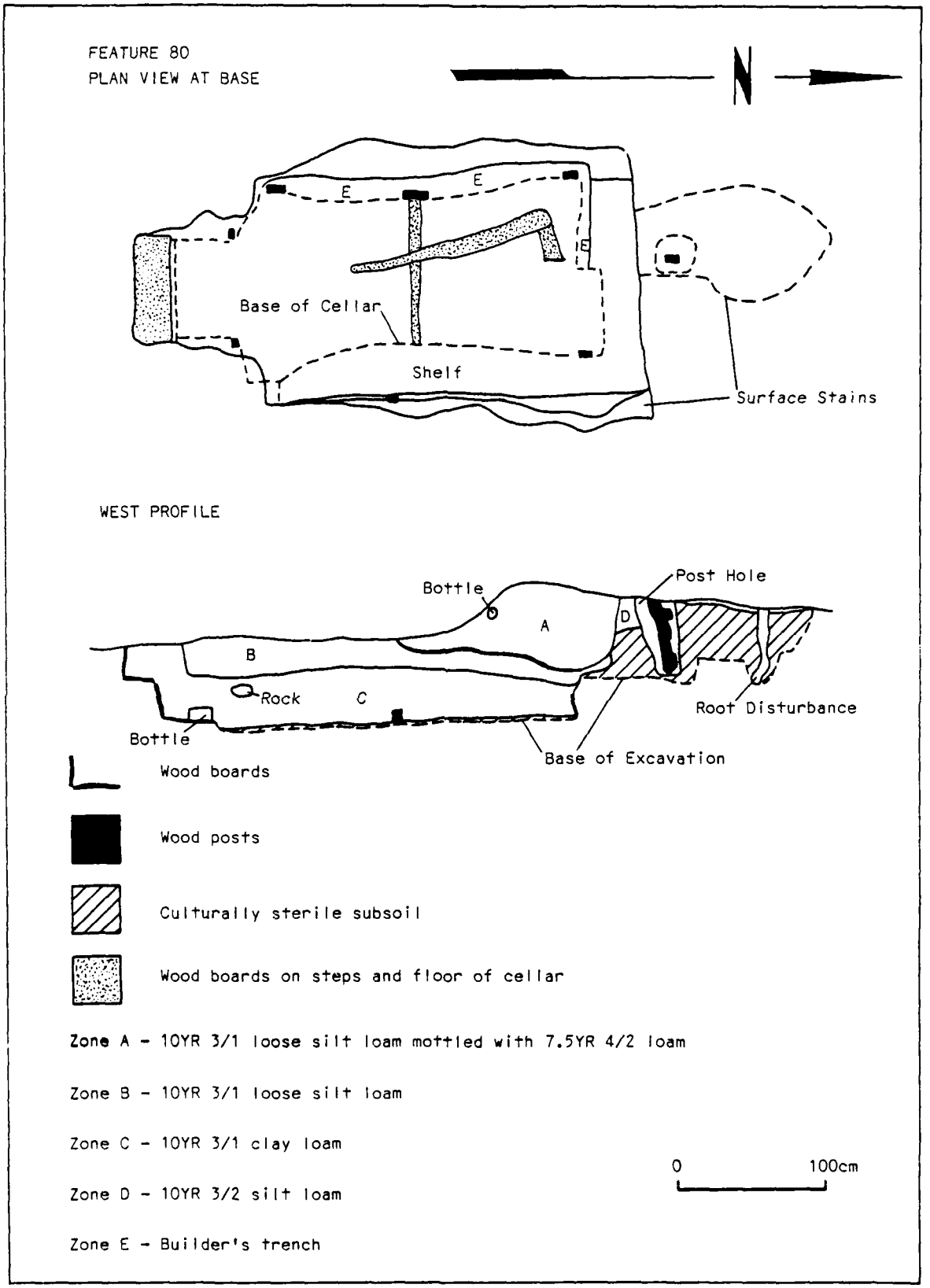


Figure 53. Plan view and profile, feature 80, site 13MA347.

privy was on the east boundary line with a garden between the privy and the house (Findlow et al. 1988; Schrader 1988). The glass assemblage had a mean date of 1939.4, and the ceramic assemblage had a mean date of 1915.8. The lower ceramic date was the result of undecorated whiteware sherds but also the presence of maker's marks such as "Dresden/China" having mean dates in the early 1900s. The presence of definite post-1919 glass indicates a later use period. However, the oral history data indicate that the privies associated with this house in the collective memory were situated further east; therefore, feature 89 may have been used only in the late 1910s-1920s.

A post hole (feature 106) was located near structure F off the northwest corner of the foundation; however, its association and function are unknown. It was circular with a round-bottomed profile.

Structure E was located along the north edge of the lot area (Figure 50). This was the location of a small two-room house built in the early 1890s to which additions were made on the south side. It is not known who occupied the house in the 1890s; the first specific purchase of the two lots on which the house was located was made in 1900 by R. A. Palmer. He, in turn, transferred it in 1902 to Walker S. Leuty, whose store was located across from this house. Between 1905-1906, the property went to William Harrington (1905), William Rodefer (1906), and then to C. R. Hughes (1906). Mikesell (1966:34) noted that his cousin, Ona "Harrington" Decker, was born in the house in 1903. J. L. Cochran became owner ca. 1908-1910, at which time he purchased the Leuty store. The house remained in the Cochran family possession until Lake Red Rock acquisition. It was then part of the property leased by Ike Findlow, who

was operating the former Cochran store. Ike Findlow also occupied the house for a time.

The Cochran family had occupied the house until the early 1920s, when they moved into the house north of the store. The house stood empty for a time, and then Cochran's father-in-law, Preston ("Press") Cowman, moved in and occupied the house until 1942, when he moved into his sister's house following J. L.'s death (Cochran, personal communication 1989). Press Cowman was retired while living in Percy. He died in 1949.

The RICOE acquisition file (Tract No. 1351) described structure E as a five-room dwelling (living room, dining room, kitchen, two bedrooms) without modern conveniences. It was being used for seed corn storage for the general store in 1965. The photographs of the house (Appendix B, Figures 9d and 10a) showed a one-story Gabled Cottage with an L-shaped ground plan. Fenestration was symmetrical. The wall cladding was horizontal boards except for the rear facade, which was sided with composition shingles in an imitation brick pattern. There was a small, open front porch inset in the "L" formed by the front hall and the ell, with a flat roof supported by two slender wooden columns with square bases and capitals. The small rear addition had a shed roof and resembled a chicken coop. The file noted the presence of a sink in the kitchen that drained to a cesspool and a 25 ft deep sandpoint well located 10 ft east of the house.

Two outbuildings were noted for this house lot, including a shed and an outhouse (Appendix B, Figures 10b and 10c). The shed was a small frame structure with board and batten siding and a gable roof covered with split wood shingles. The outhouse was a well-built shed-roofed

structure with vertical board siding and a corrugated metal roof. The vent was visible in the rear wall.

The foundation remnant of structure E was difficult to define and had been highly disturbed by postoccupation activity (bulldozing?). Ike Findlow (et al. 1988) remembered that the house did not have much of a foundation. The only relatively intact portion consisted of crude poured concrete, with some brick rubble in the vicinity. A discontinuous wall(?) was present on the west side of the concrete wall, and this was made of brick laid on top of concrete. From the acquisition description and photographs as well as the location of the house from the 1931 fire insurance map (Rogers 1988:150), it appears that the two concrete slabs and the square concrete sandpoint (unnumbered) in Figure 50 represent the back side of the house. The sandpoint would have been the well "10 ft off the back of the house" noted in the acquisition file. This sandpoint was not investigated in the present investigation because of its recent fill in the 1960s.

Two features were situated to the south of structure E and connected to it by ceramic drain pipelines. These were designated as features 100 and 103 and were found to be brick-lined septic tanks, or more likely the cesspool drain noted in the acquisition file (Figure 50). Both tanks were constructed of drylaid brick and bottomed out at 1.08 m and 0.72 m below the scraped surface. The pipeline into feature 103 had been bypassed to run into feature 100, indicating that the latter postdated feature 103 in use. Both tanks had sludge layers at their bases which were not further investigated.

A keyhole cellar (feature 121) was located off the southeast corner

of structure E (Figure 50). The walls were laid up with ceramic tile blocks with concrete plastering. The floor and the steps were constructed of poured concrete. The east wall had collapsed inward, likely when the cellar was being filled or bulldozed. The interior fill consisted of recent debris including tile and concrete rubble, bottles, jars, and ceramics. Because of the large amount of debris and the recent nature of the fill, only a quarter of this feature was excavated. There was no mention of this cellar in the acquisition file, nor was it readily visible in the photographs. Therefore, it was filled in prior to 1965. A possibility remains from the configuration of the south side addition on structure E that the cellar was enclosed by that addition (Appendix B, Figure 10a). However, the relation of the sandpoint to the cellar does not coincide with the archaeological evidence. There is a sandpoint located off the east side of the cellar, but the sandpoint in the photograph was further north (Figure 50).

The profile of the cellar showed two zones; however, their content indicated the probability that it was filled in one episode with somewhat differing fills. Many of the glass bottles were marked with "Duraglas" and dated from post-1940. It appears that the cellar was filled after Press Cowman had moved in the early 1940s and prior to 1965. The nature of the artifacts indicates a fill date closer to the 1960s. The use of ceramic tile blocks in its construction suggests a 1910s-1920s date of construction.

The sandpoint well (feature 88) located off the east side of the cellar was found to have a square, poured concrete chamber which retained evidence of the wood form used in its construction (Appendix A,

Figure 17b). The chamber bottomed out at 1 m below the scraped surface, where the iron cylinder of the sandpoint was visible in the sterile subsoil. The fill of the well chamber was extremely loose and indicated one fill episode. According to RICOE acquisition data, this well must have predated the sandpoint located nearer the house, although they may have been in use at the same time, with feature 88 being filled in first. The ceramic assemblage had a mean date of 1905.2, and the glass assemblage had a mean date of 1919.2. This would suggest that the feature 88 sandpoint was filled in the early to mid-twentieth century and likely predates the sandpoint nearer the house, which was still open in the 1960s.

The features uncovered in the front (west) and north side yards were primarily post holes (Table 22) (Figure 50). Many of these retained post remnants, and all consisted of posts simply driven into the ground (see feature 86 in Figure 33). Their patterning indicates a fenceline along the north side of the lot and continuing along the front side. There may have been an opening in the front between features 83 and 85 (Figure 50). No corner post was found in the northwest corner; however, this area was difficult to scrape clean because of the concrete sidewalk and nearby backdirt piles.

Two additional features situated in the front yard included a pipeline (feature 105) and a linear mortar stain (feature 104) extending out from the house to the fenceline. The mortar stain was well defined in plan view but had virtually no profile. A gravel concentration extended out from this stain at a right angle near the house, and at the fenceline the stain became amorphous in shape (Figure 50). The function

of this feature is unknown. It may represent the base of a drainage trench running from the house roof out to the ditch once located by the sidewalk. This might explain the amorphous staining on the west side of the fenceline. The metal pipeline is somewhat more puzzling. None of the oral history informants could recall the house having any water or gas lines. The interior of the pipe was coated with a white substance similar to gas lines. A further possibility is that it simply is another drain pipeline out to the ditch.

The east (back) yard contained a total of six privies (Figure 50). One of these (feature 87) was connected to the house structure (or its vicinity) by a ceramic tile pipeline. This may also represent a drainage system. The privy was wood lined and filled primarily with lime. The only diagnostic item recovered from the privy fill was an improved tooled cork finished lip/neck dating from the early 1870s to ca. 1915 (Deiss 1981). A similar privy (feature 91) was situated southeast of feature 87. It too was wood lined and filled with lime. The base of the lime deposit had hardened to a consistency approaching concrete. The feature was cross-sectioned by the backhoe, which had difficulty penetrating this bottom layer. The only artifact recovered from this privy was a whole Fletcher's Castoria bottle that was a three-piece plate-bottomed, improved tooled cork finished bottle dating from the early 1890s to ca. 1915 (Deiss 1981; Fike 1987:162).

Four privies were clustered along the east edge of the lot (Figure 50). Feature 78 was somewhat square in plan view but had a round-bottomed profile (Figure 54). It was unlined and contained two zones of fill, the topmost layer of which was a definite privy use episode. The

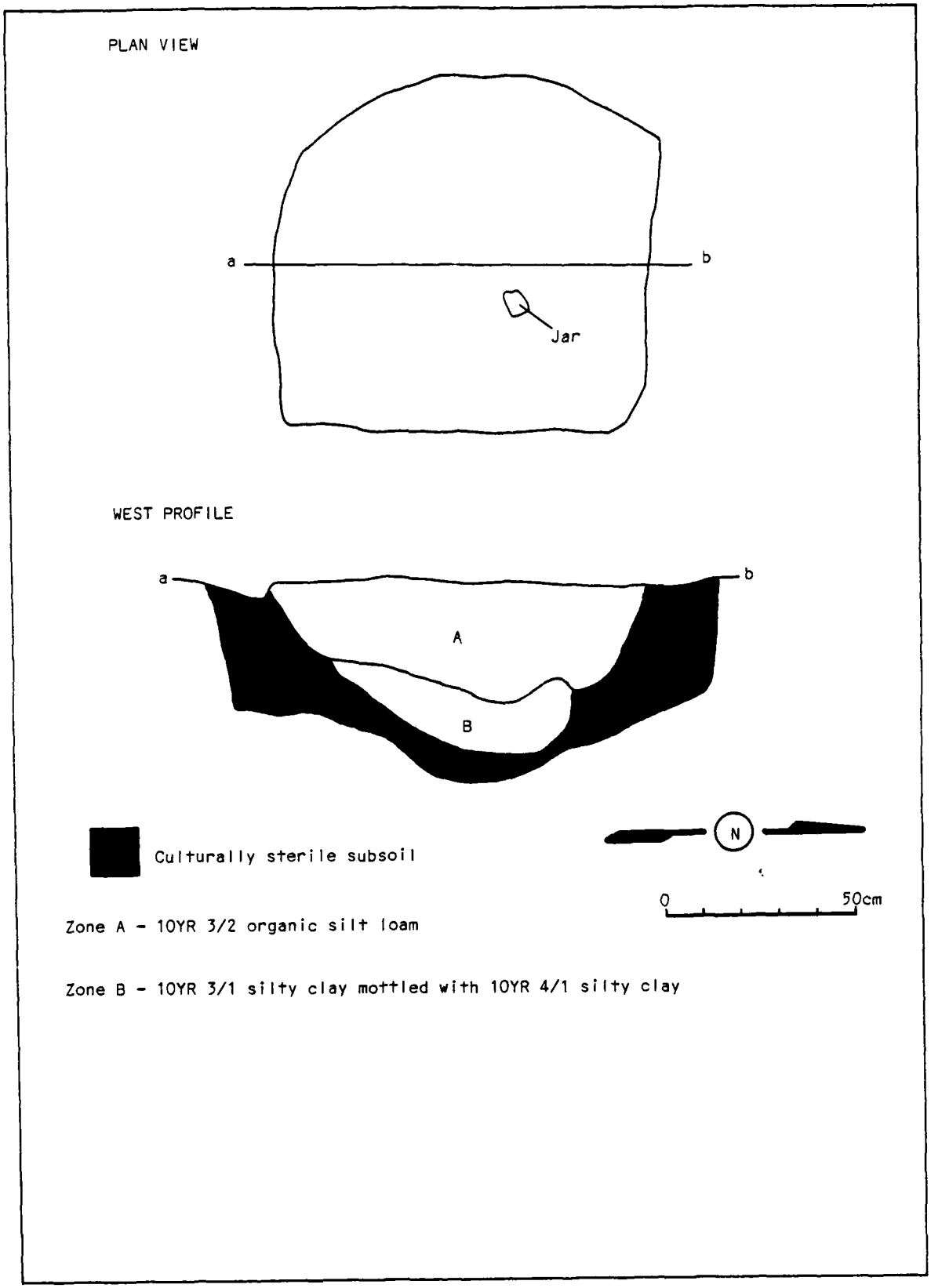


Figure 54. Plan view and profile of feature 78, site 13MA347.

bottle glass assemblage postdated the 1920s, but the inclusion of plastic bread wrappers with color labeling, a plastic Elmer's glue nozzle, an aluminum pryoff baby food jar lid, plastic "Evenflo" baby bottles, and plastic baby pants indicates a 1950s-1960s date of use.

Feature 79 was located north and slightly west of feature 78 (Figure 50). It was rectangular in plan and flat bottomed in profile (Figure 55). The walls were lined with wood, and the interior fill showed four major zones of fill (A-C and E). Zones B and D were primarily lime deposits, with zone E representing a definite privy use deposit. The upper layers appeared to be less organic and were likely sealing episodes. A builder's trench was present near the top of the privy (Figure 55). This privy dates from the 1960s as indicated by the presence of a prescription bottle for Thelma Cochran from the Bare's Drug Store in Pleasantville, Iowa, dated April 29, 1963.

Feature 92 was a privy located southwest of feature 78 (Figure 50). It was rectangular in profile and flat bottomed in profile (Figure 56). It was wood lined and contained three fill zones. Zones B and C appeared to be privy use episodes, while zone A was more of a sealing fill deposit. No positively diagnostic artifacts were recovered from this feature aside from wire nails.

Feature 99 was the final privy in the backyard area (Figure 50). It was rectangular in plan and flat bottomed in profile but was only 12 cm in depth below the scraped surface. There was evidence of a wood lining, but the shallowness of this privy is somewhat puzzling. It contained one zone of organic fill mottled with lime. The only artifacts recovered

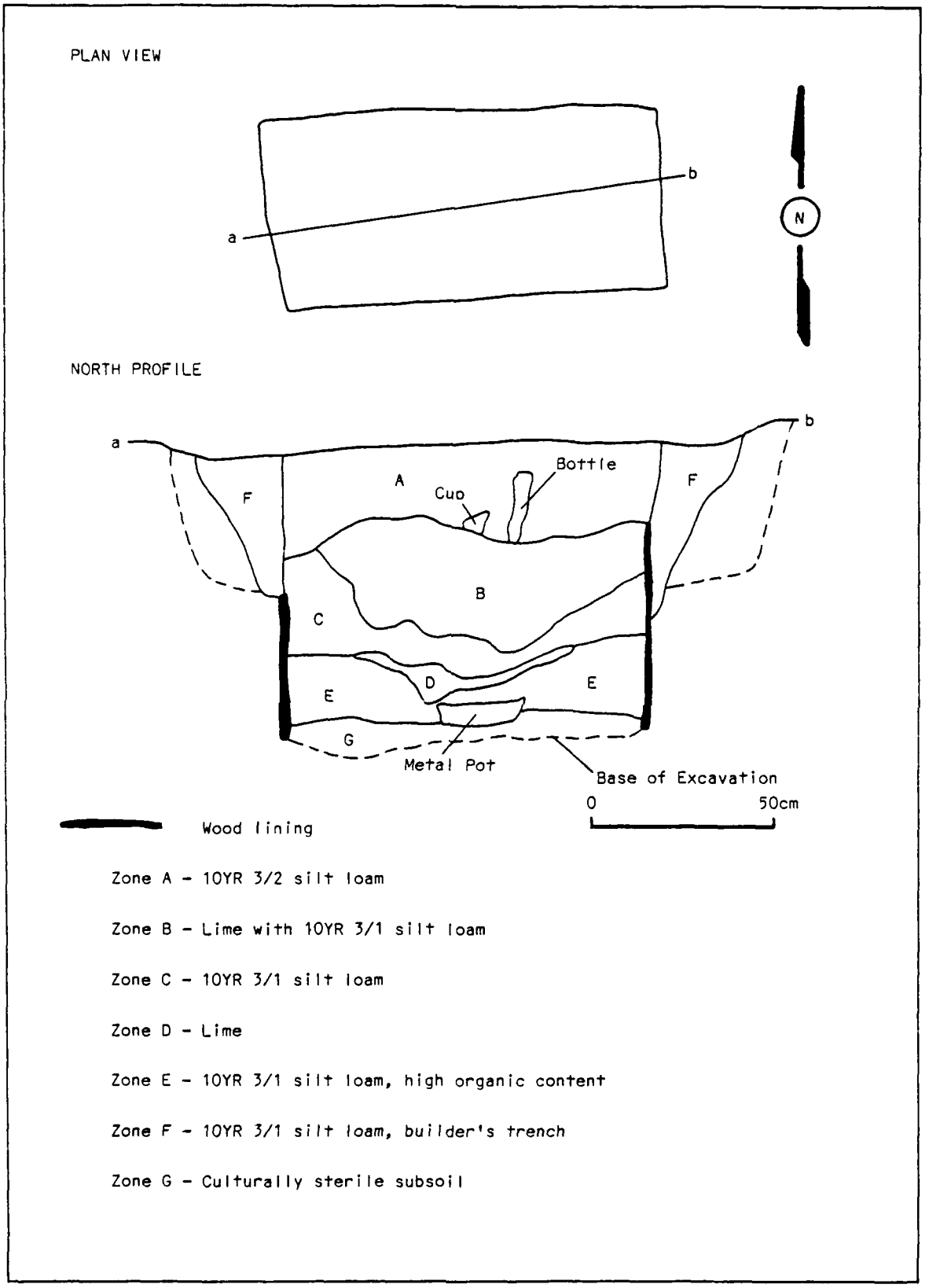


Figure 55. Plan view and profile of feature 79, site 13MA347.

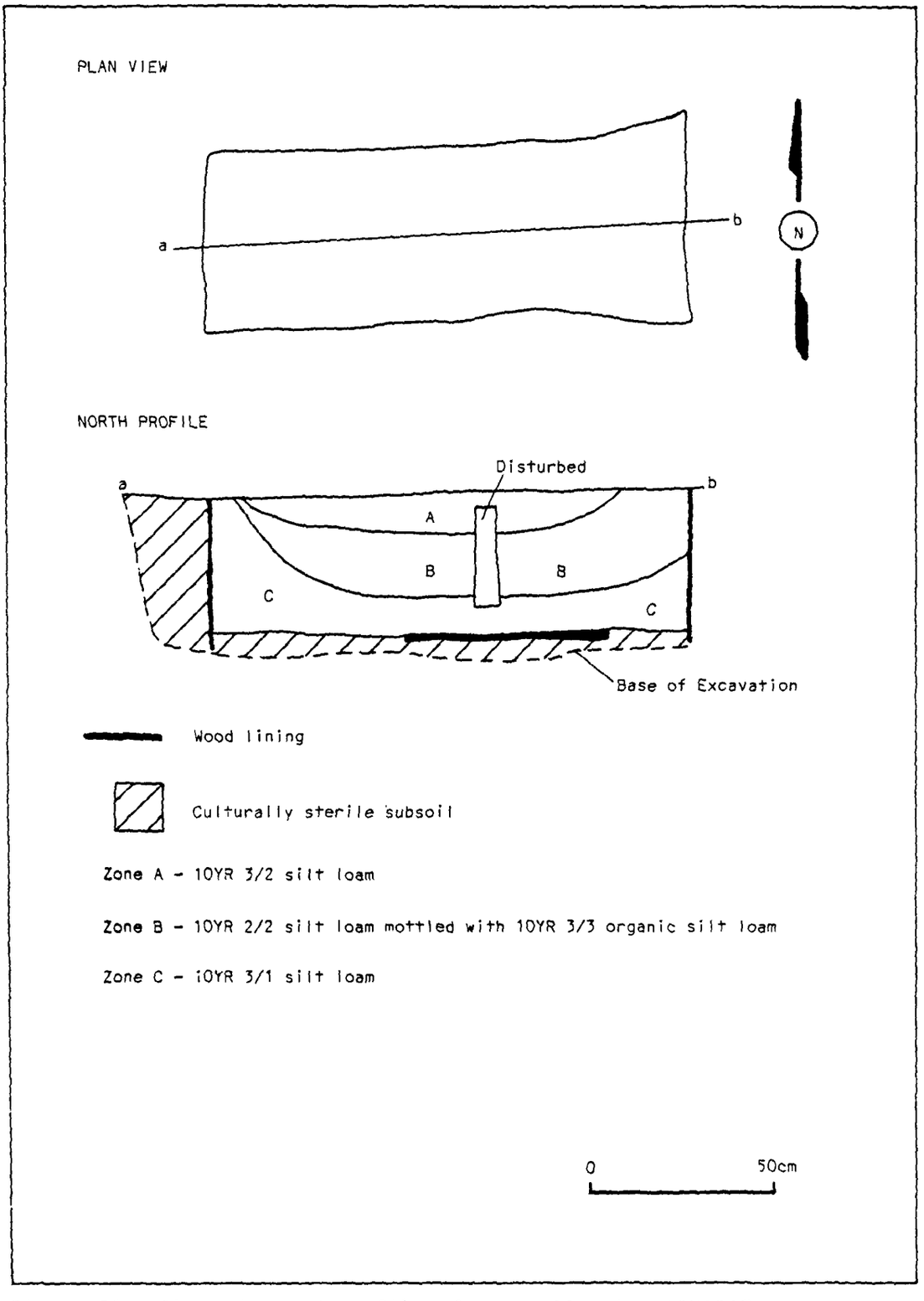


Figure 56. Plan view and profile, feature 92, site 13MA347.

from the fill were 3 wire nails, 1 butcher-cut bone, and 1 two-hole shell button.

The remaining features along the east side of the lot included a round-bottomed post hole (feature 94), a metal fencepost (feature 98), and a flattened barrel with an artifact concentration (feature 93). The latter may have been a surface refuse barrel that was flattened by postoccupation bulldozing. Included in the artifact assemblage from this barrel was a plastic Johnson and Johnson baby powder container, indicating a 1950s-1960s date.

According to the 1931 fire insurance map and the 1938 aerial photograph, an outbuilding was once located in the northeast corner of the lot (Rogers 1988:150). This would have been just north of the privy area, with some possible overlap. There was no apparent archaeological evidence of this structure.

Interpretations. House structure E was allegedly occupied in the 1890s; however, there is little archaeological evidence of this early occupation other than a few late nineteenth century artifacts. The majority of the subsurface features date from the twentieth century occupation, including some very recent privies. It is known that the house was owned and occupied primarily by members and relations of the Cochran family who operated the general store across the road from this house. The lack of conclusive privies dating from the earlier occupations indicates that either they were located further east in the lot or that subsequent privies and construction obliterated the remains. It is interesting that the cluster of privies on the east edge were so far from the house. They were approaching a distance that would have

been less than convenient in the cold winter months. The utilization of this back yard area is especially interesting in comparison to the "clean" back yards of structures F and G (Figure 50).

Faunal Analysis

Animal remains were recovered from 18 features at the Percy townsite. Approximately 2,000 specimens were inspected, 1,616 of which were obtained by screening and more than 380 recovered by flotation. Identified animal remains include 950 from the macro-recovery samples and 170 from flotation samples. Summary tables (Tables 24-44) for the various contexts present information on the number of identified specimens (NISP) and the minimum number of individuals (MNI) per taxon. In addition, biomass estimates were calculated for the total accumulated weight of bone from each feature (see formulae provided by Reitz and Scarry 1985:67). This approach avoids the problem of whether or not the meat from entire animals was consumed at the sites from which the archaeological samples were obtained.

In addition to the faunal assemblage associated with the keyhole cellar (feature 52) south of structure P (Table 27), one pig ulna was obtained from the fill of a privy (feature 69) that was intrusive to this cellar.

Two specimens do not appear in the summary tables for two features associated with the Neal Shaffer house (structure F). A bone that had been modified into a cutlery handle was found in the fill of the cellar (feature 80) located behind the structure. The artifact has two holes that were drilled for fasteners. This artifact has been added to the

Table 24. Animal Remains from Contexts Associated with Feature 111 at the Percy Townsite (13MA347).*

Taxon	-Cellar, Feature 108**- NISP (MNI)	Weight (g)	Biomass (kg)	--Well, Feature 120--- NISP (MNI)	Weight (g)	Biomass (kg)
MAMMALS						
Squirrel, Sciurus sp.	1(1)	.6	.017			
Pig, Sus scrofa	4(1)	8.5	.180			
Cattle, Bos taurus	10(1)	204.4	3.158	3(1)	35.7	.657
Unidentified Large-sized Mammal	4(-)	16.8	.333	1(-)	1.2	.031
BIRDS						
Chicken, Gallus gallus	4(1)	6.2	.107			
FISH						
Channel Catfish, Ictalurus punctatus	1(1)	.9	.018			
Unidentified Vertebrate	1(-)	.5	--			
FRESHWATER MUSSELS						
Threeridge, Amblema plicata				1(1)	133.2	--
Pocketbook, Lampsilis ovata				1(1)	47.7	--
Pimpleback, Quadrula pustulosa	1(1)	96.2	--			
Unidentified Mussel	15(2)	60.1	--			
Totals	41(8)	394.2	3.813	6(3)	217.8	.688
Totals Identified	21(6)	316.8	3.480	5(3)	216.6	.688
Percentage Identified	51.2	80.4	91.3	83.3	99.4	100.0

* (NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)
**This cellar may have been more strongly associated with a house site that was formerly situated west of the store evidenced by feature 111, although it may have remained in use during the early years of the store's operation.

Table 25. Animal Remains from Features 107 and 110 (Associated with Structures e and f) at the Percy Townsite (13MA347).*

Taxon	---Well, Feature 107--- NISP (MNI)	Weight (g)	Biomass (kg)	--Cellar, Feature 110- NISP (MNI)	Weight (g)	Biomass (kg)
MAMMALS						
Old World Rat, Rattus sp.	4(1)	1.4	.036			
Pig, Sus scrofa				2(1)	26.1	.495
Cattle, Bos taurus	5(1)	42.7	.772	3(1)	35.7	.657
Unidentified Large-sized Mammal	1(-)	.9	.024	2(-)	2.8	.066
BIRDS						
Duck sp., Anatinae	2(1)	3.7	.067			
Chicken, Gallus gallus	76(7)	115.5	1.538			
Unidentified Vertebrate				1(-)	.4	--
Totals	88(10)	164.2	.832	8(2)	65.0	.218
Totals Identified	87(10)	163.3	.808	5(2)	61.8	.152
Percentage Identified	98.9	99.5	97.1	62.5	95.1	94.6

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 26. Animal Remains from Feature 109 (Associated with Structures e and f) at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
MAMMALS						
Cattle, Bos taurus	8(1)	173.6	2.726	3(1)	35.7	.657
Unidentified Large-sized Mammal				5(-)	1.7	.042
BIRDS						
Turkey, Meleagris gallopavo				1(1)	1.0	.020
Galliformes (Chicken/Turkey)				1(1)	.2	.038
Unidentified Medium-sized Bird				3(-)	.3	.055
Unidentified Vertebrate				6(-)	.1	--
Totals	8(1)	173.6	2.726	19(3)	39.0	.812
Totals Identified	8(1)	173.6	2.726	5(3)	36.9	.715
Percentage Identified	100.0	100.0	100.0	26.3	94.6	88.1

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 27. Animal Remains from Feature 52, Structure P, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
MAMMALS						
House Cat, Felis catus	1(1)	1.0	--			
Pig, Sus scrofa	40(3)	621.8	8.596	2(1)	1.2	.031
Cattle, Bos taurus	13(1)	322.3	4.758			
Unidentified Large-sized Mammal	30(-)	78.1	1.329	(-)	1.5	.039
BIRDS						
Chicken, Gallus gallus	3(2)	8.0	.135			
Unidentified Medium-sized Bird	1(-)	.4	.009			
Unidentified Vertebrate	-	.2	--	6(-)	.3	--
MUSSELS						
Pimpleback, Quadrula pustulosa	7(5)	60.2	--			
Threeridge, Amblema plicata	6(3)	84.9	--			
Spike, Elliptio dilatata	1(1)	68.7	--			
Mucket, Actinonaias ligamentina	12(9)	281.8	--			
Ring Pink, Obovaria retusa	1(1)	17.0	--			
Unidentified Mussel	28(-)	179.0	--			
GASTROPODS						
Gastropods				10(10)	.4	--
Totals	143(26)	1723.4	14.827	18(11)	3.4	.070
Totals Identified	84(26)	1465.7	13.489	2(1)	1.2	.031
Percentage Identified	58.7	85.0	91.0	11.1	35.3	44.3

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 28. Composition of Pig Bones from Feature 65, Located East of Structure I at the Percy Townsite (13MA347).

Butchering Units	NISP (MNI)	Weight (g)	Biomass (kg)
Picnic Shoulder	4(1)	110.2	2.007
Scapula	1(1)	22.5	.433
Humerus	2(1)	56.7	.996
Radius/Ulna	1(1)	31.0	.578
Short Cut Ham	14(3)	149.4	2.611
Innominate Bone	2(1)	13.3	.270
Femur	9(3)	85.4	1.440
Tibia	3(2)	50.7	.901
Unidentified Mammal Elements	68(-)	68.8	1.185
Totals	86(3)	328.4	5.803
Total Identified	18(3)	259.6	4.618

Table 29. Animal Remains from Feature 68, Located East of Structure I at the Percy Townsite (13MA347).*

Taxon	Zone A	Zone C	Zone E	Zone F	Zone I	South Half	Total NISP/MNI	Weight (g)	Biomass (kg)
MAMMALS									
Eastern Mole, Scalopus aquaticus	-	-	-	-	1/1	-	1/1	.1	.003
Cottontail, Sylvilagus floridanus	2/1	4/1	10/2	-	3/1	2/1	21/3	25.7	.489
Squirrel, Sciurus sp.	1/1	2/1	2/1	-	-	-	5/2	3.1	.073
Old World Rat, Rattus sp.	-	-	1/1	-	1/1	-	2/1	.5	.014
House Cat, Felis catus	-	-	5/2	-	1/1	-	6/2	6.2	.136
Pig, Sus scrofa	5/1	7/1	36/3	1/1	5/1	4/1	58/3	549.0	7.684
Cattle, Bos taurus	3/1	4/1	5/1	-	2/1	2/1	16/1	357.0	5.217
Unidentified Large Mammal	12/-	17/-	17/-	1/-	1/-	-	46/-	83.0	1.403
Unidentified Medium Mammal	1/-	-	1/-	-	-	-	2/-	1.9	.047
Unidentified Small Mammal	-	1/1	-	-	-	-	1/1	.1	.003
BIRDS									
Chicken, Gallus gallus	19/3	50/3	15/5	-	3/2	-	87/9	110.6	1.478
Turkey, Meleagris gallopavo	-	1/1	-	-	-	1/1	2/1	15.4	.246
Chicken/Turkey, Galliformes	1/1	2/1	2/2	-	-	-	5/-	3.6	.065
Unidentified Medium Bird	-	1/-	1/-	-	-	-	2/-	1.2	.024
REPTILES									
Snapping Turtle, Chelydra serpentina	-	1/1	-	-	-	-	1/1	3.4	.072
Unid. Vertebrate	1/-	8/-	1/-	-	-	-	10/-	.7	--
Totals	45/8	98/11	96/17	2/1	17/8	9/4	265/25	1161.5	16.954
Totals Identified	31/8	71/10	76/17	1/1	16/8	9/4	204/24	1074.6	15.477
Percentage Identified	68.9	72.4	79.2	50.0	94.1	100.0	77.0	92.5	91.3

*(NISP, Number of Identified Specimens; MNI, Minimum Number of Individuals)

Table 30. Animal Remains Recovered by Flotation from Feature 68, Located East of Structure I at the Percy Townsite (13MA347).*

Taxon	Zone A	Zone E	Total NISP/MNI	Weight (g)	Biomass (kg)
MAMMALS					
Old World Rat, *Rattus* sp.	-	2/2	2/2	.2	.006
Unidentified Small Rodent	-	1/-	1/-	.1	.003
Pig, *Sus scrofa*	-	2/1	2/1	12.5	.255
Unidentified Medium Mammal	1/-	1/-	2/-	1.0	.026
Unidentified Small Mammal	-	1/-	1/-	.1	.003
BIRDS					
Chicken, *Gallus gallus*	1/1	-	1/1	.2	.005
Unidentified Small Bird	-	1/1	1/1	.1	.003
Eggshell Fragments	4	-	4	.1	--
FISH					
Channel Catfish, *Ictalurus punctatus*	-	1/1	1/1	.3	.004
Unidentified Fish	-	3/-	3/-	.1	.005
Unidentified Vertebrate	6/-	x/-	x/-	.3	--
GASTROPOD					
Gastropods	1/1	-	1/1	.1	--
Totals	13	12+	19+	15.1	.310
Totals Identified	1	5	6	13.2	.270

*(NISP, Number of Identified Specimens; MNI, Minimum Number of Individuals)
x denotes presence

Table 31. Animal Remains from Feature 6 and Trench 4 on Lot of Structure H at the Percy Townsite (13MA347).*

Taxon	---Feature 6 (screen)-- NISP (MNI)	Weight (g)	Biomass (kg)	---Trench 4 (screen)-- NISP (MNI)	Weight (g)	Biomass (kg)
MAMMALS						
Cottontail, Sylvilagus floridanus	4(1)	1.7	.042	1(1)	.4	.012
Fox Squirrel, Sciurus niger	1(1)	.9	.024			
House Cat, Felis catus				47(1)	32.8	.609
Pig, Sus scrofa	10(1)	77.1	1.313	1(1)	58.5	1.024
Cattle, Bos taurus	43(3)	1805.0	22.430	1(1)	13.6	.276
Unidentified Large-sized Mammal	42(-)	68.9	1.187	1(-)	.8	.022
Unidentified Medium-sized Mammal				31(-)	5.9	.130
BIRDS						
Chicken, Gallus gallus	14(2)	18.5	.290	1(1)	.6	.013
Unidentified Medium-sized Bird	2(-)	.2	.005			
FISH						
Channel Catfish, Ictalurus punctatus	1(1)	.2	.004	2(1)	.5	.010
Unidentified Vertebrate	1(-)	.5	--			
MUSSELS						
Mucket, Actinonaias ligamentina	1(1)	25.0	--			
cf. Round Hickorynut, Obovaria subrotunda				1(1)	1.6	--
Unidentified Mussel	2(-)	7.4	--	1(-)	.6	--
GASTROPODS	2(2)	.4	--			
Totals	123(12)	2005.8	25.295	87(7)	115.3	2.096
Totals Identified	74(10)	1928.4	24.103	54(7)	108.0	1.944
Percentage Identified	60.2	96.1	95.3	62.1	93.7	92.7

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 32. Animal Remains from Feature 29 Associated with Feature 6 at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
MAMMALS						
Cottontail, Sylvilagus floridanus	11(1)	5.0	.112	1(1)	.3	.009
Squirrel, Sciurus sp.	7(1)	1.8	.045	5(1)	.9	.024
Old World Rat, Rattus sp.	11(3)	3.3	.077	2(1)	.9	.024
Pig, Sus scrofa	16(2)	56.9	.999			
Cattle, Bos taurus	4(1)	25.0	.477			
Unidentified Large-sized Mammal	113(-)	70.2	1.207	16(-)	5.6	.124
Unidentified Small-sized Mammal	3(-)	.3	.009	7(-)	1.1	.029
BIRDS						
Chicken, Gallus gallus	20(2)	8.7	.146	3(2)	.7	.015
Turkey, Meleagris gallopavo	1(1)	3.5	.064			
Songbird, Passeriformes				1(1)	.1	.003
Unidentified Medium-sized Bird	8(-)	1.3	.026	3(-)	.3	.007
Unidentified Small-sized Bird	1(-)	.1	.003			
Eggshell Fragments	x	3.5	--	x	5.6	--
FISH						
Black Bullhead, Ictalurus melas	36(4)	7.2	.130	1(1)	.2	.004
Channel Catfish, Ictalurus punctatus	105(17)	28.8	.486	87(7)	10.7	.190
Bullhead/Catfish, Ictalurus sp.				3(-)	.3	.006
Carp, Cyprinus carpio	55(3)	11.7	.211	6(1)	.8	.025
Unidentified Fish	47(-)	2.4	.060	40(-)	1.3	.032
Unidentified Vertebrate				x	19.1	--
MUSSELS						
Unidentified Mussel	2(1)	.7	--	2(1)	.1	--
GASTROPODS				48(48)	.3	--
Totals	440(36)	230.4	4.052	225(64)	48.3	.492
Totals Identified	266(35)	151.9	2.747	112(15)	14.9	.300
Percentage Identified	60.5	65.9	67.8	49.8	30.8	61.0

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)
x denotes presence

Table 33. Animal Remains from Feature 42, Structure H, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)
MAMMALS			
Old World Rat, Rattus sp.	5(1)	1.0	.026
Unidentified Small Rodent, Cricetidae	1(1)	.1	.003
Unidentified Med./Large Mammal	3(-)	.6	.017
Unidentified Small-sized Mammal	2(-)	.1	.003
BIRDS			
Unidentified Medium-sized Bird	3(1)	.3	.007
Eggshell Fragments	x	.7	--
FISH			
Salmon/Trout, Salmonidae	1(1)	.1	.005
Channel Catfish, Ictalurus punctatus	53(5)	12.1	.486
Carp, Cyprinus carpio	4(1)	.6	.020
Unidentified Fish	65(-)	1.1	.032
Unidentified Vertebrate	70(-)	2.5	--
Totals	207(10)	19.2	.599
Totals Identified	64(9)	13.9	.540
Percentage Identified	30.9	72.4	90.2

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)
x denotes presence

Table 34. Animal Remains from Feature 73, Structure G, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)
MAMMALS			
Pig, Sus scrofa	2(1)	20.3	.395
Cattle, Bos taurus	3(1)	87.6	1.473
MUSSELS			
Unidentified Mussel	2(1)	4.6	--
Totals	6(3)	112.5	1.868
Totals Identified	5(2)	107.9	1.868

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 35. Animal Remains from Feature 80, Structure F, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
MAMMALS						
Pig, Sus scrofa	3(1)	24.3	.465			
Cattle, Bos taurus	2(1)	41.9	.759			
Unidentified Large-sized Mammal	7(-)	4.9	.110			
Unidentified Medium or Large Mammal				3(-)	.4	.012
BIRDS						
Chicken, Gallus gallus	1(1)	.3	.007			
cf. Turkey, Meleagris gallopavo	1(1)	1.2	.024			
Unidentified Medium/Large Bird	3(-)	1.0	.020			
Unidentified Vertebrate				1(-)	.1	--
Totals	17(4)	73.6	1.385	4(-)	.5	.012
Totals Identified	7(4)	67.7	1.255	0(-)	0	0

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)

Table 36. Animal Remains from Feature 89, Structure F, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
MAMMALS						
Squirrel, Sciurus sp.				1(1)	.2	.006
Unidentified Large-sized Mammal	19(-)	1.1	.029			
BIRDS						
Chicken/Turkey, Galliformes	1(1)	1.9	.037			
Songbird, Passeriformes				2(1)	.1	.003
Unidentified Bird	2(1)	.2	.005			
Eggshell Fragments				x	4.1	--
FISH						
Channel Catfish, Ictalurus punctatus	39(3)	5.1	.094	43(5)	5.8	.106
Unidentified Fish	19(-)	.3	.011	31(-)	.7	.022
Unidentified Vertebrate	2(-)	.5	--	2(-)	.5	--
MUSSELS						
Unidentified Mussel	1(1)	4.9	--			
Totals	83(7)	18.5	.176	79(7)	11.4	.137
Totals Identified	40(4)	11.5	.131	45(7)	6.1	.115
Percentage Identified	48.2	62.2	74.4	57.0	53.5	83.9

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)
x denotes presence

Table 37. Animal Remains from Features 92 and 99, Structure E, at the Percy Townsite (13MA347).*

Taxon	Screen NISP (MNI)	Screen Weight (g)	Screen Biomass (kg)	Flotation NISP (MNI)	Flotation Weight (g)	Flotation Biomass (kg)
FEATURE 92						
MAMMALS						
Old World Rat, *Rattus* sp.	3(1)	1.5	.038			
Cattle, *Bos taurus*	1(1)	14.3	.288			
BIRDS						
Chicken, *Gallus gallus*	2(1)	4.6	.082			
FISH						
Unidentified Fish				1(1)	.1	.005
Unidentified Vertebrate				3+(-)	.3	--
Totals	6(3)	20.4	.408	4+(1)	.4	.005
Totals Identified	6(3)	20.4	.408	0(1)	0	0
FEATURE 99						
MAMMALS						
Pig, *Sus scrofa*	1(1)	19.7	.385			
FISH						
Channel Catfish, *Ictalurus punctatus*				11(2)	1.6	.031
Unidentified Fish				x	.6	.020
Totals	1(1)	19.7	.385	11+(2)	2.2	.051

*(NISP = Number of Identified Specimens; MNI = Minimum Number of Individuals)
x denotes presence

Table 38. Summary of Species Composition of Faunal Assemblages Recovered by Screen Associated with Household Contexts at the Percy Townsite (13MA347).*

	F108	--Str P- F52	F69	--Str I- F65	F68	Str H F42	Str G F73	--Str F- F80	F89	--Str E- F92	F99	Totals	
	#	#	#	#	#	#	#	#	#	#	#	#	%
Pig	4	40	1	18	58*	0	2	3	0	0	1	127	28.5
Cattle	10	13	0	0	16	0	3	2	0	1	0	45	10.1
Eastern Cottontail	0	0	0	0	21(3)	0	0	0	0	0	0	21(3)	4.7
Squirrel	1(1)	0	0	0	5(2)	0	0	0	0*	0	0	6(3)	1.3
House Cat	0	1(1)	0	0	6(2)	0	0	0	0	0	0	7(3)	1.6
Old World Rat	0	0	0	0	2(1)*	5(1)	0	0	0	3(1)	0	10(3)	2.2
Eastern Mole	0	0	0	0	1(1)	0	0	0	0	0	0	1(1)	0.2
Unident. Rodent	0	0	0	0	0	1(1)	0	0	0	0	0	1(1)	0.2
Chicken	4(1)	3(2)	0	0	87(9)*	0	0	1(1)	0	2(1)	0	97(14)	21.8
Turkey	0	0	0	0	2(1)	0	0	1(1)	0	0	0	3(2)	0.7
Galliformes	0	0	0	0	5(-)	0	0	0	1(1)	0	0	6(1)	1.3
Eggshell	-	-	-	-	x	x	-	-	x	-	-	x	--
Snapping Turtle	0	0	0	0	1(1)	0	0	0	0	0	0	1(1)	0.2
Salmon/Trout	0	0	0	0	0	1(1)	0	0	0	0	0	1(1)	0.2
Channel Catfish	1(1)	0	0	0	0*	53(5)	0	0	39(3)*	0	0*	93(8)	20.9
Carp	0	0	0	0	0	4(1)	0	0	0	0	0	4(1)	0.9
Identified Mussels	1(1)	27(19)	0	0	0	0	0	0	0	0	0	28(20)	6.3
Unident. Mussels	15(2)	28(-)	0	0	0	0	2(1)	0	1(1)	0	0	46(4)	--
Total NISP	21	84	1	18	204	64	5	7	40	6	1	445	101.1

*indicates additional representation in flotation sample; NISP is followed in parentheses by MNI; Total NISP excludes unidentified mussels
x denotes presence

Table 39. Summary of Species Composition of Faunal Assemblages Recovered by Screen Associated with Commercial Contexts at the Percy Townsite (13MA347).*

	Feature 111	-Structures e/f--			----Feature 6----			--Totals---	
	F120	F107	F109	F110	F6	Tr4	F29		
	#	#	#	#	#	#	#	#	%
Pig	0	0	0	2	10	1	16	13	2.7
Cattle	3	5	8*	3	43	1	4	63	13.1
Eastern Cottontail	0	0	0	0	4(1)	1(1)	11(1)*	16(3)	3.3
Squirrel	0	0	0	0	1(1)	0	7(1)*	8(2)	1.7
House Cat	0	0	0	0	0	47(1)	0	47(1)	9.8
Old World Rat	0	4(1)	0	0	0	0	11(3)*	15(4)	3.1
Chicken	0	76(7)	0	0	14(2)	1(1)	20(2)	111(12)	23.2
Turkey	0	0	0*	0	0	0	1(1)	1(1)	0.2
Duck	0	2(1)	0	0	0	0	0	2(1)	0.4
Eggshell	-	-	-	-	-	-	x	x	--
Black Bullhead	0	0	0	0	0	0	36(4)*	36(4)	7.5
Channel Catfish	0	0	0	0	1(1)	2(1)	105(17)*	108(19)	22.5
Carp	0	0	0	0	0	0	55(3)*	55(3)	11.5
Identified Mussels	2(2)	0	0	0	1(1)	1(1)	0	4(4)	0.8
Unident. Mussels	0	0	0	0	2(-)	1(-)	2(1)	5(1)	--
Total NISP	5	87	8	5	74	54	266	479	99.8

* indicates additional representation in flotation sample; NISP is followed in parentheses by MNI; Total NISP excludes unidentified mussels
x denotes presence

Table 40. Size Distribution of Fish (Standard Length in cm) Represented at the Percy Townsite (13MA347).*

	Size Classes					
	8≤16	16≤24	24≤32	32≤40	56≤64	Totals
Channel Catfish:						
F108, screen	-	-	1(1)	-	-	1(1)
F6, screen	-	-	-	1(1)	-	1(1)
Tr4, screen	-	-	2(1)	-	-	2(1)
F29, screen	38(6)	53(7)	11(3)	3(1)	-	105(17)
F29, flotation	34(2)	48(4)	5(1)	-	-	87(7)
F42, screen	12(2)	14(1)	27(2)	-	-	53(5)
F68, flotation	-	1(1)	-	-	-	1(1)
F89, screen	-	33(2)	6(1)	-	-	39(3)
F89, flotation	2(1)	20(2)	21(2)	-	-	43(5)
F99, flotation	-	2(1)	-	9(1)	-	11(2)
Totals, screen	50(8)	100(10)	47(8)	4(2)	-	201(28)
Totals, flotation	36(3)	71(8)	26(3)	9(1)	-	142(15)
Black Bullhead:						
F29, screen	3(1)	33(3)	-	-	-	36(4)
F29, flotation	-	1(1)	-	-	-	1(1)
Bullhead/Catfish:						
F29, flotation	-	2(-)	1(-)	-	-	3(-)
Carp:						
F29, screen	-	-	46(2)	9(1)	-	55(3)
F29, flotation	-	-	6(1)	-	-	6(1)
F42, screen	-	-	-	4(1)	-	4(1)
Salmon/Trout:						
F42, screen	-	-	-	-	1(1)	1(1)

*(NISP is followed in parentheses by MNI)

Table 41. Composition of Beef Butchering Units from Household Contexts at the Percy Townsite (13MA347).*

Butchering Unit	F108 #	Str P F52 #	Str I F68 #	Str G F73 #	Str F F80 #	Str E F92 #	--Totals-- #	%
Short Loin	1	1	3	0	0	0	5	11.1
Sirloin	0	0	0	0	0	0	0	0
Rib	0	0	0	0	0	0	0	0
Round	0	1	3	0	0	0	4	8.9
Rump	1	0	0	0	0	0	1	2.2
Chuck	3	2	1	0	1	1	8	17.8
Rib/Chuck	1	7	2	1	0	0	11	24.4
Cross/Short Rib	0	1	3	1	1	0	6	13.3
Arm	0	0	1	0	0	0	1	2.2
Brisket/Short Plate	0	0	0	0	0	0	0	0
Neck	0	0	1	0	0	0	1	2.2
Foreshank	0	0	1	1	0	0	2	4.4
Hindshank	0	0	0	0	0	0	0	0
Cranial Fragments	1	1	0	0	0	0	2	4.4
Carpals-Phalanges	1	0	0	0	0	0	1	2.2
Indeterminate Cuts	2	0	1	0	0	0	3	6.7
Calf Bones	0	0	0	0	0	0	0	0
Total Bones	10	13	16	3	2	1	45	99.8

*(number of identified specimens)

Table 42. Composition of Beef Butchering Units from Commercial Contexts at the Percy Townsite (13MA347).*

Butchering Unit	Feature 111 F120 #	-Structures e/f-- F107 #	F109 #	F110 #	----Feature 6---- F6 #	Tr4 #	F29 #	---Totals--- #	%
Short Loin	0	0	0	0	0	0	0	0	-
Sirloin	0	1	1	0	0	0	0	2	3.0
Rib	0	0	0	0	0	0	0	0	0
Round	0	0	4	0	1	0	0	5	7.6
Rump	0	0	0	0	0	0	0	0	-
Chuck	0	2	1	1	3	0	0	7	10.6
Rib/Chuck	3	2	0	0	0	1	1	7	10.6
Cross/Short Rib	0	0	0	1	10	0	2	13	19.7
Arm	0	0	0	0	1	0	0	1	1.5
Brisket/Short Plate	0	0	0	0	1	0	0	1	1.5
Neck	0	0	1	0	3	0	0	4	6.1
Foreshank	0	0	0	0	5	0	0	5	7.6
Hindshank	0	0	0	0	7(1)**	0	0	7(1)**	10.6
Cranial Fragments	0	0	0	0	8	0	0	8	12.1
Carpals-Phalanges	0	0	0	0	2	0	1	3	4.5
Indeterminate Cuts	0	0	1	0	1	0	0	2	3.0
Calf Bones	0	0	0	0	1	0	0	1	1.5
Total Bones	3	5	8	2	43	1	4	66	99.9

* (number of identified specimens)
**Seven elements articulated/refitted

Table 43. Composition of Pork Butchering Units from Household Contexts at the Percy Townsite (13MA347).*

Butchering Unit	F108 #	--Str P- F52 #	F69 #	--Str I-- F65 #	F68 #	Str G F73 #	Str F F80 #	Str E F99 #	--Totals-- #	%
Cranial Elements	0	6	0	0	5	0	0	0	11	8.5
Isolated Teeth	0	8	0	0	4	0	0	0	12	9.3
Shoulder Butt	0	2	0	0	1	0	0	0	3	2.3
Picnic Shoulder	0	6	1	4	7	0	0	0	18	13.9
Rough Back/Rib Belly	3	11	0	0	13	0	2	0	29	22.5
Short Cut Ham	0	3	0	14	7	0	0	1	25	19.4
Feet	1	4	0	0	23	2	1	0	31	24.0
Total Bones	4	40	1	18	60	2	3	1	129	99.9

*(number of identified specimens)

Table 44. Composition of Pork Butchering Units from Commercial Contexts at the Percy Townsite (13MA347).*

Butchering Unit	Str e/f F110 #	----Feature 6---- F6 #	Tr4 #	F29 #	Totals #	%
Cranial Elements	0	1	1	0	2	7.1
Isolated Teeth	0	1	0	1	2	7.1
Shoulder Butt	0	1	0	0	1	3.6
Picnic Shoulder	0	0	0	2	2	7.1
Rough Back/Rib Belly	0	1	0	5	6	21.4
Short Cut Ham	0	0	0	1	1	3.6
Feet	2	5	0	7	14	50.0
Total Bones	2	9	1	16	28	99.9

*(number of identified specimens)

tabulation for feature 80 in Appendix D, Table 6. Excluded from the animal remains tabulated for feature 89 (Table 35) is a human molariform tooth that was recovered in a flotation sample taken from the privy.

The array of contexts investigated at the Percy townsite has provided data that may potentially be informative regarding the influences of socioeconomic status and occupation on individual choice in animals that were exploited for subsistence. These variables will be examined in Chapter IX of this report. Although definitive interpretations are hindered by the relatively rapid turnover of some properties, the change and/or combination of business and residential activities at some locations, and the small size of some of the faunal samples, some broad patterns are apparent. The faunal assemblages associated with residential or household contexts are summarized in Table 38, whereas the species composition of various features associated with business or commercial contexts such as general stores and restaurants are summarized in Table 39. Several tendencies become apparent from comparison of these groupings.

Fish remains are far more abundant in the features associated with the commercial structure represented by feature 6 (Figure 46). In particular, numerous cranial remains from channel catfish, black bullhead, and carp were recovered from feature 29 that was associated with this store/residence. Fish from residential contexts are limited to channel catfish, primarily from feature 89 (associated with structure F) but also in feature 99 (structure E; Table 37) and feature 68 (structure I; Table 30). One exception is feature 42 which, in addition to a sizable number of channel catfish remains, also had specimens of carp

and a bone vertebra fragment from an imported large salmon or lake trout (Table 33). While this feature is associated with a residential occupation (i.e., the Findlows in structure H), this family was engaged in a restaurant/store operation across the road (structure f) and therefore likely had greater access to commercial-associated inventory. The size distribution of the fish bones from these various features is shown in Table 40.

In contrast to the aquatic orientation of some of the faunal assemblages related to the businesses, however, shells from local species of freshwater mussels occur in greatest numbers in the fill of a keyhole cellar (feature 52) south of structure P, a former farmstead. Mussel shells occur in small numbers at the general stores at feature 111 and at feature 6. The only other aquatic species is a snapping turtle that was associated with feature 68 east of structure I.

The representation of birds is fairly homogeneous between residential and commercial contexts. Chicken bones are most numerous overall with especially large concentrations in feature 107 (structures e/f) and feature 68 (structure I). The only unique occurrences were two duck bones in feature 107 and single bones from small perching birds (passerines) in the flotation samples of feature 29 (northwest of structure H) and feature 89 (a privy behind structure F).

Tables 38 and 39 also reveal a contrast between residential and commercial contexts in regard to beef and pork. Whereas pig bones were more prevalent in the features associated with households, with the exception of features 73 (structure G) and 108 (likely associated with a house site formerly behind the feature 111 general store), bones from

cattle generally occur in greater numbers in the refuse deposits associated with the businesses. A closer inspection of beef butchering units represented in the various features (Tables 41 and 42) suggests that middle and low value cuts dominate the commercial contexts. This impression may be biased by bones that were found in the postoccupational fill of feature 6 (Table 42). The refuse from the residential contexts (Table 41) indicates that middle value beef cuts were preferred. Beef cuts may reflect greater affluence for the inhabitants of structure I since high value butchering units contribute nearly as many as mid-value cuts in feature 68. Butchering units of pork are equally balanced between cranial parts, shoulders, back, hams, and feet in the residential deposits (Table 43). Pig bones from the commercial contexts, on the other hand, have higher proportions of bones from the feet and the rough back (Table 44).

One feature is particularly noteworthy for an interesting correlation between plant and animal remains. Feature 29 contains the highest proportion of fish bones of any deposit in Percy; i.e., 73.7% of the identified bones in the screened samples are from fish (including carp, channel catfish, and black bullhead). This privy also yielded the majority of elderberry seeds recovered from the townsite. Not only does it seem that berries were picked for family consumption, but fish, rabbits, and squirrels were also sought to supplement pork and beef in the family diet. It is of further note that this privy was associated with a combination store/residence (feature 6).

Despite the importance of Percy as a trading and shipping center, the faunal assemblages from the various structures investigated fail to

reveal evidence for imported foods such as oysters, quahogs, or cod, although it is known that canned, pickled oysters were available ca. 1911 in one of the Percy stores. Only a single vertebra fragment suggests the presence of a large salmon or lake trout that was not local to the area. This is somewhat surprising considering that refuse deposits associated with general stores, restaurants, and moderately high status merchants were included among the features analyzed. Unlike transportation networks on the Great Lakes, and perhaps the Mississippi River, the residents of Percy either did not have the opportunity to purchase some varieties of imported foods or chose to remain more self-sufficient.

Botanical Analysis

Excavations for the town of Percy yielded a tremendous amount of botanical material from both macro- and microsamples (flotation). A total of 82 macrosamples and 134 microsamples for 32 features was examined. Identified are 508,914 seeds, 127 samples of wood and charcoal (3,861.45 g), 324 samples of nut material (429.15 g), 70 cob fragments and kernels of maize (31.3 g), and 5 fruits (Tables 45-53).

The recovered botanical material represents a substantial contribution to the historic archaeobotanical record. Most significant is the potential for this material to provide direct evidence for turn-of-the century economic plant use patterns by town residents in the Lake Red Rock region. The Percy site assemblage sheds light on food habits, use of timber resources for construction materials and fuel, and possible horticultural (kitchen garden) and landscape plants.

Identifications by Structural Association. Identifications of

botanical material and specific discussion will be given by structural association. Tables 45 to 53 should be referenced for a complete listing of identifications unless otherwise specified.

Structure d. Macrosamples from four features associated with structure d were analyzed. These feature types are three privies (features 31, 38, and 53) and one post hole (feature 17).

Identified from the post feature (feature 17) were six noncarbonized fragments of white oak wood (Quercus spp.; 0.8 g) and four noncarbonized fragments of black walnut wood (Juglans nigra; 0.5 g). Both wood types are hard woods that possess an average durability of 25 years when in contact with soil moisture and would function well as posts. The incidence of two wood types in the post hole obscures the context significance of the wood fragments.

Noncarbonized fragments of pine (feature 31; n=1, 16.5 g) and hewn boards of pine (Pinus spp.) (feature 38; n=2, 168.1 g and feature 53; n=1, 25.3 g) were recovered from the fill of the privy features. Board dimensions measured 1 3/4 in. by 5 1/4+ in. (feature 38) and 1/2 in. by 2 3/4+ in. (features 38 and 53). These pine fragments could be remnants of privy lining. Pine, a readily available, moderately-priced lumber, has long been valued as an all-purpose rough construction timber (Panshin and de Zeeuw 1980:443). A privy lining made of pine would have a use-expectancy of approximately 10 years.

The fill of feature 31 additionally yielded 47 noncarbonized seeds of edible fruits. These are blackberry/raspberry (Rubus spp., n=15), strawberry (Fragaria spp., n=23), plum (Prunus americana, n=7), peach (Prunus persica, n=1), and tomato (Lycopersicum esculentum, n=1). These

Table 45. Identified Seeds from Flotation Samples, Site 13MA347.

Genus/Species (by count)	Feature No. 42*	Fea. 111 108	120	Str. e/f 109	110	Str. p 52	69	Str. I 68	90	Fea. 6 29*	Str. G 73	Str. F 80	89*	Str. E 78	92*	99*	TOTAL
Acalypha sp.								1									1
Copperleaf																	
Amaranthus spp.		1			7		5	2	13	2				10	256	144	440
Amaranth																	
Ambrosia trifida		1								6							7
Giant ragweed																	
Brassica alba	128												202				330
Yellow mustard																	
Carex sp.								2									2
Sedge																	
Chenopodium spp.	192	15	1		2	3	11	5	15	72		1	640	69	96	80	1202
Lamb's-quarters																	
Cornus sp.										1**							1
Dogwood																	
Crataegus sp.										1			8				9
Hawthorne																	
Cruciferae			2			2			2								6
Wild mustard																	
Cucumis sativus		1											2				3
Cucumber																	
Cucurbita pepo								1		2							3
Pumpkin																	
Datura stramonium								1		64							66
Jimsonweed																	
Fragaria spp.	1040	10			1	2		8	10	97518	31		7006		98304	8744	212674
Strawberry																	
Habernaria clavellata								1									1
Wild orchid																	
Iris virginica		1						1									2
Blue flag iris																	
Labiatae					1												1
Mint																	

Table 45. (Cont'd).

Genus/Species (by count)	Feature No. 42*	Fea. 111 108	Fea. 111 120	Str. e/f 109	Str. e/f 110	Str. p 52	Str. p 69	Str. I 68	Str. I 90	Fea. 6 29*	Str. G 73	Str. F 80	Str. F 89*	Str. 78	Str. E 92*	Str. E 99*	TOTAL
Lespedeza sp. Bush clover							1										1
Linaria sp. Toadflax									7					2			9
Lithospermum sp. Puccoon									2								2
Lonicera sp. Honeysuckle		1															1
Lycopersicum esculentum Tomato	496	26	4			3		46	1	9948	51	1	3024		8384	424	22408
Malus sp. Apple												1					1
Malva sp. Mallow								1									1
Medicago sp. Burclover/alfalfa													2				2
Najas sp. Naiad								1									1
Oryza sativa Rice								1**									1
Oxalis stricta Wood sorrel								1	2								3
Physalis spp. Ground cherry	176	1	1			3	141	7	1	108200	1	1	136		768	304	109740
Polygonum spp. Smartweed	16	5	2				2	9									34
Portulaca oleracea Purslane	128	1	2		3	1	1		627	836	1		256	15	96	8	1975
Prunus americana Plum	1																1
P. persica Peach	2	1				1**				1							5

Table 45. (Cont'd).

Genus/Species (by count)	Feature No. 42*	Fea. 111 108		Str. e/f 109		Str. p 52		Str. I 68		Fea. 6 29*	Str. G 73	Str. F 80		Str. E 78			TOTAL
			120		110		69		90				89*		92*	99*	
Ranunculus sp. Buttercup								1**									1
Ricinus communis Castor bean								1					2**				3
Rubus spp. Blackberry/raspberry	1696	546	12	18	3	56	34	124	7	84586	31	14	19060	61	43232	5320	154800
Rumex sp. Dock		1															1
Sambucus canadensis Elderberry		1				1	1			2365		1					2369
Scirpus sp. Bulrush						2					3						5
Setaria sp. Foxtail						1**					1		2				4
Trifolium sp. Sweet clover													2				2
Viburnum spp. Arrow-wood				1						2**							3
Vitis spp. Grape	144	5		3	1	1		9		1076		1	111		1216	80	2647
Unidentified								2		1			3**				6
TOTAL SEEDS	4019	616	24	23	18	76	196	225	687	304681	119	20	30456	157	152352	15104	508773

* portions estimated from subsamples ** carbonized

Table 46. Identified Nutshell, Maize, and Fruits from Flotation Samples, Site 13MA347.

Genus/ Species	--Fea.-- 111 42	108	120	---Str.-- e/f 109	110	---Str.--- p 52	69	--Str.- I 68	90	Str. 6 29	Str. G 73	---Str.-- F 80	89	---Str.-- E 78	92	99	TOTAL
NUTSHELL [#/wt(g)]																	
Carya ovalis	1		1														2
Sweet pignut hickory	0.2*		1.0														1.2
Carya spp.						2		1									3
Hickory						0.25*		0.05*									0.3
Corylus spp.								1									1
Hazelnut								0.05									0.05
Juglans nigra						1	1										2
Black walnut						0.9*	0.8										1.7
Nutmeat						4	2										6
						<0.05*	0.05										0.05
Quercus spp.								9									9
Acorn								0.35									0.35
TOTAL NUTSHELL	1	0	1	0	0	7	3	11	0	0	0	0	0	0	0	0	23
	0.2		1.0			1.15	0.85	0.45									3.65
MAIZE [#/wt(g)]																	
Cob fragments							16	8				1	1				26
							1.75*	4.75*				0.05*	<0.05*				6.55
Kernels						1	2	19		5		4	1				32
						<0.05*	<0.05*	0.15*		0.05*		<0.05*	<0.05*				0.25
TOTAL MAIZE	0	0	0	0	0	1	18	27	0	5	0	5	2	0	0	0	58
						<0.05	1.75	4.9		0.05		0.05	0.05				6.8
FRUITS (count)																	
Solanaceae							2	3									5
Berry																	
TOTAL FRUITS	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	5

*carbonized

Table 47. Identified Wood and Charcoal from Flotation Samples, Site 13MA347.

Genus/ Species [#/wt(g)]	42	Fea. 108	111 120	Str. e/f 109	110	--Str. p- 52	69	Str. I 68	90	Fea. Str. 6 29	G 73	--Str. F- 80	89	----STr. E--- 78	92	99	TOTALS
Acer spp.	4						2						1				7
Hard maple	1.0						0.1*						0.15*				1.25
Betula sp.						2	1	3									6
Birch						0.15*	0.3*	0.75*									1.2
Carya spp.		1				5		3		3							12
Hickory		<0.05*				0.15*		7.35		0.8*							8.3
Fraxinus spp.													1				1
Ash													0.2*				0.2
Juglans nigra						8											8
Black walnut						0.65*											0.65
Pinus spp.	4	3		2	6	13	2	30					7				67
Pine	0.6**	4.5		0.1*	3.4*	0.7**	0.2*	2.8**					0.65*				13.05
Populus spp.				1		10		2		5		5	20				43
Poplar/cottonwood				0.05*		0.35*		0.3*		0.4*		0.6*	3.4*				5.1
Prunus serotina								1									1
Wild black cherry								0.1*									0.1
Quercus spp.		•				2							6				8
White oak group						0.05*							1.2*				1.25
Robinia pseudo-acacia						21											21
Black locust						1.6*											1.6
Ulmus americana			1			7		1					4				13
Amercian elm			2.4			0.4*		0.05					0.55*				3.4
U. rubra			1			1		1									3
Slippery elm			2.5			0.95*		<0.05									3.45
Ring-porous						13		2		8			4				27
						0.45*		0.1*		0.25*			0.3*				1.1
Diffuse-porous	16	3				34	7	5		1		1	8		1		76
	2.8	<0.05*				0.85**	0.05*	4.45**		0.1*		0.2*	0.5*		0.15*		9.1
Bark fragments								2		2							2
								15.1		0.05*							15.15
Unidentified	6					7											13
	0.85					0.1*											0.95
TOTAL WOOD/CHARCOAL	30	7	2	3	6	123	12	50	0	19	0	6	51	0	1	0	310
	5.25	4.5	4.9	0.15	3.5	6.4	0.65	31.0		1.6		0.8	6.95		0.15		658.5
RESIDUE [wt/(g)] (<5mm size)	0.6	0.05	0	0	0.05	5.35	0	0.95	0	0.1	0	0	0.4	0	0	0	7.5

*carbonized **portions carbonized

Table 48. Identified Nuts, Maize, and Seeds from Macrosamples (organized by structure association), Site 13MA347.

Genus/ Species	Feature No. Str. d 31	Fea. 111 108	Structure e/f 107	109	110	Str. I 68	Fea. 6 29	Structure F 80	89	Str. E 88	Tr. 1-3 6	Tr. 4	TOTAL
NUTS [#/wt(g)]													
Carya ovalis													
Sweet pignut hickory													
Whole nut	1/0.7												1/0.7
Nutshell fragments	6/1.1					14/2.85							20/3.95
Juglans cinera													
Butternut													
Nutshell fragments											1/4.35		1/4.35
J. nigra													
Black walnut													
Whole nut	4/18.4	2/5.3				6/45.35		10/45.2		3/20.9	22/105.05		47/240.2
Nutshell fragments	5/10.35			1/3.15		124/93.7*		32/26.05		13/4.4	41/38.4		216/176.05
Nutmeat								15/0.1					15/0.1
Quercus spp.													
Acorn													
Nutshell fragments											1/0.15		1/0.15
TOTAL NUTS	16/30.55	2/5.3	0	1/3.15	0	144/141.9	0	57/71.35	0	16/25.3	65/147.95	0	301/425.5
MAIZE [#/wt(g)]													
Cob fragments						12/14.5*							12/14.5
TOTAL MAIZE	0	0	0	0	0	12/14.5	0	0	0	0	0	0	12/14.5
SEEDS													
(count or [#/wt(g)])													
Cucurbita maxima		9											9
Winter squash													
C. pepo						1	2						3
Pumpkin													
Fragaria spp.	23						9						32
Strawberry													
Lycopersicum esculentum	1												1
Tomato													

Table 48. (Cont'd).

Genus/ Species	Feature No. Str. d 31	Fea. 111 108	Structure e/f 107	109	110	Str. I 68	Fea. 6 29	Structure F 80	89	Str. E 88	Tr. 1-3 6	Tr. 4	TOTAL
Physalis spp.							13						13
Ground cherry													
Prunus americana													
Plum													
Whole stone	7/2.85					2/0.4	1/0.3						10/3.55
P. cerasus													
Pie cherry/sour cherry													
Whole stone						1/0.15							1/0.15
P. persica													
Peach													
Whole stone	1/1.2		1/2.9*			5/5.2	5/20.8	1/1.75	1/1.35	18/23.75		1/1.15	33/58.1
Fragment					1/1.4			2/0.8		16/6.75			19/8.95
Rubus spp.	15						4						19
Blackberry/raspberry													
SEEDS TOTAL	47/4.05	9	1/2.9	0	1/1.4	9/5.75	34/21.1	3/2.55	1/1.35	34/30.5	0	1/1.15	140/70.75

*portions carbonized

Table 49. Identified Wood and Charcoal from Macrosamples (excluding post features), Site 13MA347.

Genus/ Species [#/wt(g)]	Feature No. 42	Structure d 31	Structure d 38	Structure d 53	Find-low's 48	Fea. 111 108	Fea. 111 120	Str. e/f 107	Str. e/f 110	Str. p 57	Str. l 68	Str. l 90
Acer spp.												
Hard maple												
Juglans nigra												
Black walnut												
Pinus spp.		1/16.5	2/168.1	1/25.3	4/30.0	7/70.1		2/1.7	4/39.2	3/8.9	9/194.4+	1/15.3
Pine												
Populus spp.	1/195.6											
Poplar/cottonwood												
Quercus spp.							1/69.6					
White oak group												
Ulmus americana						9/473.3						1/7.6
American elm												
U. rubra						2/389.3						
Slippery elm												
U. thomasii												
Rock elm												
Unidentified												
TOTAL WOOD/CHARCOAL	1/195.6	1/16.5	2/168.1	1/25.3	4/30.0	18/932.7	1/69.6	2/1.7	4/39.2	3/8.9	9/194.4	2/22.9

Table 49. (Cont'd).

Genus/ Species [#/wt(g)]	---Str. H-- 32	40	Fea. 6 29	F-6 & Str. H 45	Str. G 73	Str. F 80	Str. E 88	Tr. 1-3 6	Tr. 4	TOTAL
Acer spp.	2/23.0				1/11.2			2/0.9		5/35.1
Hard maple										
Juglans nigra					3/42.7					3/42.7
Black walnut										
Pinus spp.		2/51.4	1/0.3*	1/27.1		2/29.3	5/30.5	9/450.3**	5/112.5**	59/1270.9
Pine										
Populus spp.					1/22.9			2/40.2**		4/258.7
Poplar/cottonwood										
Quercus spp.			2/247.0**		1/36.8				5/83.4*	9/436.8
White oak group										
Ulmus americana										10/480.9
American elm										
U. rubra					1/9.8					3/399.1
Slippery elm										
U. thomasii			3/116.4							3/116.4
Rock elm										
Unidentified								1/0.1		1/0.1
TOTAL WOOD/CHARCOAL	2/23.0	2/51.4	6/363.7	1/27.1	7/123.4	2/29.3	5/30.5	14/491.5	10/195.9	97/3030.7

*carbonized **portions carbonized

Table 50. Identified Wood Macrosamples from Post Features and Trees, Site 13MA347 (organized by structure association).

Genus/Species [#/wt(g)]	Feature No. Str. d 17	Str. e/f 122	Str. p 56	Structure I 44	70	71	74	Str. H 25	Str. G 72	Str. F 106	TOTAL
POST FEATURES											
Celtis occidentalis			1								1
Hackberry			25.7								25.7
Gleditsia triacanthos				6							6
Honey locust				107.8							107.8
Juglans nigra	4										4
Black walnut	1.5										
Quercus spp.	6							2		2	10
White oak group	0.8							5.5		25.3	31.6
Pinus spp.					1	1	2		1		5
Pine					41.8	353.1	36.1		54.6		485.6
Populus spp.		1									1
Poplar/cottonwood		78.0									78.0
TOTAL WOOD	10	1	1	6	1	1	1	2	1	2	27
	2.3	78.0	25.7	107.8	41.8	353.1	36.1	5.5	54.6	25.3	730.2
TREES											
Morus rubra			1								1
Red mulberry			9.0								9.0
Tilia americana			1								1
American basswood/linden			9.0								9.0
Ulmus rubra			1								1
Slippery elm			8.4								8.4
TOTAL TREES			3								3
			26.4								26.4

Table 51. Total Identified Botanical Material for Feature 68 by Zone, Site 13MA347.

Genus/Species	ZONE A	C	E	F	I	S1/2	TOTAL
SEEDS (by count)							
Acalypha sp. Copperleaf		1					1
Amaranthus spp. Amaranth			2				2
Carex sp. Sedge		2*					2
Chenopodium spp. Lamb's-quarters			4	1			5
Cucurbita pepo Pumpkin			1		1		2
Datura stramonium Jimsonweed					1		1
Fragaria spp. Strawberry		1	1	5	1		8
Habernaria clavellata Wild orchid		1					1
Iris virginica Blue flag iris		1					1
Lycopersicum esculentum Tomato	2	6**	38**				46
Malva sp. Mallow		1*					1
Naja sp. Naiad		1*					1
Oryza sativa Rice	1*						1
Oxalis stricta Wood sorrel			1				1
Physalis spp. Ground cherry	3	1	2		1		7
Polygonum spp. Smartweed	4*	2	1	1	1		9
Prunus americana Plum			2/0.4				2
P. cerasus Pie cherry			1/0.15				1
P. persica Peach			2/5.1		3/0.1		5
Ranunculus spp. Buttercup	1*						1
Ricinus communis Castor bean			1				1
Rubus spp. Blackberry/raspberry	17	26**	45	5	31		124
Vitis spp. Grape		4**	5**				9
Unidentified			1		1		2
TOTAL SEEDS	28	47	107	12	37	0	234
MAIZE [#/wt(g)]							
Cob fragments	3/0.65*	10/10.2*	6/2.2*				19/13.05
Kernels	2/0.05*	17/0.15*					19/0.2
TOTAL MAIZE	5/0.7	27/10.35	6/2.2	0	0	0	38/13.25

Table 51. (Cont'd.)

Genus/Species	ZONE A	C	E	F	I	S1/2	TOTAL
FRUITS (by count)							
Solanaceae berry			3				3
TOTAL FRUITS	0	0	3	0	0	0	3
NUTS/NUTSHELL [#/wt(g)]							
Carya ovata							
Shagbark hickory		1/0.2	12/2.5		1/0.15*		14/2.85
Corylus sp.							
Hazelnut					1/0.05		1/0.05
Juglans nigra							
Black walnut							
Whole	4/27.0		1/6.3			1/12.05	6/45.35
Nutshell fragments	9/17.6	38/46.7**	77/29.4				124/93.7
Nutmeat		1/0.3					1/0.3
Quercus sp.							
Acorn					9/0.35		9/0.35
TOTAL NUTS/NUTSHELL	13/44.6	40/47.2	90/38.2	0	11/0.55	1/12.05	155/143.5
WOOD/CHARCOAL [#/wt(g)]							
Betula sp.							
Birch		2/0.7*			1/0.05*		3/0.75
Carya spp.							
Hickory			1/6.65		2/0.7		3/7.35
Pinus spp.							
Pine	4/16.3**	1/0.05*	10/1.55		17/1.25	7/178.1	39/197.25
Populus spp.							
Poplar/cottonwood	2/0.3*						2/0.3
Prunus serotina							
Wild black cherry					1/0.1*		1/0.1
Ulmus americana							
American elm			1/0.05				1/0.05
Diffuse-porous			1/0.6		4/3.85**		5/4.45
Ring-porous					1/0.05*		1/0.05
Bark fragments					2/15.1		2/15.1
Unidentified			1/<0.05		1/<0.05		2/<0.05
TOTAL WOOD/CHARCOAL	6/16.6	3/0.075	14/8.85	0	29/21.1	7/178.1	59/225.4
RESIDUE [wt(g)]							
(<5mm in size)	0	0.1	0.8	0	0.05	0	0.95

*carbonized **portions carbonized

Table 52. Total Identified Botanical Material from Trenches Associated with Feature 6, Site 13MA347.

Genus/Species	Trench 1	Trench 2	Trench 3	Trench 4	TOTAL
NUTS [#/wt(g)]					
Juglans cinera					
Butternut	1/4.35*				1/4.35
J. nigra					
Black walnut					
Whole	22/105.05				22/105.05
Fragment	41/38.4				41/38.4
Quercus sp.					
Acorn	1/0.15*				1/0.15
TOTAL NUTS	65/147.95	0	0	0	65/147.95
WOOD/CHARCOAL [#/wt(g)]					
Acer sp.					
Soft maple	2/0.9				2/0.9
Pinus spp.					
Pine	5/3.1**	4/447.2		5/112.5**	9/450.3
Populus spp.					
Poplar/cottonwood	1/2.2		1/38.0**		2/40.2
Quercus spp.					
White oak group				5/83.4*	5/83.4
Unidentified	1/0.1				1/0.1
TOTAL WOOD/CHARCOAL	9/6.3	4/447.2	1/38.0		14/491.5

*1/2 nut fragment **portions carbonized

Table 53. Total Identified Botanical Material for Feature 29 by Zone, Site 13MA347.

Genus/Species	ZONE A[@]	B[@]	C	D[@]	E[@]	S1/2[+]	SW CORNER	TOTAL
SEEDS (by count)								
Amaranthus spp.								
Amaranthus					2			2
Ambrosia trifida								
Giant ragweed	6							6
Chenopodium spp.								
Lamb's-quarters		64			8			72
Cornus sp.								
Dogwood	.*							1
Crataegus sp.								
Hawthorne	1							1
Cucurbita pepo								
Pumpkin				4				4
Datura stramonium								
Jimsonweed					64			64
Fragaria spp.								
Strawberry	12	2304		12544	69402			97527
Lycopersicum esculentum								
Tomato	18	2368	46	3776	2780	2356		11344
Physalis spp.								
Ground cherry	638	47616		38208	5588	16163		108213
Portulaca oleracea								
Purslane		320		192	68	256		836
Prunus americana								
Plum				1				1
P. persica								
Peach	1[°]		1/2.1			4/18.7		6
Rubus spp.								
Blackberry/raspberry	316	23424	215	17536	19077	24022		84590
Sambucus canadensis								
Elderberry	8	640	1	640	138	938		2365
Viburnum spp.								
Arrow-wood	2*	64						66
Vitis spp.								
Grape	2		18	192	398	402		1012
Unidentified					1			1
TOTAL SEEDS	1005	76800	281	73093	97526	57406	0	306111
MAIZE [#/wt(g)]								
Kernels	4/<0.05*				1/<0.05*			5/0.05
TOTAL MAIZE	4/<0.05	0	0	0	1/<0.05	0	0	5/0/05

Table 53. (Cont'd.)

Genus/Species	ZONE A[@]	B[@]	C	D[@]	E[@]	S1/2[+]	SW CORNER	
WOOD/CHARCOAL [#/wt(g)]								
Carya spp.								
Hickory	3/0.8*							3/0.8
Pinus spp.								
Pine			1/0.3*					1/0.3
Populus spp.								
Poplar/cottonwood	2/0.35*	2/0.05*			1/0.05*			5/0.4
Quercus spp.								
White oak group			1/0.9*				1/246.1	2/247.0
Ulmus thomasii								
Rock elm						3/116.4		3/116.4
Diffuse-porous					1/0.1*			1/0.1
Ring-porous	3/0.05*				5/0.2*			8/0.25
Unidentified					2/0.05*			2/0.05
TOTAL WOOD/CHARCOAL	8/1.2	2/0.05	2/1.2	0	9/0.4	3/116.4	1/246.1	25/365.3
RESIDUE [wt(g)]								
(<5mm size)	<0.05	0	0	0	0.1	0	0	0.1

*carbonized **portions carbonized +post @portions estimated from subsamples °fragment

seeds were not present in sufficient concentrations to positively signify privy use. They may be remnant of privy fill following cleaning or may represent refuse from food preparation deposited in the privy during infilling.

Whole nuts and fragments of black walnut (28.75 g) and shagbark hickory (Carya ovata, 1.8 g) were also contained in the fill of feature 31. These nuts and nut fragments may represent refuse deposited in the privy fill during infilling.

In general, the botanical species associated with the privies all have economic potential. Pine is a versatile, common construction timber and may be remnant from the privy superstructures. The seeds identified are from edible fruits; the nuts also have food value. The incidence of whole nuts in the fill indicates that they may have entered the fill as refuse from nut stores which had become rancid.

The Findlow House. One wood macrosample was obtained from the fill of feature 48, a privy feature associated with the Findlow residence. The sample consisted of four noncarbonized hewn board fragments of pine (30.0 g) which measured 3/8 in. by 2 1/4+ in. These board fragments may be remnant from the privy box structure.

Feature 111. Feature 111 represents the remains of a general store. Features associated with this structure from which botanical material was identified are a keyhole cellar (feature 108) and a sandpoint well (feature 120), although feature 108 is more likely associated with a small house site once located west of the store.

Macrosample fragments of the cellar superstructure (feature 108) were identified A center post fragment was identified as slippery elm

(Ulmus rubra, 179.8 g). One side post fragment sampled near the cellar entrance which measured 3 1/2 in. by 3 1/2 in. square (209.5 g) was also identified as slippery elm. Five large construction board fragments were identified as American elm (Ulmus americana, 423.2 g); these were in too poor of a condition to measure. Four additional American elm board fragments were identified. Two boards were hewn to dimensions measuring 2 3/4 in. by 3+ in. (2.6 g); two were hewn to 5/8 in. by 2+ in. (47.4 g). Seven hewn board fragments of pine completed the wood assemblage. Four of the pine boards measured 1/2 in. by 3+ in. (36.5 g); one measured 1/2 in. in thickness (6.1 g); and two measured 3/4 in. by 3+ in. (27.5 g).

The hardwood elm lumber functioned structurally as cellar posts and probably additionally as framing and wall boards. The pine lumber was likely used for flooring and possibly also for framing or shelving. Slippery elm and American elm are sold commercially as "elm" lumber. The incidence of the two elm species and the pine, which is rare to native timber stands in the Lake Red Rock region, suggests that the lumber for the privy construction was purchased from a lumber dealer and was not harvested from native timber resources.

Elm and pine timbers are industrially classified as nondurable under moist conditions. A cellar constructed of these lumbers would have a use-expectancy of approximately 10 years or at least would require lumber replacement maintenance within this time span.

Macrosamples of two whole black walnuts (5.3 g) and nine winter squash (Cucurbita maxima) seeds were screened from the fill of the east 1/2 of the cellar.

Flotation from the cellar fill yielded 617 noncarbonized seeds and 7 fragments of wood and charcoal (4.5 g). Identified seeds having food value were peach (n=1), blackberry/ raspberry (n=546), ground cherry (Physalis spp., n=1), grape (Vitis spp., n=5), elderberry (Sambucus canadensis, n=1), strawberry (n=10), tomato (n=26), and cucumber (Cucumis sativa, n=1). One seed each of blue flag iris (Iris virginicus) and honeysuckle (Lonicera sp.) were also identified.

Weedy seeds identified were lamb's-quarters (Chenopodium spp., n=15), purslane (Portulaca oleracea, n=1), smartweed (Polygonum spp., n=5), amaranth (Amaranthus spp., n=1), dock (Rumex sp., n=1), and giant ragweed (Ambrosia trifida, n=1).

Identified charcoal fragments were hickory (Carya sp.; n=1, <0.05 g) and diffuse-porous wood (n=3, <0.05 g). Three noncarbonized pine fragments (4.5 g) were also identified.

The identified botanical assemblage from the keyhole cellar suggests that nuts and squash and other nonperishable produce had been stored in the cellar. A large majority of seeds identified from flotation (96%) were from fleshy, juicy edible fruits which would not store well. These seeds likely entered the fill as refuse from food preparation which was deposited during the sealing episode of the cellar.

Blue flag iris grows infrequently in marshy areas and along stream banks in the Red Rock area (Eilers 1971:76). Honeysuckle occurs infrequently to frequently in upland woods and dry, rocky habitats (Eilers 1971:20). These attractive flowering plants may have been introduced to the site for their ornamental value.

The seeds of weedy plants may have entered the fill during the cellar infilling or may have contaminated the fill subsequent to sealing. The wood and charcoal fragments recovered from flotation also likely represent debitage material not directly related to feature function.

Wood and nutshell fragments and seeds were recovered from the fill of the sandpoint well associated with the general store (feature 120). A noncarbonized macrosample of a white oak timber (69.6 g) measured at least 2 in. thick and appeared to be a support post fragment. Flotation yielded two additional noncarbonized wood fragments, one each of American elm (2.4 g) and slippery elm (2.5 g). Direct association with the well structure is not certain.

One shagbark hickory nutshell fragment (1.0 g) and 24 seeds were also recovered from flotation. Identified seeds of edible plants were blackberry/raspberry (n=12), ground cherry (n=1), tomato (n=4), and yellow mustard (Brassica alba, n=2). Identified seeds from weedy species were smartweed (n=2), purslane (n=2), and lamb's-quarters (n=1).

The nutshell fragment and seeds of food plants may represent food preparation refuse, but the small quantity of material makes positive association with site activities difficult to postulate with certainty. The combined botanical sample from the sandpoint well could also be incidental floral material in the feature fill.

Structures e/f. A small sample of botanical material was recovered from a sandpoint well (feature 107) associated with structure e, a Percy restaurant which was destroyed by fire in 1918. Identified were one macrosample of a partially carbonized peach stone and a

macrosample of two noncarbonized pine wood fragments (1.7 g). These samples likely represent refuse deposited into the well during the period of the restaurant operation or during the well sealing episode.

Botanical material has been identified from three features associated with structure f, a restaurant/store in Percy. These are a post feature (feature 122), a refuse pit (feature 109), and a keyhole cellar (feature 110).

Identified from the post feature is a noncarbonized fragment of poplar/cottonwood (Populus sp., 78.0 g). Populus wood is light weight, easily nailed, and resistant to splitting. As a softwood, it has a durability potential of less than 10 years when in contact with soil moisture. This post likely had a temporary function.

One macrosample and flotation sample was obtained from the fill of the refuse pit (feature 109). Identified were 1 black walnut nutshell fragment (3.15 g), 1 carbonized fragment of poplar/cottonwood (0.05 g), 2 carbonized fragments of pine (0.1 g), and 23 noncarbonized seeds. These are blackberry/raspberry (n=18), grape (n=3), arrow-wood (Viburnum sp., n=1), and jimsonweed (Datura stramonium, n=1).

The small quantity of floral material obscures its significance in relation to the restaurant/store function. The charcoal fragments, nutshell fragments, and seeds are likely refuse material disposed in the pit during episodal infilling.

Potential edible fruits identified in the seed assemblage were blackberry/raspberry, grape, and possibly arrow-wood. Some species of Viburnum (these are referred to as black haw) are highly valued for their fleshy fruits which are made into jam (Peterson 1977:178). A

greater incidence of these seeds in the feature fill would be expected if associated with culinary use. Arrow-wood is also valued as an ornamental small tree or shrub and may have been planted to enhance the attractiveness of the restaurant exterior.

Jimsonweed and some species of arrow-wood have medicinal potential. Viburnum prunifolium (black haw) bark was valued historically as a gynecological medicine and was listed in the official U.S. Pharmacopoeia from 1882 until 1926 (Dobelis 1986:106). Natural habitat range of black haw includes borders of woods and pond and river banks of Iowa (Fernald 1970:1340).

Jimsonweed was historically valued for its antiasthmatic and antispasmodic properties. Smoke from the ignited dried leaves were inhaled to relieve asthmatic spasms of the diaphragm. These leaves were also administered to sedate and calm an epileptic (Dobelis 1986:226). As an internal medicine, jimsonweed must be administered with great care as the plant contains an extremely poisonous narcotic which can rapidly increase heartbeat, induce delirium, and even cause death. Externally, the leaves were therapeutically applied as a poultice to treat boils and cuts (Krochmal et al. 1969:108). Jimsonweed occurs as a somewhat rare adventitious weed in disturbed soils, roadsides, and fields. This plant may have occurred naturally in disturbed soils in Percy. The presence of the seeds also suggests that this plant may have been valued locally for its therapeutic properties.

Macrosamples and flotation from the keyhole cellar (feature 110) contained wood and charcoal fragments and seeds. Identified were four macrosamples of noncarbonized pine (39.2 g). The pine wood fragments may

be remnants of the cellar superstructure although hewing was not evident on the four fragments. Flotation yielded six additional carbonized pine fragments (3.5 g). These charcoal fragments and the identified seeds are likely refuse material placed in the cellar during episodal infilling.

Seeds identified from edible, sweet fruits were peach (n=1), blackberry/raspberry (n=3), grape (n=1), and strawberry (n=1).

Mint (Labiatae, n=1), which has culinary and medicinal potential, was also identified. Thirty one species of mint are noted as potentially occurring in the Lake Red Rock area (Eilers 1971:38-39). Mint leaves (especially peppermint and spearmint) are popular culinary flavoring agents, especially for candies and refreshing cold and hot beverages. There are many traditional medicine uses for various mint species, but the most common use is as a carminative. Leaves of mint species are drunk as a tea to relieve indigestion discomfort (Kresanek 1985:130-132). Mint leaves are traditionally gathered before the plant flowers as flowering tends to make the mint flavor unpleasantly pungent. Incidence of mint seed in the fill suggests that mint plants were either locally cultivated or occurred adventitiously as a weed.

Also identified from the fill of the refuse pit are lamb's-quarters (n=2), amaranth (n=7), and purslane (n=3). These plants are all weedy species typical to disturbed soils.

Structure P. Structure P represents the remnant of a farmstead home which was later associated with the town of Percy. Features associated with structure P which were analyzed for botanical material include a post feature (feature 56), a sandpoint well (feature 57), a

keyhole cellar (feature 52), and a privy (feature 69). Three tree macrosamples from the site yard were also collected.

A single wood macrosample recovered from the post feature was identified as hackberry (Celtis occidentalis, 25.7 g). Hackberry is a moderately hard wood which possesses similar timber qualities for which elm (Ulmus spp.) is esteemed. These are strength, toughness, and superior bending qualities. Commercially, hackberry and elm wood are often sold interchangeably (Panshin and de Zeeuw 1980:573,577-578). A hackberry post would have a durability potential of 5 to 10 years. Hackberry commonly grows in moist woods of the Red Rock region (Eilers 1971:58). Timber for this post could have been obtained commercially or harvested from surrounding woodland.

Three macrosamples of noncarbonized hewn boards recovered from the sandpoint well (feature 57) have been identified as pine (8.9 g). The boards measured 3/8 in. in thickness; due to breakage, measurement of width was not possible. These board fragments likely represent debitage thrown into the well during infilling.

Flotation from the keyhole cellar (feature 52) yielded a variety of seeds, wood and charcoal fragments, maize kernels, and nutshell. A total of 75 seeds was identified. These include seeds from plants with economic potential as well as from adventitious weeds. Identified seeds from plants of dietary value were blackberry/raspberry (n=56), strawberry (n=2), grape (n=1), elderberry (n=1), ground cherry (n=3), peach (n=1), and tomato (n=3). Identified seeds of adventitious plants are lamb's-quarters (n=3), purslane (n=1), wild mustard (Brassicaceae,

n=2), and foxtail (Setaria spp., n=3). All seeds except one foxtail seed and the peach stone were noncarbonized.

One carbonized dent type maize kernel was identified. Nutshell fragments identified were hickory (Carya spp.; n=2, 0.25 g) and black walnut (n=1, 0.9 g). Four fragments of black walnut nutmeat (<0.05 g) were also identified. All nutshell and nutmeat fragments were carbonized.

A total of 123 small wood and charcoal fragments (6.4 g) was identified from flotation. These are black locust (Robinia pseudoacacia; n=21, 1.6 g), American elm (n=7, 0.4 g), slippery elm (n=1, 0.95 g), black walnut (n=8, 0.65 g), hickory (n=5, 0.15 g), birch (Betula sp.; n=2, 0.15 g), white oak (n=2, 0.05 g), poplar/cottonwood (n=10, 0.35 g), pine (n=13, 0.7 g), iffuse-porous wood (n=34, 0.85 g), and ring-porous wood (n=13, 0.85 g). Seven fragments (0.1 g) were not identified.

The varied carbonized and noncarbonized botanical fragments likely represent refuse distributed within the cellar during infilling. The cellar is estimated to have been in use in the late nineteenth century when the structure functioned as a farm home. Comparison of botanical material from the Jones farmstead and the neighboring Stortes/Crookham farmstead (13MA262, ca. 1856-1950; cf. Rogers et al. 1988:125-380) can be made.

Edible fruits represented which were also associated with the Stortes/Crookham farmstead are blackberry/raspberry, grape, peach, and elderberry. Peach was a typical orchard crop grown locally. Blackberries, raspberries, and grapes were grown locally in kitchen gardens but also were available and frequently foraged from the wild.

Elderberry was available to regional inhabitants only from the wild (Rogers et al. 1988:346-348). The limited exploitation of edible wild fruits at the Jones farmstead parallels the selective use pattern elucidated for the Stortes/Crookham site.

Fruits present at the Enos Jones farmstead which were not represented at the Stortes/Crookham site are strawberry, ground cherry, and tomato. Evidence for these three fruits is dispersed throughout the town of Percy. Presence of these fruits at the farmstead indicates dietary influence from association with the town. This could be attributed to availability of produce through the town market system and/or to localized dietary preference.

The variety of hardwood charcoal identified for the Jones farmstead is similar to that identified for the Stortes occupation of site 13MA347 (1856-1881). The preponderance and diversity of hardwood species reflect a generalized exploitation of surrounding woodland habitat for timber and/or fuelwood resources. The later Crookham occupation (1881-1950) demonstrated a reduced reliance upon native timber resources reflected by the increased occurrence of commercially purchased pine and hardwood timber and a concomitant decrease in native hardwood variety.

Insufficient nut and maize material was recovered from the Jones farmstead to ascertain a use pattern sufficient for comparative purposes.

Flotation from the privy (feature 69) yielded seeds, two fruits, and fragments of maize, nutshell, and charcoal. Sixty nine seeds were identified. Seeds from plants having economic potential are blackberry/raspberry (n=34), ground cherry (n=14), and elderberry (n=1). Identified

seeds from weedy species were smartweed (n=2), purslane (n=1), bush clover (Lespedeza sp., n=1), lamb's-quarters (n=11), and amaranth (n=5). All seeds were noncarbonized.

The nutshell (n=1, 0.8 g) and nutmeat (n=2, 0.05 g) fragments have all been identified as black walnut. The charcoal fragments have been identified as maple (Acer; n=2, 0.1 g), birch (n=1, 0.3 g), pine (n=2, 0.2 g), and diffuse-porous wood (n=7, 0.05 g).

The two fruits from flotation are of the nightshade family (Solanaceae) but could not be identified to genus or species. Sixteen cob fragments (1.75 g) had a cupule width of 0.7 mm and irregular rows. Two dent kernel fragments (<0.05 g) were also identified. All of the maize material from flotation was carbonized. One macrosample of maize cob fragment (1.8 g) was also obtained from the privy feature. Cupule width measured 0.6 mm, cob width 1.2 cm, and row spacing was irregular.

Although the majority of seed microsamples identified were from edible fruits (71%), the small quantity of these seeds (n=49) makes direct association with privy use difficult to assess. Presence of these seeds in the fill could also be attributed to privy infilling with food preparation debitage. The presence of maize, nutshell, and charcoal fragments in the fill supports the latter hypothesis as these materials are typical remnants of historic food preparation.

The three tree macrosamples associated with structure P macrosamples have been identified as American basswood, (Tilia americana), red mulberry (Morus rubra), and slippery elm (Ulmus rubra). American basswood, also commonly known as linden, has long been a popular ornamental shade tree. Linden attains a moderate to tall stature

and is topped with a broadly spreading, rounded crown. The large, heart-shaped, medium-green leaves are attached to long leaf stalks which cause the leaves to sway gently in a breeze. The linden flowers during the summer months of June and July. The flowers are light creamy-yellow and have a mild but pleasantly fragrant scent. Historically, these flowers were esteemed as a therapeutic tea administered to treat the common cold, induce sweating to lower fevers, and to aid problematic digestion (Kresanek 1985:192). American basswood is common in moist upland woods of the Lake Red Rock area (Eilers 1971:58) and was likely introduced to this site for its ornamental and/or medicinal value.

Slippery elm is a native hardwood tree of moderate stature with a close to spreading crown. It is not particularly known for its aesthetic value. Slippery elm is common in moist bottomland to upland forest in the Lake Red Rock region (Eilers 1971:58). The tree may have colonized the site and had been allowed to grow and mature.

Red mulberry historically was esteemed both for the profusion of its sweet, edible fruits and shade-giving qualities. The plump, juicy fruits resemble blackberries and typically are made into jams and jellies (Peterson 1977:210). Red mulberry is native to the Lake Red Rock region. The tree has an adventitious habit and commonly colonizes roadsides and fencerows. It is also common in moist woods and along streambanks (Eilers 1971:43). This tree may have naturally occurred at this site or may have been transplanted from surrounding woodland for the dual value of its shade and edible, juicy and sweet fruits.

The presence of red mulberry seeds in the privy would be expected with a red mulberry tree in the farmstead/household yard. The privy

associated with this structure did not provide substantive evidence of dietary habits due to the low density of seeds representing fruits with food value. The privy was likely cleaned of waste deposits before sealing.

Structure I. Structure I was initially the Worley house but later became a boarding house. Botanical samples for structure I were obtained from four post features (features 44, 70, 71, and 74), a privy/refuse pit (feature 68), and a keyhole cellar (feature 90).

Wood from the post features has been identified as honey locust (Gleditsia triacanthos, 107.8 g; feature 44), pine (41.8 g; feature 70 and 36.1 g; feature 74), and white oak (353.1 g; feature 71). The oak post was hewn to measure 4 in. by at least 2 1/4 in. with squared edges. Poor condition of the other post fragments obscured evidence of hewing.

The honey locust post may have functioned as a post to support telephone or electrical wiring. Desirable qualities of honey locust for use as a post are strength and hardness. Historically, this timber was commonly used locally for fence posts in regions where it grew naturally (Panshin and de Zeeuw 1980:597). In the Lake Red Rock region, honey locust grows and is common to moist, lowland woods (Eilers 1971:41). This timber was likely exploited regionally when telephone and/or electricity wiring was installed in the Lake Red Rock area.

White oak is a highly durable wood; a white oak post would have a life expectancy of approximately 20 to 25 years. This post likely had a long-term function. A pine post would have a life expectancy of approximately 10 years, which suggests that the two pine posts had a relatively short-term purpose.

Flotation taken from the base of the keyhole cellar (feature 90) yielded a variety of seeds. Identified seeds of economic potential were blackberry/raspberry (n=7), strawberry (n=10), ground cherry (n=1), tomato (n=1), and puccoon (Lithospermum sp., n=2). Seeds of weedy plants identified were purslane (n=627), lamb's-quarters (n=15), amaranth (n=13), wild mustard (n=2), wood sorrel (Oxalis stricta, n=2), toadflax (Linaria sp., n=7), and copperleaf (Acalypha sp., n=1).

Two macrosamples of wood were recovered from the interior fill of the cellar. These have been identified as pine (n=1, 15.3 g) and American elm (n=1, 7.6 g). Both boards were hewn for construction. Dimensions for the pine could not be measured due to decay. The elm measured 3/4 in. thick; width was not measurable.

The majority of seeds recovered from the cellar fill (97%) were seeds of adventitious weeds and thus give no indication of feature function. Most of the weed species identified are typical to disturbed soils and would have been fairly common to the site. These plants typically mature and produce seed in the late summer and early fall, thus indicating cellar infilling during these seasons.

Puccoon is typical to prairie remnants in the Lake Red Rock area (Eilers 1971:18) and may have been a prairie residual growing around one or more of the site structures. Puccoon is a member of the borage family (Boraginaceae) of which several genera have historic medicinal value (Heywood 1979:235-236). The fruits of Lithospermum officinale historically were prepared as a diuretic tea. In Europe, the herb has been popular as a diuretic and to treat kidney stones since the first century A. D. (Dobelis 1986:203). Puccoon was introduced from Europe

during colonial times and has since become naturalized, spreading throughout the northeast and central United States (Fernald 1970:1202). Puccoon may have been a herbal remedy valued by residents of the Worley house or proprietors of the boarding house.

Several flotation and macrosamples were obtained from the privy/refuse pit (feature 68). A total of 228 seeds was obtained from flotation; the highest concentration of seeds was recovered from zone E (n=106). This zone also contained the greatest quantity (n=100) and percent (93%) of seeds with economic potential. Identifications are listed for feature 68 by zone in Table 51.

Identified seeds from food plants are strawberry (n=8), ground cherry (n=7), plum (Prunus americana, n=2), pie cherry (Prunus cerasus, n=1), peach (n=5), blackberry/raspberry (n=124), grape (n=9), pumpkin (Cucurbita pepo, n=2), tomato (n=46), and rice (Oryza sativa, n=1). Identified seeds from plants having ornamental value were wild orchid (Habernaria clavellata, n=1), blue flag iris (Iris virginica, n=1), buttercup (Ranunculus sp., n=1), and castor bean (Ricinus communis, n=1). Identified seeds of weedy plants were amaranth (n=2), sedge (Carex spp., n=2), lamb's-quarters (n=5), mallow (Malva sp., n=1), naiad (Najas sp., n=1), wood sorrel (n=1), and smartweed (n=9). Jimsonweed (n=1) was also identified in the fill. Its presence may be indicative of its historic medicinal value; alternatively, it may have occurred adventitiously as a weed at this location. Two seeds were unidentified.

Other botanical material contained in the privy/refuse pit fill included 3 fruits of the nightshade family, 19 maize cob fragments

(13.05 g), 19 maize kernels (0.2 g), nut fragments, and wood/charcoal fragments.

Nut species represented in the fill were shagbark hickory (Carya ovata; n=14, 2.75 g), hazelnut (Corylus sp.; n=1, 0.05 g), acorn (Quercus sp.; n=9, 0.35 g), and black walnut (n=6 whole nuts, 45.35 g; 124 nutshell fragments, 93.7 g; and 1 nutmeat fragment, 0.3 g).

Wood and charcoal identified were birch (n=3, 0.75 g), hickory (n=3, 7.35 g), pine (n=39, 197.25 g), poplar/cottonwood (n=2, 0.3 g), wild black cherry (Prunus serotina; n=1, 0.1 g), American elm (n=1, 0.05 g), and fragments of diffuse-porous wood (n=5, 4.45 g), ring-porous wood (n=1, 0.05 g), and bark (n=2, 15.1 g). Two wood fragments were unidentifiable (<0.05 g).

The low density of seeds recovered from this feature provides little confirmation of privy function. Support of a refuse pit function is more readily confirmed by the number and diversity of the recovered botanical assemblage. The initial function may have been as a privy which was cleaned of privy material prior to use as a refuse pit.

The floral assemblage indicates that site inhabitants and boarding house visitors were consuming a variety of fruits, vegetables, and nuts. The presence of rice is notable as this is the only feature in which this grain occurs. Rice was present in zone A and is therefore probably associated with the boarding house utilization of structure I.

Wild orchid, blue flag iris, and buttercup seeds in the privy/refuse pit fill indicate that these attractive flowering perennial plants grew near the structure. These flowers are all native to Lake Red

Rock woodland areas and were likely transplanted to the site for their aesthetic value.

Castor bean is a small shrub which produces attractive foliage. The leaves are purplish to green, broad in width, and deeply lobed. Historically, it was a popular ornamental shrub. Castor oil, which is extracted from the mature seeds, was once a popular laxative and a standard ingredient in the home medicine cabinet. The oil must be carefully extracted with moderate heat to remove the deadly poisonous alkaloidal substance, ricin (Dobelis 1986:365). The processed oil was likely purchased and the castor bean shrub grown mainly for its ornamental value.

Structure H. Structure H is the remnant of a house owned, over time, by various Percy merchants. Botanical samples were obtained from privy features (features 32, 40, and 42) and a post feature (feature 25) associated with structure H. Association of an additional privy feature (feature 45) with structure H was inconclusive.

Two noncarbonized wood fragments (5.5 g) from the post feature have been identified as white oak; thus, the post was of durable quality.

One macrosample of wood was collected for each of the privy features (features 32, 40, 42, and 45). Two noncarbonized fragments of hard maple (Acer saccharum or A. nigrum, 23.0 g) were identified for feature 32. Hard maple is rated as slightly resistant to decay under moist conditions (Panshin and de Zeeuw 1980:353). A privy lining constructed of hard maple would have a life expectancy of 5 to 10 years.

Wood samples from feature 40 have been identified as pine (n=2, 51.4 g). Both were noncarbonized fragments of a hewn board which

measured 3/4 in. by 3 1/2 in. The noncarbonized wood macrosample (27.1 g) from privy feature 45 was also identified as a fragment of hewn pine board which measured 1 in. in thickness. The functional use of a privy lining constructed of pine would also be 5 to 10 years.

The macrosample of noncarbonized lumber (195.6 g) from feature 42 was identified as poplar/cottonwood. This board measured 1 1/2 in. in thickness by a minimum of 3 in. Poplar/cottonwood lumber is also classified as nondurable under moist conditions (Panshin and de Zeeuw 1980:353); as a privy lining, the lumber would have a use-expectancy of 5 to 10 years.

Flotation from zone B of feature 42 yielded an additional 30 fragments (5.85 g) of wood and charcoal. Identified are hard maple (n=4, 1.0 g), pine (n=4, 0.6 g), diffuse-porous wood (n=16, 2.8 g), and six unidentified fragments (0.85 g). These small wood and charcoal fragments probably represent refuse material placed in the privy.

One carbonized fragment of shagbark hickory nutshell (0.2 g) and 4,019 seeds were also identified from flotation samples taken from the fill of zone B of feature 42. Seeds of food plants identified were grape (n=144), ground cherry (n=176), blackberry/ raspberry (n=1,696), peach (n=2), plum (n=1), strawberry (n=1,040), tomato (n=496), and yellow mustard (n=128). Weedy seeds represented are smartweed (n=16), lamb's-quarters (n=192), and purslane (n=128). All seeds were noncarbonized.

Seeds of edible fruits represent the majority of seeds (92%) contained in the privy fill; deposit can be directly attributed to privy use.

Feature 6. Feature 6 is the cellar foundation remnant of the

first general store in Percy. It was destroyed by fire in 1913. Botanical macrosamples and microsamples were obtained from trenches 1 to 4 which were associated with the store structure. Floral material identified from the trenches has been summarized in Table 52. The botanical assemblage directly associated with the general store (trenches 1-4) includes seeds, nut fragments, and wood and charcoal fragments.

Structural timbers associated with the general store identified were pine, poplar/cottonwood, soft maple, and white oak. Four samples of burned floor boards (447.2 g) from trench 2 have all been identified as pine. Board measurement approximated 1 1/4 in. by 4+ in., indicating wide floor boards inside the store. Identified from trench 3 was one partially carbonized poplar/cottonwood board hewn to 1/2 in. thickness (38.0 g). Neither width nor structural function could be determined. Five pine fragments (3.1 g), one poplar/cottonwood fragment (2.2 g), and two soft maple fragments (0.9 g) were identified from trench 1. All three wood types are sold commercially as general construction timbers and may have formed portions of the store structure. Identified from trench 4 were five pine fragments (112.5 g) and five carbonized white oak fragments (83.4 g). One pine fragment was a portion of a board hewn to 1/2 in. thickness. It was noncarbonized and therefore was probably associated with the overlapping residence structure (structure H). The white oak was hewn to a 1 in. thickness. Width could not be determined. The resistance of white oak to moisture penetration renders this wood favorable for use as exterior siding (Panshin and de Zeeuw 1980:571). The oak fragments may be remnant of the store exterior.

Other botanical material associated with the general store included a peach stone and nut fragments. Nuts identified were acorn (n=1, 0.15 g), butternut (Juglans cinera; n=1, 4.35 g), and black walnut (22 whole nuts, 105.05 g; 41 nut fragments, 38.4 g). The single acorn fragment is probably incidental to the fill. Although acorns are edible, they are not palatable until bitter tanins are leached from the nutmeat. This is a rather laborious process. The butternut, black walnuts, and peach are possible produce remnants from the general store inventory.

Butternut occurs only in association with the general store. Butternut trees are native to the Lake Red Rock area, occurring in rich soils of bottomland forest (Eilers 1971:38). The trees produce a large, spherical fruit with a thick, slightly roughened and sticky husk. The nutshell is thick and difficult to crack, but the nutmeat inside is considered to be sweet and delicious. The flavor is milder than the related black walnut (Peterson 1977:188). Butternuts could have been gathered for sale in town or may possibly have been grown locally for marketing purposes.

One, or possibly two, privy features are thought to be associated with the general store. The temporal range of feature 29 (1890s-1910s) coincides with the existence of the general store. The temporal range of feature 45 (1904-1921) overlaps the occupation of the general store as well as the house (structure H) placed on the site subsequent to the demise of the store.

Macrosamples and flotation from the privy (feature 29) yielded a tremendous amount of botanical material which included seeds, maize

fragments, and wood and charcoal fragments. Identifications are listed by zone in Table 53.

Four large, noncarbonized wood fragments were screened from the fill of the privy. These have been identified as white oak (n=1, 246.1 g) and rock elm (Ulmus thomasii; n=3, 116.4 g). The white oak was a square 3 1/2 in. by 3 1/2 in. corner post. The rock elm was in poor condition and could not be measured. Botanical analysis at the neighboring Stortes/Crookham site (13MA262) indicates that rock elm was specifically used for posts (Rogers et al. 1988:355). Rock elm may have functioned as a structural post for this privy. A rock elm post under moist conditions would have a life expectancy of approximately 10 years. Rock elm is native, but infrequent, to the lowland woods of the Lake Red Rock region (Eilers 1971:58). This timber may have been selectively harvested from native forest for construction of the privy.

White oak is known for its durability under damp conditions. It is one of the more suitable native timbers for use as a structural privy post for a privy designed for long-term use. Life expectancy of this post would have been approximately 20 to 25 years.

The remaining wood fragments were carbonized and likely represent charcoal fragments tossed into the privy. Identified are hickory (n=3, 0.8 g), poplar/cottonwood (n=5, 0.4 g), pine (n=1, 0.3 g), ring-porous wood (n=8, 0.25 g), and diffuse-porous wood (n=1, 0.1 g). Two fragments (0.05 g) were not identified. These charcoal fragments, the majority of which are hardwoods, may have been cleaned along with ash from a wood-burning stove or fireplace associated with the general store and then disposed of in the privy.

Five carbonized maize kernels of dent-type corn (0.05 g) were also obtained from flotation.

A high density of seeds was present in the fill of the privy. Macrosamples and microsamples of noncarbonized seeds were identified. A total of 306,111 seeds was identified. Seeds from edible fruits were represented in the highest number and density (n=305,128, >99%) in the fill. The remaining seeds represent weeds typical to disturbed soils (n=980, <1%) or plant species having ornamental value (n=68).

Seeds of edible fruits were strawberry (n=97,527), ground cherry (n=108,213), plum (n=1), peach (n=6), blackberry/raspberry (n=84,590), elderberry (n=2,365), grape (1,012), and possibly black haw or arrow-wood (n=66). Seeds of fruits consumed as vegetables were pumpkin (n=4) and tomato (n=11,344). Maize kernel fragments (n=4, <0.05 g) were also identified from flotation samples. The kernels were contained in the sealing fill of zone A and therefore post-date use of the privy.

Seeds from plants of ornamental value identified were hawthorne (Crataegus sp., n=1), dogwood (Cornus sp., n=1), and arrow-wood (n=66). The dogwood and hawthorne seeds were also contained in the fill of zone A and cannot be positively associated with privy use. The seeds indicate that these ornamental flowering shrubs or small trees may have been located within the site boundary and possibly were landscape plants associated with the general store.

Identified seeds of weedy species are amaranth (n=2), giant ragweed (n=6), lamb's-quarters (n=72), purslane (n=836), and jimsonweed (n=64). One seed was unidentified.

Structure G. Structure G represents the foundation of a small

house built for a blacksmith/carpenter. Botanical material from a post feature (feature 72) and a keyhole cellar (feature 73) associated with this house was identified.

The noncarbonized wood macrosample (54.6 g) from the post feature has been identified as a pine post hewn to at least 2 in. square.

Wood macrosample fragments screened from the fill of the keyhole cellar have been identified as black walnut (n=3, 42.7 g), slippery elm (n=1, 9.8 g), hard maple (n=1, 11.2 g), white oak (n=1, 36.8 g), and pine (n=1, 22.9 g). The wood samples were all fragments of hewn boards and likely represent remnants of the cellar superstructure. The black walnut measured 3/4 in. by 4 1/2+ in.; slippery elm measured 3/4 in. in thickness; the hard maple measured 1/2 in. in thickness. The white oak was a square-cut post measuring approximately 4 in. square. The pine, although evidently hewn, was not measurable.

The use of the durable hardwoods black walnut, white oak, hard maple, and slippery elm indicate that the cellar was sturdily built by a person knowledgeable about the particular qualities of different lumbers. The lumber selected for the cellar superstructure would have imparted the cellar with a lifespan of approximately 20 years and would have required a minimum of lumber replacement maintenance labor. The keyhole cellar may have been constructed ca. 1910 when John Brown was employed as a carpenter.

White oak and black walnut are highly durable native hardwoods resistant to decay from moisture infiltration for an approximate 20 to 25 years. White oak was selected for at least one of the cellar support posts.

The black walnut and the elm boards could have been utilized for interior shelving and/or storage boxes. Black walnut is known for its qualities of strength, shock resistance, and hardness (Panshin and de Zeeuw 1980:540). These combined characteristics are desirable for a storage box designed to hold a quantity of material and to withstand periodic handling. Elm wood is typically employed in the construction of boxes and crates due to the qualities of strength and toughness which imparts this lumber with the ability to withstand rough handling (Panshin and de Zeeuw 1980:573).

Pine is a general purpose construction lumber esteemed for its qualities of light weight, workability, and ability to take nails and screws without splitting. Pine is commonly used for framing, flooring, paneling, shelving, and for building boxes and crates (Panshin and de Zeeuw 1980:438). Pine lumber would have been suitable for a variety of construction purposes in the cellar such as flooring, wall framing and wall boards, shelving, and storage crates.

Hard maple is an outstanding lumber choice for the cellar steps due to its qualities of hardness and resistance to abrasion (Panshin and de Zeeuw 1980:604).

Flotation from the keyhole cellar yielded a total of 111 seeds. Identified seeds from edible fruits were blackberry/ raspberry (n=31), strawberry (n=31), ground cherry (n=1), and tomato (n=51). The seeds from plants of dietary value were probable food preparation refuse tossed into the cellar during the sealing episode. Seeds from adventitious weeds identified are lamb's-quarters (n=2), foxtail (n=1), and purslane (n=1).

Structure F. Structure F represents the remnants of a house. Botanical samples were obtained from three features associated with this house--a post feature (feature 106), a keyhole cellar (feature 80), and a privy (feature 89).

Noncarbonized wood macrosamples obtained from the post feature (n=2, 25.3 g) have been identified as white oak. Selection of such a durable hardwood for a post suggests that the post was designed for a long-term function of approximately 20 to 25 years.

Macrosamples and microsamples taken from the fill of the keyhole cellar (feature 80) yielded wood and charcoal fragments, whole nuts and nut fragments, maize fragments, and seeds.

Two screened fragments of pine (29.3 g) were identified from the keyhole cellar. One fragment was from either a small pole or post; condition of the wood prevented measurement of dimensions. Charcoal fragments from flotation have been identified as poplar/cottonwood (n=5, 0.6 g) and diffuse-porous wood (n=6, 0.8 g). These charcoal fragments are likely refuse material placed in the cellar during infilling.

Black walnut was the sole nut type identified from the keyhole cellar. The sample included 10 whole nuts (45.2 g), 32 nutshell fragments (26.05 g), and 15 nutmeat fragments (0.1 g). All were noncarbonized. These nuts may be remnant of food supplies stored in the cellar.

Four flint-type maize kernels (<0.05 g) and one cob fragment (0.05 g) were obtained from flotation. The cob fragment was not measurable.

All but one seed identified from the assemblage were seeds from

edible fruits. These were peach (n=3), grape (n=1), blackberry/raspberry (n=14), elderberry (n=1), apple (Malus sp., n=1), ground cherry (n=1), and tomato (n=1). Lamb's-quarters (n=1) was the only adventitious species represented in this seed assemblage. These seeds are probable refuse associated with food preparation.

Flotation from the privy (feature 89) yielded charcoal and maize fragments and seeds. Charcoal identified was ash (Fraxinus sp.; n=1, 0.2 g), American elm (n=4, 0.55 g), white oak (n=6, 1.2 g), hard maple (n=1, 0.15), poplar/cottonwood (n=20, 3.4 g), pine (n=7, 0.65 g), ring-porous wood (n=4, 0.3 g), and diffuse-porous wood (n=8, 0.5 g).

One kernel of maize and one maize cupule fragment was obtained from flotation. Both were carbonized.

A large amount of seeds (n=29,816) was obtained from flotation taken from the privy fill. Seeds of edible fruits identified were grape (n=111), blackberry/raspberry (n=19,060), ground cherry (n=136), and strawberry (n=7,006). Additionally, one peach stone was screened from the privy fill. Seeds of vegetable foods identified are tomato (n=3,024) and cucumber (n=2). The condiment yellow mustard (n=202) was also identified. Seeds from plants having food value represent a large majority (97%) of the seed assemblage. Deposition can be directly attributed to dietary consumption and privy use.

Seeds from potentially ornamental species identified are hawthorne (n=8) and castor bean (n=2). These woody plants may have been growing as landscape plants near the house.

Seeds of sweet clover (Trifolium sp., n= 2) and alfalfa/bur clover (Medicago sp., n= 2) were also contained in the fill. The latter two

leguminous species are often sown in fallow fields to replenish soil nitrogen levels.

The incidence of seeds having an agricultural function occur only in association with this house. Sweet clover and alfalfa seeds may be attributed to the activities of Neal Shaffer, a grain dealer who occupied the house in the late 1910s.

Seeds of weedy species identified were foxtail (n=2), purslane (n=256), and lamb's-quarters (n=640). Three carbonized seeds were not identified.

Structure E. Structure E represents the remnants of a small house. Botanical samples were obtained from three privies (features 78, 92, and 99) and a sandpoint well (feature 88) associated with this house.

Macrosamples of black walnut and peach stones were screened from the fill of the sandpoint well. All floral material was noncarbonized. Eighteen whole peach stones (23.75 g) and 16 fragments (6.75 g) were identified. Three whole black walnuts (20.9 g) and 13 black walnut fragments (4.4 g) completed the assemblage. These floral materials may represent food refuse dumped into the well during the sealing episode.

Flotation from feature 78 (a privy) yielded only 157 seeds. The majority of the seeds (61%) represent weedy species. These are lamb's-quarters (n=69), amaranth (n=10), purslane (n=15), and toadflax (n=2). The only species identified which is indicative of privy use is blackberry/raspberry (n=61). The low density and variety of food plants represented in the seed assemblage precludes assessment of food habits by users of this privy.

Flotation from feature 92 (a privy) yielded one charcoal fragment of diffuse-porous wood (0.15 g) and 152,352 noncarbonized seeds.

A large majority of the seeds (>99%) were from edible fruits and are likely directly associated with privy function. Identified seeds from food plants were grape (n=1,216), ground cherry (n=768), blackberry/raspberry (n=43,232), strawberry (n=98,304), and tomato (n=8,384). Presence of these seeds in the privy fill can be directly attributed to privy function. Seeds of weedy plants identified are lamb's-quarters (n=96), amaranth (n=256), and purslane (n=96).

Flotation from feature 99 (a privy) yielded 15,104 seeds, 98% of which are seeds from edible fruits. These include grape (n=80), blackberry/raspberry (n=5,320), ground cherry (n=304), strawberry (n=8,744), and tomato (n=424). Deposition of these seeds in the privy can be directly attributed to privy function. Identified seeds of weedy plants which typically colonize disturbed soils are lamb's-quarters (n=144), amaranth (n=144), and purslane (n=8).

Interpretations

Food Plants. Seeds of 17 species of edible fruits, vegetables, and condiments were identified in the combined macro- and microsample assemblage (Tables 45 and 48). The vegetables represented in the assemblage are cucumber, pumpkin, winter squash, tomato, corn, and rice. Identified fruits are blackberry and raspberries, grapes, elderberries, strawberries, grapes, ground cherries, apples, plums, pie cherries, and peaches. Additionally, seeds of the condiments yellow mustard, and possibly mint, were identified. Five edible nut species were also identified. The nuts contained in the assemblage are hickory nut,

hazelnut, black walnut, butternut, and acorn (Tables 46 and 48). Food plants represented in the assemblage indicate that most fruits and vegetables were obtained from the market or kitchen gardens.

Fruits. Elderberries are likely the only fruit gathered solely from the wild. Elderberry shrubs are adventitious along roadsides and the edges of fields. They produce abundant fruits that ripen and are easily gathered during mid-summer. Although the small, tart fruits can be made into flavorful jams and pies, they have never been commercially exploited as a crop in the United States. It is notable that the majority of elderberry seeds (>99%) were contained in the fill of feature 29, a privy dating from the 1890s to early 1900s occupation period of Percy. This privy is associated with the first general store in Percy (feature 6). It is interesting that the privy associated with the town market contained evidence of foraging for wild food resources. It may be that earlier in the history of the town foraging for wild fruits was a more common practice than during the twentieth century occupations. Consumption of the wild elderberries may be a reflection of the early economic status of Percy residents or may be indicative of food use patterns typical for the Lake Red Rock region at the turn of the century. Oral history data did indicate that foraging for edible wild plants, such as mushrooms and berries, was an activity continued by some Percy residents throughout the history of the town (Kain 1988).

Orchard and vine fruits dominate the seed assemblage. Fruits from herbaceous plants are limited to strawberry and ground cherry. Ground cherry is native to the Lake Red Rock region (Eilers 1971:58). Fruits could have been obtained from wild plants, but the abundance of these

seeds in the assemblage (especially from privy features) suggests that exploitation of wild resources is unlikely. Ground cherry berries are small (approximately ' n in diameter); therefore, a large investment of time would have been required to gather an abundance of these fruits. Ground cherries were probably obtained from local gardens. If town residents were actively engaged in foraging activities, other wild fruits, such as elderberry, would also be expected to be common in the assemblage.

Strawberries are unique to the historic townsites excavated in the Lake Red Rock area (Percy and the Dunreath site, this report). These fruits may have been cultivated in home gardens or may have been seasonally available in the town general stores. These fruits were not identified for excavated Lake Red Rock farmsteads (cf. Rogers et al. 1988).

The vine fruits blackberries, raspberries, and grapes were abundantly represented in the Percy botanical assemblage and were ubiquitous in association with the Percy houses and businesses. The ubiquity and abundance of these two fruits suggests that they were grown locally in kitchen gardens.

Orchard or tree fruits available to town residents were peaches, plums, pie cherries or sour cherries, and apples. Peaches were apparently the most popular of these tree fruits as they were associated with all but one of the structures (structure G) analyzed for botanical material. Pie cherries were associated only with the Worley house/boarding house (structure I). This fruit was perhaps of limited availability and therefore more expensive than other fruits. Cherries

may have been purchased for food preparation associated with the commercial enterprise at this site.

Vegetables. Tomatoes and corn were the most abundant vegetable foods identified in the botanical assemblage for Percy. Tomatoes were associated with all structures analyzed botanically except a restaurant (structure e) and one house (structure F). Flotation samples from privies associated with these two structures were not available for analysis. Considering the frequency of occurrence of this vegetable seed in the feature fills, it is probable that all occupants of Percy structures consumed this vegetable.

Corn, or maize, was also prominently represented but was most abundant in association with the farmstead (structure P) and the boarding house (structure I). This limited association may indicate that town residents were not growing corn in kitchen gardens for personal use. Maize was a staple grain grown for family and livestock consumption at neighboring farmsteads and was probably also cultivated at the Percy farmstead. Corn may have also been purchased for the meals prepared for paying guests at the Percy boarding house. Paucity of maize material associated with other Percy houses and businesses may be a function of sampling error as maize is not typically preserved in open-air sites unless it is charred.

Two types of corn were identified in the samples--flint-type and dent-type. Flint corn has a fairly large kernel which is rounded at the apex and contains a hard, starchy endosperm. Flint corn is suitable for siliage and for grinding into flour.

Dent corn kernels are compressed to rounded in shape with an

indented apex. The interior is a soft, starchy core surrounded by a harder starchy layer. When immature, dent corn can be harvested for home consumption; when mature, it is suitable for siliage. The kernel produced is sweeter than the flint type and was popular for table use prior to the development of the much sweeter hybrid sweet corn varieties.

Other vegetable foods identified were rice, pumpkin, and winter squash. The rice was associated only with the Percy boarding house. Pumpkin and winter squash have thick, dry outer rinds which permit these fruits to be stored under dry conditions in cellars during the winter months. These vegetables were associated only with the boarding house (feature 68), one of the general stores (feature 6), and a small house site (feature 108). Winter squash seeds were identified in the fill of the keyhole cellar of feature 108. Pumpkins and squash are borne on herbaceous vines which readily grow in temperate climates. They likely could have been easily grown in Percy home gardens. Paucity of pumpkin and squash seeds for other Percy structures may be indicative of food preparation methods as the seeds are normally removed before the flesh is either cooked or eaten.

The condiments yellow mustard, and possibly also mint, were identified in the botanical assemblage. Yellow mustard seed gives food a pungent flavor and is frequently used for canning vegetables (especially pickles) and for preparing sauces. This seed was prevalent in the fill from privy features associated with structure H (feature 42) and structure F (feature 89).

Nuts. The nut assemblage is dominated by black walnut.

Butternut, hazelnut, hickory nut, and acorn complete the nut assemblage. Acorn, although edible, is not palatable until bitter tannins are leached from the nutmeat. The low quantity of this nut in the assemblage can be attributed to squirrel activities. Black walnuts, butternuts, hickory nuts, and hazelnuts could have been gathered from the surrounding forest for consumption and/or sale in town. Alternatively, some enterprising person or persons could have maintained a grove of nut-producing trees to sell in Percy. Hazelnuts and butternuts were evidently not commonly eaten by Percy residents. Hazelnut occurs only in relation to the boarding house (structure I); butternut is limited in association to the initial Percy general store (feature 6). The limited selection of nuts associated with Percy further suggests that nuts were obtained by residents through a market system rather than by foraging for native nut resources. Black walnuts and hickory nuts dominate the assemblage; further selectivity is indicated by the presence of only one species of edible hickory nut (shagbark hickory) potentially available to the town residents.

Shagbark hickory is common in rich soil along river bottoms, upland woods, and slopes of the Lake Red Rock region (Eilers 1971:38). The fruit produced is spherical to ovate, up to 2 in. across with a husk up to 1/2 in. thick. The husk splits all the way to the base and is easily removed. The nearly white nutmeat is sweet and flavorful and is considered to be one of the most desirable of the native hickory nuts (Peterson 1977:190). Shagbark hickory has been locally commercialized in the United States (Weschcke 1953:46) and may have been a regional

arboriculture crop. Black walnut is also amenable to commercial production and may have been grown locally for market.

Medicinal Plants. Plants of potential medicinal value identified are black haw, linden, jimsonweed, puccoon, mustard, and mint. Seeds from plants of medicinal value were most abundant in the privy associated with the Percy general store which burned down in 1913. Before the advent of synthetic medicines in the 1940s, many households depended on herbal home remedies for the treatment of ailments and ills (Lutzow 1987:20). Many of the same ingredients used in home remedies also formed the basis of pharmaceutical preparations used by historic doctors to treat wounds and diseases (Parks 1988). These curative herbs may have been grown locally by an herbalist, pharmacist, or doctor presiding in Percy. Alternately, these and/or other therapeutic herbs may have been available for purchase at the Percy general store. Archival evidence is needed to confirm these hypotheses.

Timber Resources

Construction Timbers. Five different timbers were used as posts in Percy. Durable white oak was selected for posts which likely had a long-term function. Hackberry and honey locust posts, of moderate durability, would have lasted for approximately 10 to 15 years. The hackberry post was associated with the Enos Jones farmstead which was later incorporated into the town of Percy. The honey locust post was associated with the Worley house/boarding house structure and may have functioned as a telephone or electrical wire post. These timbers may have been harvested from native forest. The remaining posts are of the nondurable timbers pine and poplar/cottonwood, which would have remained

functional for an approximate 10 years. Specific function of the various posts could not be determined.

A variety of hardwoods and softwoods showed evidence of being hewn for use as construction timbers. The softwoods pine and poplar/cottonwood were especially common lumbers represented in the assemblage. Hardwood lumber identified includes white oak, black walnut, hard maple, American and slippery elm, and rock elm.

The lumbers of choice for privy box construction were the nondurable pine and poplar/cottonwood. Both timbers were likely readily available in local lumber mills and were likely favorably priced. Neither timber is highly rated for resistance to moisture infiltration. Privy linings constructed with these timbers would have begun to show signs of decay within 5 years of use and were probably no longer functional after a span of 10 years. The town privies were evidently designed for fairly short-term use, perhaps for sanitary reasons. The short-term privy function would explain the rather large number of privy features associated with the town structures.

Structural timbers were identified for four keyhole cellars (features 108, 110, 90, and 73). Elm and pine were the most common lumber types used to construct the cellars. Both timbers are commercially rated as slightly or nonresistant to moisture. Since cellars are typically infiltrated by moisture, structures built mainly with these two lumbers would be subject to decay within 5 to 10 years of use. As the more durable hardwoods tend to be more costly, economic factors, rather than short-term use expectations, may have influenced the cellar lumber selection.

One Percy cellar analyzed botanically was durably constructed. This was the keyhole cellar (feature 73) associated with the John Brown home (structure G). As a carpenter, Brown may have had more ready access to varied lumber than had the other residents of Percy. It is interesting that the keyhole cellar was well constructed but that the house is considered to be of very modest construction. Lumber from the house structure was not available for analysis; assessment of lumber selection for the house would have been interesting for comparison with the cellar structural timbers.

Fuelwood. Evidence of fuelwood was most prevalent for the structures associated with the earlier occupation period of Percy. These are the initial general store, the Cowman boarding house, and a home built before 1910 (structure F). A variety of small carbonized wood fragments was deposited in privy features (features 68 and 89) and a keyhole cellar (feature 52). This material was probably fuelwood remnants cleaned with ash from fireplaces or wood-burning stoves associated with these structures.

Nine hardwood species (ash, birch, American elm, slippery elm, hickory, black locust, hard maple, white oak, and black walnut) and two softwood species (pine and poplar/cottonwood) were identified from the carbonized fragments. All of these timbers, excluding pine, are native and common to forests of the Lake Red Rock region and were likely gathered for firewood which was necessary for cooking and for warmth. This diversity of native hardwoods exploited as combustibles parallels fuelwood use patterns determined for neighboring Lake Red Rock sites (sites 13MA400 and 13MA262, Rogers et al. 1988; 13MA266, this report).

Ornamental Plants. Plants of ornamental value that may have been grown to aesthetically enhance the appearance of the buildings and town of Percy are American basswood or linden, red mulberry, dogwood, hawthorne, arrow-wood or black haw, castor bean, honeysuckle, wild orchid, blue flag iris, and buttercup. American basswood and red mulberry are valued as ornamental, flowering shade trees. Red mulberry would have also produced a profusion of slightly tart, edible berries that resemble blackberries. Dogwood, hawthorne, and arrow-wood are shrubs or small trees especially valued for their spring flowers. Castor bean is traditionally cultivated for its ornamental foliage. Blue flag iris, buttercup, and wild orchid are perennial flowering plants native to low, moist areas in the Lake Red Rock region. These flowers may have been transplanted from nearby woods and streambanks to gardens of Percy.

Agricultural Seeds. Two seeds of species which have agricultural value were associated with the house occupied by Neal Shaffer (structure F), a one-time Percy grain dealer. Alfalfa and bur clover are legumes commonly sown in fallow fields to replenish soil nitrogen levels. Crop alternation with soil nitrogen-enhancing plants is especially important when corn, a particularly nitrophilous plant, is consecutively cultivated in the same fields. These seeds may be indicative of the merchandise which Neal Shaffer stocked for resale to regional farm enterprises.

In sum, the residents of Percy enjoyed a variety of foodstuffs which surpassed the dietary variety of neighboring farm residents. Fruits and vegetables associated with food consumption in Percy that were not present at neighboring farmsteads include ground cherry,

strawberry, pie cherry, winter squash, tomato, cucumber, and yellow mustard.

These unique foodstuffs were likely limited in availability to persons with access to the market produce supplied by Percy merchants. Farm residents from the nearby Stortes/Crookham site, for instance, had to travel nearly 5 mi to trade in Percy and therefore were probably more reliant on foodstuffs produced on the farm.

Many of the town residents probably grew some fruits and vegetables in kitchen gardens. This activity would have afforded some self-reliance. Generally, the variety of plant foodstuffs consumed by the residents of Percy was similar. Most of the unique foodstuffs identified (rice, pie cherry, pumpkin, and hazelnut) were associated with the Percy boarding house. Perhaps more exotic foods were prepared at this location to attract paying overnight guests and/or diners.

In conclusion, selective and repetitive varieties of vegetables, fruits, nuts, and construction timbers associated with the town of Percy indicate that the residents relied almost exclusively upon a market economy to provide the majority of their foodstuffs and raw organic materials.

Architectural Analysis

The following descriptions are of the remainder of the structures present in Percy at the time of acquisition and not previously described in the above text. These will be identified by the structure letter designations from the phase II investigation (Rogers 1988:113).

Structure R. This house was described as a "nearly derelict" 16 ft x 22 ft building owned by Nathan Jones and used for hay storage (see

Appendix L, Figure 7a in McNerney and Stanley 1988:575). A well/pump and the remains of a partially collapsed cellar were also noted on the property. The house was a Gabled Ell, the core of which appeared to have a compound ground plan. It was one and one-half stories in height, with its facade oriented parallel to the axis of the gable roof. Fenestration appeared to be symmetrical. The wall cladding was horizontal boards (probably clapboards), and split wood shingles were visible on the steeply pitched roof, which had its ridge molding and single chimney intact. Interesting architectural details included the pedimented door and window moldings and a small attic window under one of the gables. This house was occupied ca. 1901-1902 by J. L. Cochran and subsequently by four other occupants up to 1932 (Mikesell 1966:36).

William Good House. This structure was not evidenced archaeologically in the phase II investigation; therefore, it does not have a letter designation. It was the first business building in Percy, having been moved from Bennington in 1882 to serve as a saloon for the railroad gang laying the tracks. It was later used only as a residence, primarily by William Good and lastly by Donald Kane.

The RICOE acquisition file (Tract No. 1342) described the house as a "cheaply constructed" former commercial building with three rooms and no basement; the house lacked indoor plumbing. The photograph (Appendix B, Figure 10d) showed a one-story Gabled Cottage with its roof oriented perpendicular to the narrow facade. There were no windows on the principal facade, and the entry was off-center. The walls were clad with composition shingles in an imitation brick pattern; the roofing material was also composition shingles. There was a small, shed-roofed rear

addition. The house front originally had a false front that was removed in the mid-twentieth century. Two outbuildings were noted on the property. Both were small, utilitarian, wood frame structures without stylistic detail of any kind. The shed had a gable roof and vertical board and batten siding.

Structure k. This was a two-room frame house that had been occupied by the Mikesell family up until 1946 but had been "wrecked" by later tenants. The photograph (see Appendix L, Figure 6b in McNerney and Stanley 1988:574) showed a Gabled Cottage, one story in height, with a massed rectangle ground plan and a gable roof oriented parallel to the facade. Fenestration was symmetrical, with one-over-one doublehung windows. The wall cladding appeared to be composition shingles with wood cornerboards. The outbuildings (shed and outhouse) were in ruins. A sandpoint well and cave cellar were also present near the house (RICOE Acquisition File, Tract No. 1343).

Structure i. The house on this spot in 1965 was a trailer with a frame addition and two small outbuildings: at the time of appraisal, the addition was inhabited and the trailer was utilized for storage (RICOE Acquisition File, Tract No. 1344). This location was formerly occupied by a two-story concrete block building built in 1914 and torn down in the mid-1930s. That structure served as the IOOF Lodge, several grocery stores, a cream station, and a roller skating rink at various times (Mikesell 1966:16). The trailer and addition had a combination of shed and flat roof shapes. The house trailer had aluminum siding, and the addition had imitation brick asphalt siding. The trailer rested on a concrete slab and the addition on wooden piers. The outbuildings

included a small, shed-roofed frame structure with horizontal board siding and cornerboards. There were a pair of windows in the center of the wall, each with six panes of glass. The outhouse was a "one-holer" with a shed roof and exposed rafter tails. The wall cladding was horizontal boards with cornerboards. The entry, located off-center, had a batten door. The well house was a small wooden structure with a nearly flat shed roof, horizontal board siding, and plank flooring. Also on the property was an old building foundation (structure 1) and a chicken coop. The latter was a small, shed-roofed wood frame structure with what appeared to be tarpaper siding over horizontal boards. The two panel doors were located at either end of the facade, flanking three square windows.

Bank. This structure was not evidenced archaeologically during the phase II investigation. It was the Percy Savings Bark from 1913 or 1914 into the 1930s. It was an 18 ft x 28 ft brick structure with a 10 ft x 10 ft brick vault addition resting on concrete piers. The photograph (Appendix B, Figure 11a) showed a one-story brick commercial building with a rectangular ground plan. The flat roofs of the bank were stepped, front to rear, and there was a small rear addition, also flat-roofed. Fenestration consisted of a pair of side windows (only one side visible in the photographs) and an unbalanced facade consisting of an entry and two windows, all on the ground floor level. The entry had a rectangular wood transom; the large arched center window (boarded up in the photograph) may have had a segmental pediment; and the other front window, a one-over-one doublehung, was also set in an arched opening with wood lintel and sill (RICOE Acquisition File, Tract No. 1345).

Structure j. This was the Nell Kane house built in 1905 and moved to its Percy site in 1909 (Mikesell 1966:23). The house was a five-room dwelling without a basement, central heating, or indoor plumbing. The photograph (Appendix B, Figure 11b) showed a one-story vernacular Hipped Cottage with a massed square ground plan and a pyramidal hipped roof (RICOE Acquisition File, Tract No. 1350). Fenestration was symmetrical, with six-over-six doublehung windows. It had a concrete foundation. The wall cladding was horizontal boards with cornerboards. The roof had a wide overhang and fascia board and was covered with composition shingles. There was an interior brick chimney. The partial-width front porch was enclosed and had a hip roof. There was also a small, shed-roofed side addition. Outbuildings included a gable-roofed garage with one stall. It had both vertical and horizontal board siding. In addition was a shed and an outhouse. The shed was a small, shed-roofed "chicken coop" type structure with doorways at either end of the facade, flanking two large square windows. The structure was sided with horizontal boards. The ends of the rafters were exposed under the roof. The outhouse was a small, shed-roofed "one-holer" type.

Structures A and B. The house designated as structure A was built in 1916 by B. C. Roush (Mikesell 1966:31). The RICOE acquisition file (Tract No. 1353) described the house as a recently renovated six-room structure. The photographs (Appendix B, Figures 11c and d) showed an example of a vernacular Gabled Cottage with a massed rectangle ground plan and intersecting gable roofs. The one and one-half story dwelling was sided with horizontal boards, and the roofing material was composition shingles. The ground floor windows were six-over-six

doublehungs except for the picture window in the principal facade. The upstairs windows were one-over-one doublehungs set in the gables. There were two brick chimneys, one located on the ridge of the roof and the other on one of the eave walls. The most interesting architectural detail was the open gallery-type porch that wrapped around the principal facade and one side of the house. The gently sloping porch roof was supported by eight square wooden columns. There was a 1 or 2 ft crawlspace under the porch which rested on concrete piers. A small side addition was barely visible in the photograph.

Structure B was a rectangular, gable-roofed wash house with its facade oriented perpendicular to the roof axis. The foundation was poured concrete. Wall cladding was horizontal boards and the roof was covered with composition shingles. The wash house had an overshot roof, forming a spacious, open porch (see Appendix L, Figure 2b in McNerney and Stanley 1988:570). The entry was off-center, and there were no windows in the principal facade; there was a single small, square side window. The bottom rungs of a wooden ladder were visible, hanging on the front wall and extending up under the roof overhang.

Another outbuilding to structure A was a medium-sized, two-story barn (Appendix B, Figure 12a). The roof was side-gabled with split wood shingles, a metal ridge cap, and balls. The principal facade was dominated by a large sliding door on the ground floor. There was a door to the haymow in the gable end below a small, square window with four panes of glass set under the gable.

Additional outbuildings included a garage, cave, hog house, and outhouse. The garage was a one-stall, wood frame building with a gable

roof oriented perpendicular to the facade which was dominated by a pair of large, hinged doors. The siding was vertical board and batten and there was one small, square window in the side wall. The rafter tails were exposed along the eaves. The cave cellar had a shed roof, horizontal board siding, and a brick rear wall (Appendix B, Figure 11d). The hog house was a small, shed-roofed structure with horizontal board siding and a plank roof. The side entry had a "Dutch" type door with hinged upper and lower panels. The outhouse was a front-gabled "one-holer." The walls were horizontal boards (drop or "shiplap" siding) with cornerboards, and the roof was covered with composition shingles. The entry had a batten door.

Structure D. The RICOE acquisition file (Tract No. 1360) described the house as a three bedroom house renovated in 1957 but still lacking central heating and indoor plumbing. The house was believed to have been moved to this location in the 1890s (Mikesell 1966:32). The photographs (Appendix B, Figure 12b; see also Appendix L, Figure 3a in McNerney and Stanley 1988:571) showed a vernacular Gabled Ell, one and one-half stories in height, with an L-shaped ground plan. Fenestration was symmetrical, the windows being one-over-one doublehungs, and the walls were covered with wide-reveal composition board siding. There was an interior brick chimney. The partial-width front porch was added in 1957 and was open, with a hip roof supported by four round wooden columns. These columns had square bases and capitals. The rear porch, under an extended shed-type roof, was inset in the "L" between the gable-front core and the ell; like the front porch, it was not enclosed, and the

roof was supported by three slender wooden columns, more delicate than those on the front porch.

There were three outbuildings on this property including a shed, garage, and an outhouse. The shed was a gable-fronted frame structure with imitation brick siding and a metal roof. There was a door in the gable end and small, narrow windows under the eaves on the side of the building. The garage was built in 1962 and had a dirt floor. It appeared to be a modern, one and one-half stall, gable-roofed frame building with horizontal board siding. The outhouse was a simple gabled "one-holer" with horizontal board siding.

Structures a and b. Structure b was a modern, five-room house with a full basement, an unfinished attic, oak floor, central heating (gas), and indoor plumbing (RICOE Acquisition File, Tract No. 1361). The photograph (Appendix B, Figure 12c) showed a one and one-half story house with some details reminiscent of the Craftsman Style. The ground plan was rectangular and the facade was oriented perpendicular to the axis of the roof. The roof was low-pitched with wide, unenclosed eave overhangs, and the rafter tails and roof beams were exposed along the eaves and gables. The house rested on a ceramic tile block foundation and was sheathed in composition shingles with composition shingle roofing. Fenestration was asymmetrical, with aluminum combination storm windows and doors. The windows on the body of the house were one-over-one doublehungs arranged in single, paired, and triple configurations; there were more windows on the east-side facade of the house than on the west. The attic windows under the front gable were paired one-over-one doublehungs, while the rear attic window was a single small square. The

full-width front porch was enclosed with multiple glazing and had a hip roof. The partial-width rear porch was also enclosed and off-set to one side, with an on-grade entry. There was a brick eave wall chimney.

Structure a was a metal-sided and metal-roofed truss-framed semi-commercial auto shop with a concrete floor. It was heated and had electricity. The photograph (Appendix B, Figure 12d) showed a rectangular structure with its facade oriented perpendicular to the axis of the gabled roof. There was a brick chimney, several windows, and a large batten door.

Other outbuildings on this property included a barn, garage, and two sheds. The barn (Appendix B, Figure 13a) was a small, wooden wagon barn with board and batten siding and split wood shingles. The barn was two units deep, and the roof shape was that of an off-center gable. The only interesting architectural detail was the gabled wooden cupola with louvers. The garage was a gabled shed with a flat-roofed one-stall addition. It was a crude, utilitarian structure, badly deteriorated, with two open stalls. The siding was horizontal boards, with unidentifiable roofing material. The floors of both stalls were dirt. One of the sheds had a corrugated metal shed-type roof and board and batten walls underneath tarpaper siding. The other shed was a gable-roofed structure with a large door opening in the gable end and vertical board and batten siding.

Structures M, K, and L. The RICOE acquisition file (Tract No. 1363) described structure M as a six-room house with a full basement, indoor plumbing, and central heating. The house was built in 1914 (Mikesell 1966:38). The photograph (Appendix B, Figure 13b) showed a large side-

gabled house of a type known as the vernacular Box or I-House. It was a full two stories in height with a one-story rear addition. The principal facade was oriented parallel to the axis of the roof, and fenestration was symmetrical, with aluminum combination storms and screens on the second floor windows. The exterior walls were finished in stucco except in the gables, which were filled in with horizontal board siding. The roof was covered with composition shingles; rafter tails and roof beams were exposed. The full-width front porch was enclosed under a dropped roof, offering a balanced facade with a central entry flanked by 6 six-over-six doublehung windows. There was a single brick interior chimney.

One of the outbuildings on this property was not evidenced archaeologically. This was a building once used as the office of the Justice of the Peace and subsequently used as a tool shed. This structure is visible in the photograph just east of the house by a large tree (Appendix B, Figure 13b). It was a small, rectangular building with its narrow facade oriented parallel to the axis of the gable roof. The building rested on a concrete block foundation. Wall cladding was horizontal boards (drop siding) with cornerboards. The roof was covered with composition shingles; rafter tails and roof beams were exposed. The facade was simple: a single door with a concrete step and one window with wide moldings.

Structure K was a two-stall, hip-roofed garage with drop siding, cornerboards, and exposed rafter tails. The building was nearly square, and there was a single large door. The front and side windows were two-over-two doublehungs. It is visible in the photograph behind the house (Appendix B, Figure 13b).

Structure L was a small, narrow, gable-roofed frame garden shed with vertical board siding and composition shingles. The facade was oriented parallel to the axis of the roof and had a centered entry with a concrete stoop but no window openings. The gable end window visible in the photograph appeared to be a square casement window with wide moldings. The rafter tails were exposed under the eaves.

Structure N. The RICOE acquisition file (Tract No. 1372) described this property as a small four-room dwelling and several outbuildings. The house was built in 1917, with Jack Leuty as the carpenter (Mikesell 1966:39). The house had electricity but lacked indoor plumbing. The photograph (Appendix B, Figure 13c) showed a one-story Gabled Cottage with a linear ground plan. The narrow facade was oriented perpendicular to the axis of the gable roof. The house was sided in medium-reveal horizontal boards, and the roof was covered with composition shingles. Rafter tails were exposed along the eaves of the roof. There were two enclosed porches. The full-width, hip-roofed front porch was supported by concrete piers and had 10 large one-over-one doublehung windows arranged four across the facade and three on each side; the entry was off-center, creating the unbalanced effect (i.e., window-window-window-door-window). The partial-width rear porch had a shed roof and several windows in addition to an entry. The interior brick chimney was centrally located. The sandpoint well and hand pump were visible in back of the house in the rear view photograph.

Outbuildings on the property included a garage, summer kitchen, outhouse, and a playhouse. The garage was a small, one-stall garage with double doors. It had a low arched or barrel-shaped metal roof. The

siding appeared to be board and batten. The summer kitchen was a small wood frame building, rectangular in shape, with its facade oriented parallel to the axis of the gabled roof. The walls had board and batten siding, and the roof was covered with composition shingles. Rafter tails were exposed along the eaves of the roof. Fenestration was symmetrical, with four small square windows centered in the gable and side walls. The side entry was located toward the rear of the structure. The outhouse had a gable roof, board and batten siding, and asphalt or composition shingle roofing. There was a round vent under the gable; the rafter tails were exposed under the eaves of the roof. The playhouse had a concrete patio and arbor. It was a small, gabled structure with board and batten siding, roofed with composition shingles. The facade was partially sided with what appeared to be composition shingles.

Conclusions

The data recovery excavations at the townsite of Percy uncovered archaeological evidence of seven houses and five businesses in addition to the keyhole cellars, privies, sandpoint wells, and miscellaneous features associated with these structures. Every house site had at least one cellar, either a free-standing keyhole cellar or an internal cellar. Only one house structure did not have such a feature; this was structure H occupied from 1924-1965. One house (structure P) had both an internal cellar and a keyhole cellar; however, this house site functioned as a farmstead throughout much of its history.

The nine keyhole cellars uncovered by this investigation, while being similar in many ways, each possessed some unique qualities. These may simply be a reflection of the individual idiosyncrasies of different

builders. One cellar, however, possessed unique qualities that were perhaps indicative of a higher economic level (i.e., feature 90 at structure I). This cellar was a well-constructed brick-lined structure with a herringbone floor pattern and a somewhat elaborate drainage system. The majority of the other cellars were wood-lined and showed evidence of drainage problems.

Another common feature type was privies, the majority of which were wood lined, indicating the intention of cleaning and reuse. Only a few could be dated from the early 1900s occupation of Percy, while the majority were from the final decades of the town's existence. The most interesting feature was that of feature 68, a large privy/refuse pit associated with structure I. Unlike the typical Percy privy, this one was not lined and appeared to be at least a "two-holer." It also did not contain a high density of botanical material, suggesting a privy routinely cleaned out and subsequently filled with refuse. Its large size, artifact density, types of artifacts, and temporal range of these artifacts indicated an association with the ca. 1903-1921 boarding house occupation of structure I.

Another significant feature was that of the remains of the first general store in Percy, which burned down in 1913. The deposits from this store and the 1913-1924 town dump episode in the cellar provided data concerning the material culture of Percy in that decade which coincidentally was the peak period of the town's growth. The items from the store and the dump showed a town connected with the markets of the region as well as national and international markets. Patent medicines were a favorite and included a popular brand bottled in Des Moines.

Decorated ceramics, particularly decalcomania, were also popular and included ceramics produced both in the United States and Europe. From the artifactual and archival data (i.e., the 1911 account book from the Cochran store), it appears that there was little in the way of consumer needs that could not be satisfied by the stores in Percy.

Evidence of locally produced items was sparse, although the bottling company of Knoxville was in evidence as well as possible locally made stonewares. The latter were found in the earlier deposits such as the keyhole cellar at structure P and possibly in the early 1900s deposit of feature 68 at structure I. The presence of local stonewares in that deposit is intriguing because the local potteries had either closed down or converted to brick and tile manufacturing by the 1900s. The stonewares in feature 68 included several preserves jars (all lacking lids) that were similar to locally made wares. It is likely that they were curated items that were discarded long after their purchase dates. It is known that stonewares were sold in the general stores at Percy, but these were from nonlocal potteries including the Western Stoneware Company and the Red Wing Stoneware Company. The stoneware assemblage from this site will be discussed in more detail in the next chapter of this report.

The feature density at all of the house and business lots was relatively low. Comparisons with the house yard of the Stortes/Crookham farmstead site indicated that the yard utilization of Percy sites was much "cleaner" than that of this farmstead site. A further interesting comparison is with the farmstead site at Percy (structure P). This too displayed a low feature density comparable with the in-town sites. The

higher feature density at the Stortes/Crookham site is likely related to its function as a comparatively isolated farmstead which served as the locus for all its own food processing and storage needs. Therefore, there was a greater need for storage pits, outbuildings, and other features related to these activities. In comparison, the structure P farmstead was in close proximity to a town and railroad shipping point for the majority of its history. Its occupants would have had easy access to the elevator storage and railroad shipment facilities as well as a variety of ready-made, "store bought" items and foodstuffs.

The archival, oral historical, and archaeological data from the townsite of Percy indicated that while its early growth was slow, the town managed to develop into a thriving community trading and social center. Its peak period was from 1900-1920, suffering a general decline afterwards due to the national economic depression of the 1930s and the decline in rail transport. However, the town would have survived in some form to the present day had it not been for the construction of Lake Red Rock. The nearly 20 years lagtime between the initial proposal of lake construction and the actual implementation served to discourage investments in Percy businesses and homes.

CHAPTER VII. COMPARATIVE STONEWARE ANALYSIS

Introduction

This chapter presents a comparative analysis of the stonewares, both local and nonlocal, recovered from the excavations of the Sutton site (13MA266), the Dunreath townsite (13MA449), and the Percy townsite (13MA347). Further comparisons were made between these assemblages and those recovered from the Stortes/Crookham (13MA262) and Ratcliff (13MA400) sites and the Lake Red Rock kiln collections at Iowa State University in Ames. The latter included samples from sites 13MA103, 104, 105, and 106, or the Coalport, Whitebreast, Wright, and Gidel kilns, respectively. These collections were examined in 1987 for the data recovery investigations of the Stortes/Crookham and Ratcliff sites (Rogers et al. 1988).

The early stage of the local pottery industry was centered at the Coalport Kiln (13MA103) located near the river town of Coalport. This kiln operated from ca. 1847 until 1869 and produced wheel-thrown stoneware items that were primarily salt glazed. Ware types included simple bowls, jugs, crocks, lidded jars, grease lamps, and churns. The most common decorative techniques were incised and combed/incised (Reynolds 1970).

The middle stage of the local industry included the Gidel Kiln

(13MA106), the Whitebreast Kiln (13MA104), and the Wright Kiln (13MA105). These potteries dated from the late 1860s into the early to mid-1880s. The Gidel Kiln was located in the town of Coalport, while the other two kilns were located north of Knoxville in the White Breast Creek valley. The stonewares produced by these kilns were generally more uniform and predominated by milk skimming bowls, jugs, jars, feeder or watering pans, and tiling. The Iowa State University collection from these kilns indicated few differences in the wares produced by the Gidel and Whitebreast kilns, in particular. Only two distinctive characteristics stood out among these collections. The Gidel Kiln assemblage had sherds which exhibited a high gloss, almost metallic looking slip glaze. None of the other kiln collections had similar glazing. The other distinctive characteristic was the presence of cobalt blue handpainted decoration on some of the salt glazed sherds from the Whitebreast Kiln. None of the other kilns exhibited this decorative technique. Overall, the stonewares from the middle stage kilns included both wheel-thrown and jiggered or jollied wares, early forms of mold manufacturing (Reynolds 1970; Rogers et al. 1988:453-460).

Later stage kilns included the King Pottery established near Knoxville in 1872 and operating into the early 1900s. This kiln produced brick, tiles, jugs, bowls, flower pots, churns, and feeder pans. Another later kiln was the Tile and Brick Factory in Monroe, Iowa, known to have been operating at least into the late 1880s (Chamberlain 1976:52). In addition were several kilns in Attica dating from the mid-1870s to the early 1900s. These kilns produced drain tile, jugs, jars, churns, and flower pots (Reynolds 1970:204; Stoltz and Brooks 1966:322-327). It is

assumed that by the early 1900s those later kilns which still produced stonewares were more actively involved in mold manufacturing than the middle stage kilns and would therefore be more difficult to distinguish from nonlocal mold-made wares.

According to the 1870 U. S. Products of Industry Census, six potteries were operating in Marion County. These included three potteries in Knoxville Township--one producing jars, jugs, and pots (the Whitebreast Kiln) and the others producing "G Ware" (Green Ware?); a pottery in Polk Township (the Gidel Kiln) producing jugs, jars, pans, and tiling; and two kilns in Indiana Township (Attica) producing "crockery." Pella also had two brick kilns at that time (Rogers et al. 1988:458).

By 1880, the industry census indicated three potteries in Knoxville Township (including the Whitebreast Kiln and the King Pottery), one in Lake Prairie Township (Pella), and one in Clay Township (operated by the Fishers). Only one of these, the King Pottery, was listed as producing stoneware, while the remainder specialized in tiles and bricks. It is known that the Gidel Kiln was operating into the early 1880s despite its absence from the census enumeration. It may have been that its later operation was sporadic and was shut down during the census period. The 1885 Iowa State Census did list two potters in the Gidel Kiln area (Reynolds 1970:51).

By the late 1880s and 1890s, the mass production of stonewares was coming to the forefront. This, coupled with improvements in rail transport in the project area, made these cheaper wares more available to local consumers. It has been noted that on Lake Red Rock habitation

sites dating from this period, mold-made stonewares from nonlocal potteries such as the Western Stoneware Company in Monmouth, Illinois, and the Red Wing Pottery of Red Wing, Minnesota, began to predominate the stoneware assemblages (Rogers et al. 1988:459).

The Stortes/Crookham site was occupied from 1856-1950s, while the Ratcliff site was occupied from the early 1850s to the 1890s. The previous data recovery investigations of these farmstead sites found that the stoneware assemblages from both were predominated by locally made wares, with those from the middle stage kilns appearing in the majority. The greatest number correlated with the known characteristics of the Gidel Kiln, but there were pieces identifiable with the Coalport, Whitebreast, and Wright kilns. This indicated that the occupants of both sites were not patronizing one single kiln, although the Gidel Kiln appeared to predominate the market (Rogers et al. 1988:458-460). Of interest to the present study is the configuration of the stoneware assemblages from the Sutton farmstead site and the two townsites in comparison with the previous investigations.

The Sutton Site

The Sutton site was occupied from ca. 1855 to ca. 1883. Its occupation period would overlap with early and middle stage local kilns including the Coalport, Gidel, Whitebreast, and Wright kilns. The stoneware assemblage (n=163) from the data recovery investigation consisted of salt and slip glazed wares that included both wheel-thrown and jollied or jiggered wares. Identifiable vessels included 14 milk

bowls, 9 crocks, 2 jugs, and 1 churn (Figures 57 and 58). The milk bowls exhibited evidence of having been jollied or jiggered, while the remainder were all wheel thrown in construction. Irregularities included fingersmudges, dripped glaze, and overfired glazes. Decorations included incising (single lines) and handpainted cobalt blue on at least two salt glazed vessels. None of the sherds exhibited the high gloss (metallic) glaze noted for the Gidel Kiln, although several did have a glossy, dark brown (nearly chocolate colored) slip glaze seen on some Gidel and Coalport kiln wares.

Some of the wares could have been produced at the early stage Coalport Kiln; in general, however, the majority of the stoneware was of a type and form similar to that produced by the Gidel and Whitebreast kilns. The cobalt blue decoration specifically suggests that some of the wares came from the latter. The phase II investigation also recovered cobalt blue decorated sherds. In addition was a salt glazed rim sherd stamped with a "4" within a circle, the origin of which is not known (Rogers 1988:55).

The Sutton site was located approximately 5 mi northwest of the Whitebreast and Wright kilns and 8 mi west and slightly north of the Coalport and Gidel kilns. The occupants would have had access to the markets in the nearby town of Red Rock and as such might have had greater opportunity to acquire wares shipped along the river (possibly the Coalport and Gidel wares). It is not known what the overland trade routes were for the shipment of stonewares; however, the presence of cobalt decorated sherds indicates some access to Whitebreast Kiln wares.

The stoneware assemblage from the nearby Stortes/Crookham site also

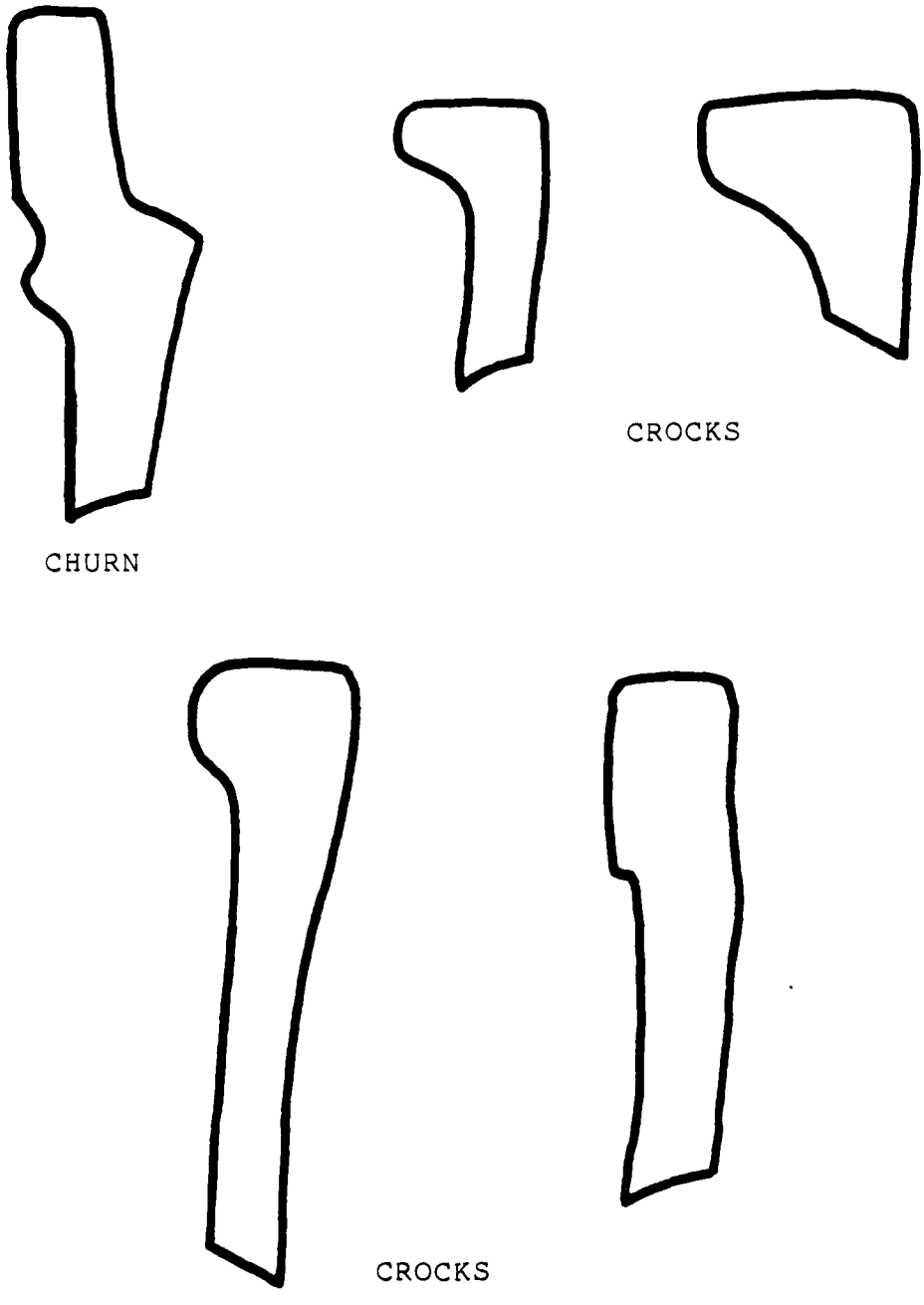
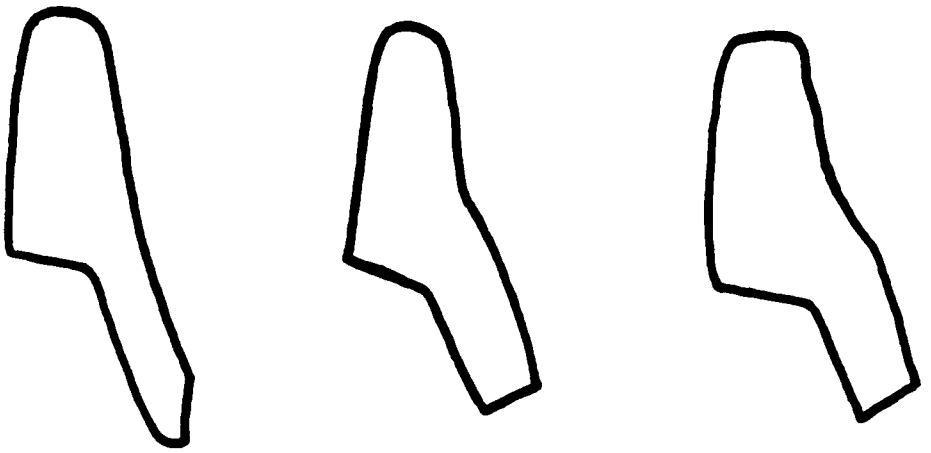
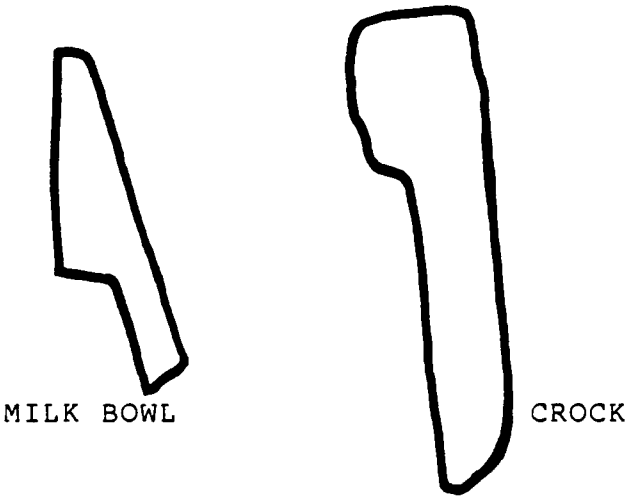


Figure 57. Sample of stoneware rim profiles from the Sutton Site.



MILK BOWLS



MILK BOWL

CROCK

Figure 58. Sample of stoneware rim profiles from the Sutton Site.

included a cobalt blue decorated vessel as well as stonewares identifiable with the Coalport and Gidel kilns (Rogers et al. 1988:457). The early occupation of this site (i.e., the occupation by the Stortes and Rees families) did coincide with the occupation of the Sutton site, thus indicating that these neighboring farmsteads were acquiring stonewares from similar sources.

The Dunreath Townsite

The stoneware from the data recovery excavations at Dunreath were predominated by nonlocal, mold-made wares exhibiting Bristol and Albany slip glazes. However, most of the feature assemblages had a combination of slip glazed, salt glazed, and Bristol glazed wares. Feature 6, a cellar, had the largest proportion of Bristol and Albany slip glazed wares, totaling 56% of the total stoneware assemblage from all the features.

Feature 3, a privy, contained what appeared to be locally made stoneware jugs, one of which was complete (Appendix C, Figure 3) and another, which while broken, was reconstructible. These two jugs were wheel thrown and exhibited the high gloss (metallic) slip glaze found on wares made at the Gidel Kiln. This privy feature had mean artifact dates in the 1890s and was part of a habitation site likely occupied in the 1880s and 1890s when the coal mines were running at their peak. It is possible, therefore, that local middle stage stonewares could be present in the Dunreath assemblage but would represent wares made in the final years of these kilns' operations. The fact that the local stonewares do not predominate the entire assemblage, even though these particular

sites were inhabited in the late nineteenth and very early twentieth centuries, shows the influence of the railroad connection with national markets as well as the decline of the local pottery industry.

Vessel types were predominated by milk bowls in both the local and nonlocal stoneware assemblages (Figure 59). The next most frequent type was crocks, followed by jugs and one churn. The nonlocal jugs were either Bristol glazed or a combination of Bristol and Albany slip glazed. They were all of a stepped shoulder cylindrical form typical of late nineteenth and twentieth century mold-made jugs (Greer 1981:76-77).

A few pieces exhibited decoration including incising (single lines) and handpainted cobalt blue under salt glazing, although the latter appeared to be an imported item rather than a Whitebreast Kiln ware. Another salt glazed jug fragment appeared to be from a nonlocal ware and exhibited a fine gray paste and a reddish-brown salt glaze. This and the cobalt blue decorated sherd were more reminiscent of wares made on the east coast or Europe than locally made wares. They may, in fact, represent curated wares brought with the early coal miners.

The only maker's marks were of the Red Wing Stoneware Company of Red Wing, Minnesota, and the Western Stoneware Company of Monmouth, Illinois. These items would have been brought in by train from the market outlets in Des Moines and St. Louis.

Another ceramic item of interest was the drainage tile recovered from feature 2 and marked with "Iowa Pipe & Tile/Co./Des Moines." This indicates that even though drainage tile was locally made well into the early twentieth century, the market connection by train was more influential in the distribution of these goods than local trade.

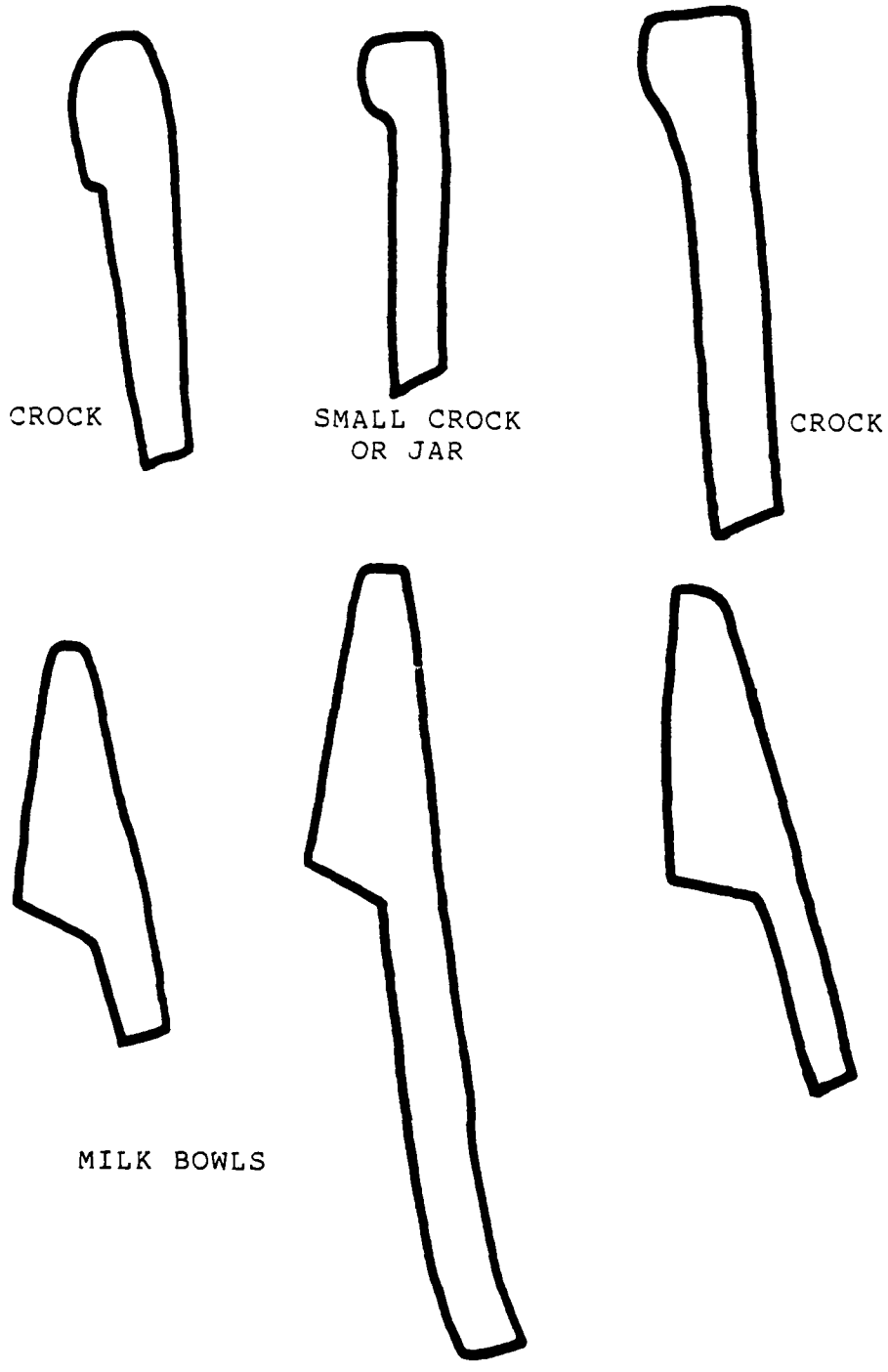


Figure 59. Sample of stoneware rim profiles from the Dunreath townsite.

The Percy Townsite

The stoneware assemblage from the data recovery investigations of the Percy townsite was also predominated by nonlocal, mold-made stonewares, particularly Bristol and Albany slip glazed wares. The predominant ware types were milk bowls, crocks of various sizes, jugs, and lidded jars (Figures 60 and 61). A few churns, tureens, and a blacking or ink bottle were also represented. Maker's marks included the Western Stoneware Company of Monmouth, Illinois; the Red Wing Pottery Company of Red Wing, Minnesota; Sherwood Bros. Pottery of New Brighton, Pennsylvania; the Macomb Pottery of Illinois; the Merrill Pottery of Akron, Ohio; the "Blue Ribbon Brand" of the Buckeye Pottery Company of Macomb, Illinois; and Lehn and F(?) Company of New York.

The features which dated from the earlier occupations of Percy exhibited a mixture of nonlocal and potentially locally produced stonewares. Feature 110 primarily had Bristol glazed milk bowl and crock sherds but did have a few sherds from a slip glazed wheel-thrown crock that was overfired and reminiscent of some of the middle stage wares. Feature 108 also had a mixture of Bristol/Albany glazed wares and potentially locally made, wheel-thrown, slip glazed wares including an incised crock, a small crock or jar, and a dark brown (nearly chocolate colored) preserve jar. One salt glazed vessel had a "9" crudely incised near the rim. The nonlocal wares from this feature included a stepped shoulder jug (Appendix C, Figure 5) and Bristol glazed sherds marked with "Western Stoneware Company" and "Blue Ribbon Brand." Both of these features dated from the early 1900s, with feature 108 possibly dating

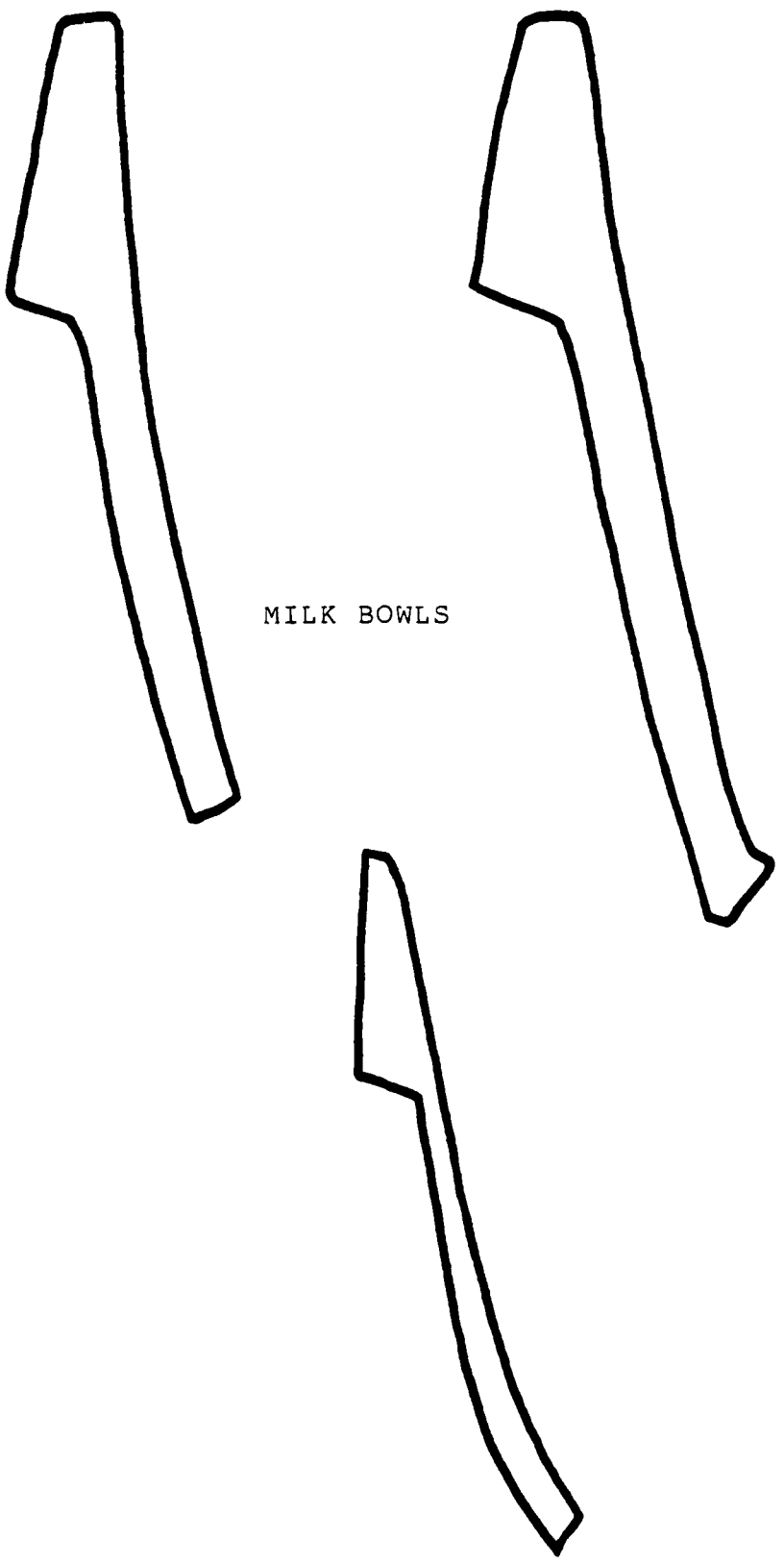


Figure 60. Sample of stoneware rim profiles from the Percy townsite.

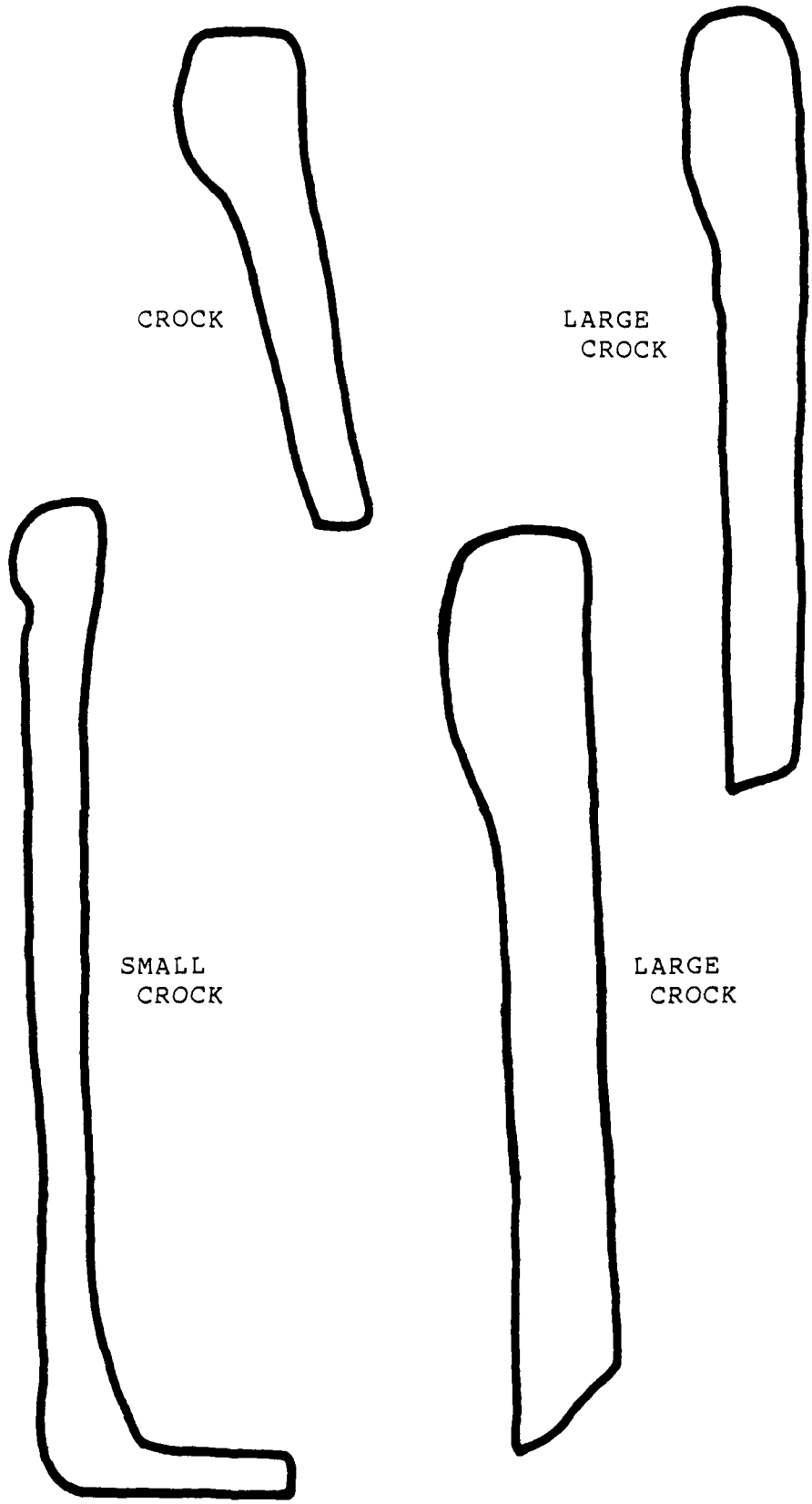


Figure 61. Sample of stoneware rim profiles from the Percy townsite.

from the late 1890s; however, there is no indication in the archival or archaeological record that either of these features could have dated from the 1880s. Therefore, the potentially locally made middle stage wares were likely curated items brought with the inhabitants or were produced by later stage kilns such as the King Pottery in Knoxville.

Feature 52 was the keyhole cellar at structure P and dated from the late nineteenth century. It too had a combination of nonlocal and potentially locally made stonewares; however, the occurrence of the latter is not as unusual because this house site was occupied during at least the middle stage of the local industry if not earlier. Potentially locally made middle stage wares included an incised slip glazed crock and a slip glazed jollied or jiggered milk bowl. The latter exhibited a combination reddish brown and brown slip glaze nearly identical to a milk bowl recovered from the Ratcliff site (see Appendix C, Figure 6a in Rogers et al. 1988:523).

As noted previously, feature 68 contained several stoneware vessels that appeared to be middle stage local wares. These included 5 complete wheel-thrown preserves jars--3 reddish-brown slip glazed, 1 salt glazed, and 1 with a glossy brown speckled slip glaze reminiscent of Coalport and Gidel kiln wares (Appendix C, Figures 9a); 5 jollied or jiggered slip glazed milk bowls; 1 wheel-thrown salt glazed jug; 1 incised slip glazed wheel-thrown crock; 2 slip glazed wheel-thrown crocks; and 1 wheel-thrown jar with a high gloss (metallic) brown slip glaze similar to wares from the Gidel kiln. The feature also contained definite nonlocal wares including 3 Bristol glazed milk bowls, 2 Bristol glazed crocks, and 1 Bristol glazed ink or blacking bottle (Appendix C, Figure

4a). The inclusion of locally made middle stage stonewares in the assemblage of this feature is somewhat puzzling considering the deposit dates primarily from the early 1900s. One possibility is that these wares represented curated items discarded in this feature during a "house-cleaning" episode. Another possibility is that the later stage King Pottery or other later stage kilns were producing wheel-thrown wares into the twentieth century.

The stonewares recovered from the excavations at the first general store in Percy indicated that when the store burned down in 1913, it had Bristol glazed crocks and milk bowls in stock. One vessel exhibited the mark of the Red Wing Stoneware Company. The assemblage from the 1913-1924 town dump deposit in the store cellar contained Bristol and Albany slip glazed milk bowls, crocks, a churn, and a tureen lid. Maker's marks included the Western Stoneware Company, Sherwood Brothers, and Lehn & F(?) of New York.

The 1911 account book from the Cochran store indicated that there were churns and crocks in stock. These were likely Bristol glazed wares owing to the popularity of this glaze on utilitarian wares after 1890 and persisting into the twentieth century. Up until approximately 1915, the wares might have been a combination of Bristol and Albany slip glaze because it was after that date that the majority of vessels had a Bristol glaze on both the interior and exterior surfaces (Greer 1981:264). Stoneware vessels began to wane in popularity in the twentieth century with the rise of cheaper mass-produced glass containers in addition to improvements in metal containers.

Comparisons with the Dunreath stoneware assemblage indicate that in the late nineteenth and early twentieth centuries, the inhabitants of both towns were purchasing quantities of stonewares, primarily those shipped in by rail from Midwestern and Eastern potteries. Both sites had vessels from the Western Stoneware Company of Illinois and the Red Wing Stoneware Company of Minnesota. The assemblage at Percy also included vessels from a variety of other stoneware companies; however, the most frequently occurring marks were from these two companies. It is likely that more extensive excavations at Dunreath would produce vessels from other companies as well. Both sites also had a few examples of potentially locally made middle stage wares, with the most positive examples found in features dating from the 1880s-1890s. However, early 1900s deposits at Percy also produced examples of what appeared to be earlier stonewares. These indicate that either some of the local potteries continued to produce wheel-thrown and jollied slip and salt glazed stonewares into the 1890s and 1900s or that these vessels were curated and discarded long after their purchase date. That the best examples were recovered from what in general appeared to be a "house-cleaning" episode of deposition in feature 68 perhaps lends greater weight to the latter postulation.

Conclusions

In conclusion, the local stonewares recovered from the three sites in the present data recovery investigation indicated a predominance of middle stage-type wares, the greatest correlations being with the Gidel Kiln and to a lesser extent the Whitebreast Kiln. There was little

evidence correlating with the early Coalport Kiln, although some of the Sutton site stonewares could have been produced at that kiln. The entire assemblage from the Sutton site consisted of local wares and had similarities to the local stoneware assemblage recovered from the early occupation of the nearby Stortes/Crookham farmstead site. The inhabitants of both sites obviously had access to the same market outlets for the local stoneware industry.

The stonewares from the two post-1882 townsites were predominated by nonlocal wares. This was expected considering the local stoneware industry was in decline by that time in addition to the railroad connections with national markets that both towns enjoyed. What was somewhat unexpected was the occurrence of definite and potentially locally made middle stage-type stonewares in feature deposits at both sites. This was less of a surprise for the Dunreath habitation sites as they were likely occupied in the 1880s when middle stage potteries were still operating. However, it is more of a surprise for these wares to be included in features at Percy considering that the majority of these particular habitation sites were not occupied until the 1890s or early 1900s, the one exception being structure P. One conclusion would be that the majority of these wares represent curated items subsequently discarded when broken or no longer needed. The possibility remains, however, that some of the later stage local kilns were still producing wheel-thrown and early mold-made type wares into the early 1900s. Further research into the specific operations of the later kilns would aid in the understanding of evolution of the local industry. Stoltz and Brooks' (1966) study provided the background for these kilns but

unfortunately was not specific on the manufacturing techniques they employed.

CHAPTER VIII. FARMSTEAD DEVELOPMENT AND SOCIOECONOMIC VARIABILITY

Introduction

This chapter presents a discussion of farmstead development and socioeconomic variability at the site and regional levels. Inter-regional comparisons are made where possible. Farmstead development will be examined in terms of market participation, settler's region of origin, and resource exploitation. Possible socioeconomic variation between Lake Red Rock farmstead sites and others in the Midwest will also be examined in light of the results from the recent data recovery investigation of the Stortes/Crookham and Ratcliff sites (Rogers et al. 1988).

Farmstead Development

Market Participation

Subsistence level farming, characteristic of early frontier settlement, was geared primarily toward the provision of the family. It consisted of a combination of a few planted crops such as corn, wheat, buckwheat, and/or rye supplemented with wild game, fish, and wild plant foods. However, truly subsistence level farming likely did not persist long on the frontier because this type of early agriculture often included a few marketable products. This enabled families to purchase some manufactured goods and staples and begin to make improvements to

their farms and overall quality of life (Hilliard 1972:13; Mason 1984:69-75).

In Iowa, improvements in agriculture were slow to come prior to 1870 (Marcus 1985; Throne 1973). Farmers were reluctant to limit acreage, preserve the fertility of the soil, and provide shelter for livestock when there was so much land for the taking. One farmer spoke out in an 1859 letter to a southeast Iowa newspaper concerning the agitation for agricultural improvement.

> Now, what use have we in this country for Suffolk hogs, or any other hog that can't root?--I tell you these Suffolks wont [sic] do--turn them into the woods, or out in a dog fennel lane to get a living, and they will lay in a fence corner until they starve to death. What we want here is a hog with a nose to him so that ho [sic] can root; legs so that he can climb a hazel bush, and hair on him to keep him from freezing; such a hog as this you can turn out at four months old to take care of himself, and if he is of any account, will live without a shelter, and outrun the dogs, and average 200 pounds at 18 months old, with very little trouble--in short, Sir, we want an active thorough-going hog that can take care of himself.
>
> You will find long chapters [in agricultural papers] on building barns and cow stables, and hog houses, and all such stuff. Just as though we didn't know that a thousand dollars invested in a barn could be put out at 25 per cent interest, and that people could stack their hay or small grain out of doors, or that a rail fence or jack oak thicket was a good enough shelter for cattle and hogs, besides, who wants to be at the trouble of cleaning out cow stables, and having great piles of manure in his way. Now that is the kind of thing a fellow will learn from these books on farming, and farmers are gone crazy with new fangled notions, and before long everybody will have to build fine barns and nice fences, and raise posies and sunflowers, and all such trash, or leave the country (Throne 1973:121).

Faced with the land wearing out and higher prices for improved livestock breeds, this type of resistance to new ideas could not last forever. In the years after 1870, Iowa farmers began to enter into more scientific

farming involving improved agricultural techniques (Marcus 1985; Throne 1973).

While Iowa farmers were slow to embrace new innovations and techniques, they were open to market participation at an early date. A study by Atack and Bateman (1987:271) of the 1860 census records from Northern states including Iowa indicated that, in general, farms were able to produce marketable surpluses by the mid-nineteenth century, with Iowa and Illinois, in particular, being "the most commercially oriented, market-dependent producers" among the western states. They further noted that:

> Self-sufficient subsistence farming...was not the sole ambition of the small, independent farmers of the North. While it may have been a necessary short-term goal, for most it was not a sufficient long-range one. The peasant's instinctive drive for biological survival was soon superseded by the entrepreneur's quest for financial growth....Market involvement began at the local level but expanded eventually to the international. As farmers became more enmeshed in this system, they found not only new opportunities to increase their incomes but also new problems such as market risks and heightened dependency on individuals or institutions outside their families or communities. Nevertheless, because the incentives for commercial production ultimately proved irresistible, the mid-nineteenth century marks the watershed in the transformation of agriculture across the northern United States from the family-oriented farm to commercial production (Atack and Bateman 1987:11, 201).

The recent data recovery investigations at the Stortes/Crookham and Ratcliff sites indicated that true subsistence level farming did not persist long on farmsteads initially settled in the mid- to late 1850s. By 1860, both of the studied farmsteads were involved in market production despite the fact that the region had only been open for settlement for little more than a decade. Potential factors affecting this early market participation included the age and experience of one

of the early settlers (i.e., Andrew Stortes) as well as his relatively greater financial resources. The Stortes/Crookham farmstead also did not represent Stortes' first farm in the area, having been one of the first settlers on the north side of the river in the late 1840s. On the other hand, the data from the initial settlement of the Ratcliff site indicated that in 1856 this farm more closely approximated a subsistence level operation. Within four years it had entered into market production, but not to the same degree as that of the Stortes farm, which was clearly market oriented by 1860--four years after its establishment (Rogers et al. 1988:381-396).

The Ratcliff site was only occupied during the mid- to late nineteenth century. The archaeological remains included a house cellar, a well, and a fenceline. The cellar served as a foundation support for the house structure and as a food storage facility. The Stortes/Crookham site was occupied by various families from the mid-nineteenth century to the mid-twentieth century. The archaeological remains of that farmstead included the house site of the early occupation dating from 1856-1880s and that of the later house site and farm dating from post-1881. The early farmstead consisted of a small residence with a pit cellar underneath the floor, two keyhole cellars, a cistern, a refuse pit, two storage pits, and two general refuse dumping areas. The later farmstead was evidenced by a large house with an internal cellar, a wash house/smokehouse, a large barn, a possible horse or carriage barn, a well, a cistern, a windmill, three privies, a possible storage pit, three corn cribs, a refuse pit, and a water trough. Oral historical data

indicated that additional structures included chicken houses, a cattle shed, a hog shed, and an icehouse. A garden and an orchard supplemented the farming operation (Rogers et al. 1988:382).

In comparison, the present data recovery investigation of the Sutton site evidenced a farmstead occupied from at least 1855, possibly as early as 1853, until ca. 1883. The archaeological remains of this farmstead included a house (probably a log cabin or log house-type structure with a pit cellar underneath), a large keyhole cellar, and a possible outbuilding or activity area near the house structure. While the sparse archaeological remains would suggest a frontier subsistence level type farm, the archival data indicate a farm involved in some market production as early as 1856 and one that was actively involved at least by 1870, if not sooner.

The 1856 Iowa State Census listed the farmstead of Levi Sutton as having 50 acres of unimproved land, with 4 acres in spring wheat (harvesting 53 bu.), 9 acres in corn (400 bu.), and 1/4 acre in potatoes (40 bu.). In addition, he had sold 4 hogs (at a value of $27.00) and 2 cattle ($22.00); produced 100 lb. of butter and 36 lb. of wool; and had $35.00 worth of domestic manufactures. While much of this would have gone for the subsistence of the family, the fact that he had hogs and cattle to sell suggests that he had a surplus of livestock. The known archaeological evidence of this site is compatible with the production level of the Sutton farm operation. The cellars would have been more than sufficient for the storage of the subsistence products.

At the same time, the farmstead of Thomas Ratcliff had 80 unimproved acres and only 2 acres in corn (harvesting 25 bu.). The

census listed no other crops, products, or livestock. Compared to the Sutton farmstead, this farm appeared to be barely at a subsistence level. However, the census year represented the first year that Thomas Ratcliff owned this farm, and the data likely reflect the first year (or a portion thereof) of clearing and initial cultivation. Unfortunately, Andrew Stortes was not included in the 1856 state census. It is known that he purchased the Stortes/Crookham property in 1856 but at a time postdating the actual census period.

Table 54 presents a summary of the 1860 U. S. Agricultural Census data concerning the owners of the Sutton, Stortes/Crookham, and Ratcliff sites. The Sutton site was then owned by Levi Horsman, and his farm operation was clearly geared for market production. In particular, he was focusing on livestock production, with an emphasis on cattle and sheep. Unfortunately, archival data suggest that during his ownership of the Sutton site, Horsman actually resided elsewhere. Therefore, the census data would represent either another farm or another farm in addition to the Sutton site. It is not known who actually occupied the Sutton site in 1860.

The 1860 agricultural census data for the Stortes/Crookham site indicated that the Andrew Stortes farm operation was also geared to market production. It is interesting to note that while the Stortes farm had only 80 improved acres, they were just as productive, if not more so, than the 160 improved acres of the Horsman farm. However, as noted above, Horsman's farm was more involved in livestock production than the Stortes operation. Stortes had less cattle and sheep but more swine than

Table 54. 1860 Agricultural Census Data for the Sutton, Stortes/Crookham, and Ratcliff Sites.

Census Data	Owners		
	Horsman	Stortes	West
Improved acres	160	80	30
Unimproved acres	340	320	50
Farm value	$2000	$6000	$1000
Implements value	$100	$75	$70
Livestock value	$1000	$450	$250
Number of horses	10	3	2
" " cows	5	4	2
" " oxen	2		
" " cattle	35	5	5
" " sheep	45	11	
" " swine	12	30	20
Amount of wheat	300 bu.	300 bu.	
" " corn	3000 bu.	3000 bu.	1200 bu.
" " oats		50 bu.	
" " hay	12 tons		
" " wool	150 lb.	30 lb.	
" " potatoes	100 bu.	100 bu.	6 bu.
" " sweet potatoes		2 bu.	
" " butter	200 lb.	300 lb.	150 lb.
" " molasses	260 gal.	80 gal.	30 gal.
" " honey		600 lb.	
" " beeswax		30 lb.	
Value of home manufs.	$40		
Value of animals slaughtered	$50	$40	$160

Horsman. The archaeological evidence of the early occupation of the Stortes/Crookham farmstead is compatible with a productive operation. A number of storage pits were evidenced including two keyhole cellars and a pit cellar. This amount of storage capability likely reflects the above-noted productivity (Rogers et al. 1988:387).

In comparison, the 1860 farm operation of Jonathan West, owner of

the Ratcliff site, showed some market participation, but not to the same degree as the 1860 farm operations of either Horsman or Stortes. The West farm was still producing more for the family's subsistence than for the market, although the 20 swine indicated livestock surplus. The known archaeological evidence of this farmstead would have provided more than sufficient storage for this level of production.

The study by Rogers et al. (1988:700-703) included a comparison of the agricultural census summary data for Polk and Union townships (the respective locations of the Ratcliff [Polk], Stortes/Crookham [Union], and Sutton sites [Union]). According to the 1860 data, only 14 out of 83 farms in both townships had improved acreage exceeding 100 acres, including the Horsman farm. The majority (including the Stortes farm) had between 50-99 acres improved, while the West farm, with 30 improved acres, fell within the next highest total. As for total acreage, the Stortes farm at 400 acres and the Horsman farm at 500 acres were among only 11% of the total farms in the county having total acreages between 100-500 acres. The majority of farms in the county were between 20-50 acres in size (see Appendix H, Tables 1-4 in Rogers et al. 1988:700-703).

In 1860, the emphasis at the county level was on cattle, sheep, and swine in descending order of frequency. The crop leader was Indian corn followed by wheat, oats, Irish potatoes, rye, and tobacco. Sweet potatoes, barley, buckwheat, peas, and beans were produced in much lesser quantities. Butter and molasses headed the homemade manufactures followed by honey, cheese, beeswax, and flax.

At the state level, the emphasis was on cattle, swine, and sheep, with Marion County among the state leaders in sheep production. The pattern of crop emphasis was generally the same at the state level as at the county level except that more tobacco than rye was produced statewide.

Table 55 shows the 1870 agricultural census data for the three farmstead sites. By that time, Edwin Lutz was the owner and likely occupant of the Sutton site. His 50 acre farm operation was actively involved in market participation, with an emphasis on livestock production, specifically swine and sheep. For the size of the farm, it appeared to be quite productive. From the known archaeological evidence of the site, the storage capacity would have been stretched to the limit. It is likely that other outbuildings such as barns, sheds, and granaries were in existence but left little in the way of archaeological remains. However, as noted above, prior to the 1870s cattle and hogs were often left to wander and forage without constructed shelter or fenced pastures or pens (Throne 1973). Therefore, it is conceivable that a farm involved in livestock production to the level of the Lutz farm still could have gone without a barn or livestock sheds. It is also possible these support structures were located away from the house site location at a distance exceeding the limits of the data recovery excavations.

Of comparative interest is a study of northeast Missouri farmsteads from which it was noted that:

> the difference in composition of a farmstead belonging to a subsistence farmer compared to that of a farmer producing for a market economy is dramatic, the former consisting of

Table 55. 1870 Agricultural Census Data for the Sutton, Stortes/Crookham, and Ratcliff Sites.

Census Data	Owners		
	Lutz	Rees	West
Improved acres	35	100	100
Unimproved acres	15	545	20
Farm value	$1000	$7000	$3000
Implements value	$120	$300	$100
Livestock value	$670	$550	$900
Number of horses	4	4	5
" " cows	3	2	3
" " cattle	1		11
" " sheep	22		20
" " swine	23	15	35
Amount of wheat	11 bu.	140 bu.	200 bu.
" " corn	1200 bu.	1000 bu.	2000 bu.
" " oats			50 bu.
" " hay	2 tons		4 tons
" " wool	70 lb.		50 lb.
" " potatoes	60 bu.	20 bu.	25 bu.
" " butter	210 lb.	200 lb.	
" " molasses	32 gal.	40 gal.	
Value of animals slaughtered	$200	$100	$350
Value of market garden produce			$210
Value of orchard products			$10
Est. Value of all farm production & betterments	$750	$745	$1555

possibly a barn and shed, and the latter of a variety of specialized structures (O'Brien et al. 1982:312).

While this was the case in the development of the Stortes/Crookham site, it was not evidenced archaeologically at the Sutton site. The known market production operations of this farm in the 1870s-1880s did not result in a proliferation of specialized structures or an elaboration of the structures that were present, although less substantial outbuildings

might have been present but which left little discernible archaeological evidence. It appears more likely that the farming operations eventually outgrew the farmstead, and rather than improve on the existing structures, they were abandoned in favor of a better, more accessible location. That farmstead was still in operation at the time of Lake Red Rock acquisition.

By 1870, the Stortes/Crookham farmstead was owned and occupied by the Rees family. Their large 645 acre farm appeared to be less actively involved in market production than the smaller Lutz farm. However, 1870 represented only the first year of the Rees family's ownership of this farmstead and may be an incomplete reflection of the farm's actual productivity. William Rees died in 1871, and probate records showed that the farm then had 6 horses, 13 cattle, 42 swine, 3 sheep, 2 mules, 4,575 bu. of corn, 240 bu. of wheat, 10 bu. of potatoes, 10 tons of hay, and 6 stands of bees (Rogers et al. 1988:133). This indicates an established farm actively involved in market production, particularly livestock.

West's 120 acre farm (the Ratcliff site) had also significantly advanced into market production by 1870 (Table 55). The particular emphasis was on livestock production including swine, sheep, and cattle in descending order of frequency. In addition, he had market garden produce and orchard products listed. He had also a higher estimated value for all farm production including betterments and additions to livestock than either the Lutz or Rees farms' estimates, further indicating an active increase in production and farm improvement.

According to the 1870 township census data (see Appendix H, Tables

1-4 in Rogers et al. 1988), 41 out of 212 farms had between 100-499 improved acres, placing the Rees and West farms in the same range with only 19% of the farms in both townships. The Lutz farm, with only 35 improved acres, was in the same range as the majority of the farms in both townships. However, as noted above, the data indicate that the Lutz farm was far more productive than the 1870 Rees farm despite being much smaller and with fewer improved acres.

At the county level, the Rees farm at 645 acres was in the same range as only a few other farms out of a total of 2,695 farms. The West farm at 120 acres was among 492, or 18%, of farms between 100-500 acres in size. The majority (n=1,057; 39%), including the Lutz farm, were between 20-50 acres in size. The emphasis in livestock production at the county level was on swine and sheep, while at the state level swine and cattle still took the lead over sheep. Corn remained the leader in crop production at both the county and state levels.

By 1880, the Sutton site was owned and occupied by James Jury, and the Stortes/Crookham site was still occupied by members of the Rees family. Table 56 presents the agricultural census data for both farms. The Ratcliff site was not included in this table because it is positively known that by 1880, Jonathan West had moved his farmstead operation to a location south of the Ratcliff site. The latter was possibly still occupied by tenants into the 1880s or 1890s, but the specific individuals are not known.

The data in Table 56 indicate that the Jury farm, while a less productive operation than the earlier Lutz operation (Table 55), was involved in livestock production, primarily swine. It should be noted

Table 56. 1880 Agricultural Census Data for the Sutton and Stortes/Crookham Sites.

Census Data	Owners: Jury	Owners: Rees
Improved acres	60	294
Unimproved acres	0	100
Farm value	$1500	$6000
Implements value	$50	$275
Livestock value	$262	$1530
Value repairs	$10	$10
Labor wages paid	$15	$200
Number of horses	2	4
" " cows	3	2
" " cattle		35
" " calves		5
Cows purchased	1	
Number of swine	14	45
" " poultry	10	23
Amount of wheat	200 bu.	375 bu.
" " corn	1350 bu.	7500 bu.
" " oats	50 bu.	800 bu.
" " rye		850 bu.
" " potatoes	20 bu.	50 bu.
" " eggs	25 doz.	33 doz.
" " butter	150 lb.	200 lb.
" " apples		50 bu.
Value of orchard products		$25
Value of forest products		$22
Est. Value of all farm production & betterments	$565	$240

that the 1880 census was the first one to actually list poultry, eggs, forest products, and labor wages. While it is likely that the farmstead would have included outbuildings such as a barn and livestock sheds, there was no remnant archaeological evidence of these buildings. However, the effects of slope erosion and cultivation at the site location could have obliterated evidence of less substantial structures

such as pole barns and sheds. Despite the lack of outbuilding evidence, the archaeological remains of the Sutton site are not incompatible with the 1880 production level indicated in the census. The large keyhole cellar and the smaller pit cellar would have sufficed for the storage of the subsistence products including the butter, eggs, and potatoes. Jury sold this farmstead in 1883 to the Crookham family, who resided elsewhere. They may have rented it out for a time or simply left it abandoned. It is known that by 1901, the house site on this property had been relocated to the south along a section line road.

In comparison, the Rees farm was a major, market-oriented operation by 1880 (Table 56). The county history noted that James Rees (then occupant and operator of the Rees farm) was a "prominent agriculturist and stock-dealer" in the county and that he engaged "principally in the buying and shipping of stock" (Union Historical Company 1881:750). The farmstead of James Rees was fast outgrowing the capacity of the known archaeological evidence of the original farmstead. It is likely that a barn was supplemented with various stock sheds, cribs, and/or granaries. It is also likely that the farm included farmhand residences. It is known that the property included more than one house in 1875 (see the "Mrs. Fanny Rees est." farm in Figure 6) (Rogers et al. 1988).

It is further known that the Rees farm was sold to the Crookham family in 1881. They were a prominent and wealthy family who owned another farm in the township in addition to farms elsewhere in Iowa and other states. As noted above, they also acquired the Sutton site farmstead in the early 1880s. During the Crookham family's period of

ownership of the Stortes/Crookham site (1881-1892), the farmstead changed dramatically, including the construction of a large house and barn, at least one domestic support structure, and another small horse or carriage barn. This would be in addition to other outbuildings of less substantial construction which would have left little remnant evidence in the archaeological record (Rogers et al. 1988).

In 1880, the majority (n=114; 37.6%) of the 303 farms in both Polk and Union townships had between 50-99 improved acreage totals, including the Jury farm. Ninety nine (32.7%) had improved acreage totals exceeding 100 acres, including the Rees farm, while the remaining 29.7% (n=90) had totals below 50 (see Appendix H, Table 1 in Rogers et al. 1988:700). At the county level, the Rees farm, at a total of 394 acres, was among 1,165 (41%) farms in the county that were between 100-500 acres in size. This range also comprised the majority of the 2,815 farms in the county. Only 25 farms were larger than 500 acres. At 60 acres, the Jury farm was within the next highest percentage, or 36% (n=1,013). At the state level, the average farm size was 134 acres. Also at the state level in 1880, swine and cattle production had far outstripped that of sheep production, although the latter continued to be of some importance. Corn continued to be the primary crop, followed by wheat.

Unfortunately, the census data from 1890 are not available; therefore, the final developments of the Sutton farmstead site are not known. Archival and archaeological data indicate that this site was abandoned after 1883 and prior to 1901. It is likely that after James Jury sold this farmstead to the Crookham family (who were residing at the Stortes/Crookham site), it was either rented out for a time or

completely abandoned. By 1901, the house site had been relocated to the south along a section line road. This move, similar to the one involving the Ratcliff site, was likely prompted by the expansion of the farmstead and the intensification of its market production, resulting in the need for better transportation access.

In summary, the study of the development of Lake Red Rock farmsteads initially settled in the 1850s indicated that by 1870, all were clearly involved in market production. Data from the initial occupations of these sites in the 1850s suggest that while the farms were involved in market production, it was to varying degrees. The Ratcliff site, in particular, appeared to be operating near the subsistence level of production into the 1860s. The Sutton site and the Stortes/Crookham site, on the other hand, showed some market involvement early on. In fact, the Stortes farm of 1860 was clearly involved in market livestock production as was the Horsman farm, which may or may not have included the Sutton site. The advanced development of the Stortes farm was likely the result of Andrew Stortes' age, experience, and wealth. However, Levi Horsman, while perhaps not having the same level of personal wealth as Stortes, did have the resources to operate a fully market-oriented farm.

The 1870 and 1880 census data from the Lutz and Jury farms are, perhaps, a better reflection of the development of the Sutton site because it is known that both likely occupied the site location. These data indicate that Lutz, in particular, had a market-oriented operation, while Jury was involved to a lesser extent. This may be the result of

differing economic levels or simply a difference artificially created by the individual productivity of particular census years. It can be stated, however, that the 1880 farm operation of James Jury was a smaller, less market-oriented operation than that of the Rees farm centered at the Stortes/Crookham site, but it was still advanced over a subsistence level farming operation.

Region of Origin

The question remains as to whether the settler's region of origin had an influence on the development of these farmsteads. The first occupant of the Sutton site was from Virginia, while the other possible occupants hailed from Indiana and Ohio. The early occupants of the Stortes/Crookham site were also either born in Virginia or had grown up there. The data recovery investigation of that site found few discernible differences in the archaeological, artifactual, or dietary remains from the early occupation that could be positively related to the Upland South cultural tradition (Rogers et al. 1988:396-400).

That study did postulate that the differences in the construction of the Ratcliff farmstead (occupied by settlers from Ohio) and the Stortes/Rees occupation reflected different patterns associated with region of origin. Specifically, the remains of the Ratcliff house structure consisted of a substantial rock cellar foundation, upon which at least half of a log or frame house would have been supported. The early house structure associated with the Stortes/Rees occupation, however, was a frame structure with a small pit cellar underneath the floor. Known outbuildings included two keyhole cellars in the surrounding house yard. In comparison, the remains of the Sutton house

structure indicated a log structure with a pit cellar underneath the floor and a keyhole cellar in the house yard, thus closely approximating the configuration of the Stortes/Rees site.

Whether or not the similarity between the two sites initially occupied by Upland Southerners can be related to region of origin cannot be concluded from this small sample. It does, however, raise an interesting point for future studies to examine. According to Faulkner (1986:54-63), pit cellars were fairly common under log houses of the Middle South region. It does not appear to have been as common in the Midwest region, although there are known examples in Illinois (Mansberger 1982b; McCorvie 1987:49-50). Some of these were found on Upland South sites (see McCorvie 1987), but others were present on sites with undocumented occupation backgrounds (see Mansberger 1982b). Therefore, it cannot be stated with any certainty that the configuration of the Sutton site and the early occupation of the Stortes/Crookham site is related to an Upland South influence.

Dietary Patterning

Patterning of dietary remains can also often be indicative of regional influence. For example, the Upland South meat dietary pattern was characterized by a reliance on hogs supplemented with poultry and wild game, particularly the white-tailed deer (Hilliard 1972:46; McCorvie 1987:263). The absence of deer from the Lake Red Rock farmstead sites faunal assemblages may have been a result of the drastic reductions of this species in eastern and central Iowa in the 1850s. It does not, however, explain the lack or limited numbers of other wild game such as rabbit, squirrel, and opossum.

Unfortunately, the faunal remains from all three Lake Red Rock farmsteads was sparse and only suggestive of dietary patterns. The faunal remains from the Ratcliff and Stortes/Crookham sites indicated an emphasis on pig, supplemented with chicken, cattle, and fish. Wild game species were lacking in both assemblages, indicating a greater reliance on domesticated animals for consumption. Such a pattern has been associated with increased farm production (Hilliard 1972:13). The fact that these sites (only one of which had an Upland South background) both had similar (suggested) meat dietary patterns, including a lack of wild game, suggested that factors other than the region of origin was influencing meat consumption. Unfortunately, the paucity of faunal remains from the Sutton site adds little to this analysis other than the fact that wild faunal species were not in evidence. Sheep and pig were the only identifiable remains.

The sparsity of faunal remains from all three sites might be more of a result of similar refuse disposal practices in this region. It is known from the later occupations of the Stortes/Crookham site that bone was routinely burned rather than discarded. The ashes were then spread on the garden (Rogers et al. 1988:371-373). Either this practice prevailed in the nineteenth century as well, or the occupants were disposing the faunal remains at a greater distance from the house site areas. Martin and Phillippe (1986:7) noted a similar pattern on the Drake site, a ca. 1840-ca. 1900 farmstead in northern Illinois. Specifically, it was found that there was a small amount of refuse related to the years of major occupation--a sharp contrast to rural

Upland South farmstead sites in southern Illinois, Missouri, and Kentucky, where refuse including faunal remains was abundant and associated with the span of occupations. It was noted that:

> the situation found at Northern Victorian or Yankee tradition farmsteads, if the Drake site is at all typical, seems to be much more complex. Refuse disposal patterns at northern Illinois sites may present a greater challenge for archaeological investigations since it seems that these groups must have made a more concerted effort at discarding trash in more out-of-the-way places far from their living quarters (Martin and Phillippe 1986:7).

The botanical remains from the three Lake Red Rock farmsteads indicated that wild plant species played a supplemental role providing primarily dietary variety for the early occupations of these sites. This was particularly evident for the Stortes/Rees occupation. At that site, wild fruits and nuts were present but indicated selective exploitation. It was concluded that the exploitation of these wild foodstuffs was to provide dietary variety to cultivated produce rather than supplementing a subsistence level diet. Cultivated species in evidence included corn, wheat, barley, and rye. It was further noted that this generalized pattern of selective wild plant food exploitation persisted into the later occupation of the Stortes/Crookham farmstead. Specifically, it was found that wild plant foods were selected for dietary variety, with the selections becoming more specialized over time as the occupants' reliance on a cash economy and commercial goods increased (Rogers et al. 1988:399-400).

The inhabitants of the Sutton site also utilized resources from a wide range of environmental habitats. Domestic crops in evidence included wheat and corn. Dietary variety was supplied by wild fruit and

nuts. There was also possible evidence of the exploitation of medicinal herbs perhaps related to the medical practice of the site's original occupant. Overall, while the botanical sample from the Sutton site was sparse, it did suggest parallels with the dietary pattern of the nearby Stortes/Crookham site, thus indicating wild plant foods utilized as a dietary supplement rather than exploited at a subsistence level.

From the small samples examined to date, therefore, it appears that the suggested dietary patterns of the early farmstead occupations at all three sites showed a reliance on the products of the farm with dietary variety provided by selected wild plant foods. There is little to indicate that this pattern reflects regional influences; rather, it appears to be more indicative of market production beyond a subsistence level of agriculture. The composition of these assemblages may also have been greatly influenced by similar patterns of refuse disposal, wherein the faunal remains were either burned or disposed of away from the house site locations.

Socioeconomic Variability

The previous data recovery investigations of Lake Red Rock sites indicated some variation in the socioeconomic levels between farmstead sites (Rogers et al. 1988). That study compared a variety of lines of evidence including ceramic economic scaling, real/personal property estimates from census data, agricultural census farm valuations, artifact patterns, and faunal dietary remains. The present analysis will examine these same lines of evidence in comparing the Sutton site to the Stortes/Crookham and Ratcliff sites in addition to farmstead sites in

other regions. Unfortunately, the faunal remains from the Sutton site did not provide data applicable to this study. The previous investigation also found that the small samples precluded definitive economic statements (Rogers et al. 1988). Therefore, the present investigation will necessarily focus on the other lines of evidence.

Ceramic Economic Scaling

The basis for this study is founded on Miller's (1980) original formulation (see Chapter III); however, for assemblages extending into the late nineteenth century, a recent adaptation to Miller's study was also utilized. Specifically, Spencer-Wood (1987b) combined all of Miller's (1980) index value lists, including years from 1814 to 1881, and averaged the values for cups, plates, and bowls. This was further adjusted by a "cup/plate/bowl" (CPB) Mean Index Value for utilizing sherd counts rather than vessel counts (Spencer-Wood 1987b:330-331). From high to low value, the decorative and ware types included porcelain, flow-printed, transfer-printed, ironstone, rim-lined, handpainted, sponged, dipped, edged, pearlwares, and cream-colored. It was felt that this adaptation of Miller's study would facilitate the examination of sites with temporal ranges spanning the mid- to late nineteenth century, particularly because single index years in Miller's study rarely included values for all ware types and decorative techniques. Only a few index years in his study had values for porcelain. Excluding this high-valued ware type from a ceramic scaling study significantly affects the index values. In addition, averaging the values for cups, plates, and bowls eliminated the difficulty of

identifying vessel sizes (such as 8 in. versus 10 in. plates) in assemblages with small rim sherds (Spencer-Wood 1987b:330-331).

The previous data recovery investigation utilized the sherd count adaptations by Spencer-Wood (1987b) as well as McBride and McBride (1987). The present investigation of the Sutton site will utilize both sherd count adaptations and minimum vessel counts to test the validity of the sherd count adaptation. Because the Sutton and Ratcliff sites were only occupied in the mid- to late nineteenth century, the entire ceramic assemblages were compared. The Stortes/Crookham site, however, had a lengthier occupation and definable components. Therefore, for the ceramic analysis of this site, only the assemblages from the early features of the Stortes/Rees occupation (late 1850s to early 1880s) were utilized (see Rogers et al. 1988:424). In addition, the entire ceramic assemblage from site 13MA218 was also examined. That site was investigated in 1986 by controlled surface collection and test excavation. It had a possible occupation span of 1849 to the 1870s (Rogers and Koldehoff 1987:209-235). All of the examined Lake Red Rock farmstead sites and components, therefore, dated from within the temporal range of the 1850s to the 1880s.

Table 57 presents the results of the ceramic scaling utilizing the sherd count adaptation for Miller's (1980) index year of 1855. Porcelain was excluded from this scale because there was no valuation for porcelain for that year. Additionally, ironstone was included at an average value equal to that of transfer-printed following the study by McBride and McBride (1987:149). This same scale and sherd count

Table 57. Calculation of Average Ceramic Values for Lake Red Rock Sites.

Type	Number	1855 Values*	Sum of Number x Index Value	Total Count	Average Value
Stortes/Rees**					
Undec.	87	1.00			
Min. Dec.	1	1 16			
Painted	4	1.30	310.86	179	1.74
Printed	15	2.50			
Ironstone	72	2.50			
Sutton Site					
Undec.	78	1.00			
Min. Dec.	4	1.16			
Painted	0	1.30	212.64	134	1.59
Printed	3	2.50			
Ironstone	49	2.50			
13MA218					
Undec.	285	1.00			
Min. Dec.	76	1.16			
Painted	22	1.30	689.26	498	1.38
Printed	72	2.50			
Ironstone	43	2.50			
Ratcliff Site					
Undec.	187	1.00			
Min. Dec.	11	1.16			
Painted	7	1.30	333.86	255	1.31
Printed	7	2.50			
Ironstone	43	2.50			

* = from McBride and McBride (1987:150)
** = includes only features 7, 7a, 9, 10, 15, 16, 16a, and 19 from the early occupation of the Stortes/Crookham site

adaptation was utilized in a study by McCorvie (1987) of farmstead sites in Illinois.

It is recognized that the index year of 1855 does not approximate the mean occupation dates of these sites with the possible exception of site 218. In fact, the Stortes/Crookham site was not settled until 1856.

However, to facilitate comparisons between the Illinois sample and the Lake Red Rock sample, this index year was utilized. To lessen the bias of later occupations on the ceramic assemblages from the Stortes/Crookham site, only the mid-nineteenth century ceramics from selected early features were included in the analysis. To further lessen the bias of choosing an early index year, the index values from the Spencer-Wood (1987b) formulation were compared to the results of 1855 values. Table 58 presents the average value calculations based on Spencer-Wood's (1987b) study. Primarily because of the inclusion of porcelain in this analysis, the average values were slightly raised for three of the sites. However, the exact same value was derived for the Sutton site as that from the 1855 index. This is due in part because of the lack of porcelain in the Sutton site assemblage, thereby lowering its economic level relative to the Stortes/Rees occupation. However, it still maintained its rank ordering above the other two sites. This would suggest that the utilization of the 1855 index for comparative purposes, even on sites postdating that particular year, did not grossly distort the resulting average values.

Both Tables 57 and 58 indicated an order of ranking of the Lake Red Rock farmstead sites as follows: 1) Stortes/Rees, 2) Sutton, 3) site 218, and 4) Ratcliff. The relatively high ranking of the Sutton ceramic assemblage is the result of a high proportion of ironstone to whiteware very similar to the proportions of these wares in the Stortes/Rees component. It should be noted that the calculations for site 218 and the Ratcliff site were slightly adjusted from the previous investigation's

Table 58. Calculation of Average Ceramic Values Utilizing Spencer-Wood's (1987b) Indices.

Type	Number	1830s-1880s Values	Sum of Number x Index Value	Total Count	Average Value
Stortes/Rees					
Undec.	119	1.00			
Edged	3	1.00			
Sponged	2	1.17			
Handpainted	5	1.56			
Ironstone	94	2.51	455.63	248	1.84
Transfer-print	13	2.51			
Flow-printed	4	2.93			
Porcelain	8	5.40			
Sutton Site					
Undec.	78	1.00			
Edged	3	1.00			
Sponged	1	1.17			
Handpainted	0	1.56			
Ironstone	49	2.51	213.11	134	1.59
Transfer-print	2	2.51			
Flow-printed	1	2.93			
Porcelain	0	5.40			
13MA218					
Undec.	280	1.00			
Edged	34	1.00			
Sponged	36	1.17			
Handpainted	22	1.56			
Ironstone	46	2.51	716.14	495	1.45
Transfer-print	66	2.51			
Flow-printed	6	2.93			
Porcelain	5	5.40			
Ratcliff Site					
Undec.	174	1.00			
Edged	1	1.00			
Sponged	5	1.17			
Handpainted	7	1.56			
Ironstone	42	2.51	325.56	238	1.37
Transfer-print	7	2.51			
Flow-printed	0	2.93			
Porcelain	2	5.40			

calculations eliminating embossed whiteware from the minimal decorated category (Rogers et al. 1988:426). Embossing should not have been included with the minimal category as it was a somewhat more expensive type of decoration than those more properly included in the minimal decorated category, and further because Miller's (1980) decorative categories did not include this type. This adjustment, however, did not change the average values previously calculated for these sites. Unfortunately, being unable to include embossed whitewares in the analysis removed 19 sherds and 6 vessels from the Sutton site ceramic assemblage.

Comparing the Lake Red Rock sites with the three southern Illinois farmsteads examined by McCorvie (1987:274) produced a ranking as follows: 1) Stortes/Rees, 2) Sutton site, 3) site 218, 4) Baldridge site, 5) Ratcliff site, 5) Davis site, and 6) Huggins site. The three Illinois sites consisted of the archaeological remains of Upland South farmsteads dating from the nineteenth century. It was concluded from the ceramic scaling data and associated documentary evidence that these sites represented "middle-class" farmsteads. In comparison, therefore, the Stortes/Rees and Ratcliff sites ranked higher than the remainder of the sample, with the Stortes/Rees occupation at the highest level. Site 218 and the Ratcliff site were more conformably middle class.

McCorvie's (1987) study further compared these average values to five other nineteenth century farmstead sites in Illinois, including the Crazy Dog, Speckhardt, and Red House sites in the Illinois River valley and the Jesse Lindall and Twiss Hill sites in St. Clair County, Illinois. Of these, the Crazy Dog and Speckhardt sites were thought to

be lower class farmsteads, while the remainder were middle class (Mansberger 1987:202; McCorvie 1987:277-278). McCorvie's (1987:278) study suggested that the Baldridge and Red House sites were of a higher economic status than the Jesse Lindall, Twiss Hill, Davis, Crazy Dog, and Huggins sites, which were all more "solidly middle class," while the Speckhardt site was lower class.

Table 59 presents a comparison of the average values of the Lake Red Rock farmstead sample to all of the Illinois sample sites. This listing suggests that the Stortes/Rees and Sutton sites were of a comparatively higher level than the remainder of the sample. The majority of the sample sites were closely spaced between 1.26 and 1.38 in average value, perhaps suggesting a middle-class level between the extremes of 1.19 and 1.74. Recognizing that broad comparisons between differing regions is problematic, it is tentatively suggested that the consistently higher average values for the Stortes/Rees occupation, and to a lesser degree the Sutton site, indicate a higher socioeconomic level than those in the comparative sample. In comparison, the Ratcliff site and site 218 ranked consistently in the moderate or middle range, with site 218 ranking slightly higher than the Ratcliff site.

In order to provide a more comparative analysis as well as to begin to test the validity of the sherd count adaptations, minimum vessel counts were produced for the Sutton site ceramic assemblage. Similar analyses of the Ratcliff and Stortes/Rees assemblages are in progress and will be included in future studies of the Lake Red Rock data recovery farmstead sample. Tables 60 and 61 present the calculations for

Table 59. Relative Ranking of Lake Red Rock Farmstead Sites and Selected Illinois Farmstead Sites.

Site	Average Value*
1) **Stortes/Rees**	**1.74**
2) **Sutton**	**1.59**
3) **13MA218**	**1.38**
4) Baldridge	1.37
5) Red House	1.35
6) Jesse Lindall	1.32
7) Twiss Hill	1.31
Ratcliff	**1.31**
8) Davis	1.29
9) Crazy Dog	1.28
10) Huggins	1.26
11) Speckhardt	1.19

* = Sherd count calculations following McBride and McBride (1987) with values based on Miller's (1980) 1855 indices.

Table 60. Calculation of Average Ceramic Value for the Sutton Site Utilizing a Minimum Vessel Count and Miller's (1980) Index Values.

Type	Undec.	Min. Dec.	Flow TP	TP	Ironstone
Cups/Saucers # (1856 Values)	4 (1.00)				4 (3.6)
Plates # (1855 Values)		4 (1.20)	1 (2.40)	1 (1.60)	
Bowls # (1855 Values)		2 (1.10)		1 (2.00)	
Sums of # & (Product)	4 (4.00)	6 (7.00)	1 (2.40)	2 (3.60)	4 (14.40)

Total Count = 17

Sum of # x Index Value = 31.40

AVERAGE VALUE = 1.85

Table 61. Calculation of Average Ceramic Values for the Sutton Site Utilizing Minimum Vessel Counts and Spencer-Wood's (1987b) Indices.

Type	Undec.	Sponged	Edged	Ironstone	TP	Flow-TP
Cups # (1850s-1880s Values)	4 (1.00)			4 (3.33)		
Plates # (1850s-1880s Values)		1 (1.23)	3(1.00)	1.(2.21)	1 (1.53)	1 (2.39)
Bowls # (1850s-1880s Values)				1 (2.00)	1 (2.00)	
Sums of # & (Product)	4 (4.00)	1 (1.23)	3 (3.00)	6 (17.53)	2 (3.53)	1 (2.39)

Total Count = 17

Sum of # x Index Value = 31.68

AVERAGE VALUE = 1.86

the Sutton site utilizing minimal vessels counts and both Miller's (1980) 1855-1856 index values and Spencer-Wood's (1987b) cup, plate, and bowl indices. Two nearly identical average values were derived, 1.85 and 1.86, respectively. Once again, this would suggest that the utilization of the 1855 index year for the Sutton site, even though the majority of its occupation postdated that year, did not grossly distort the scaling analysis. This is assuming, of course, that Spencer-Wood's (1987b) method is a valid application of the ceramic index values. By utilizing minimum vessel counts, the average value for the Sutton site assemblage was raised from 1.59 to 1.85-1.86, and it is expected that similar

analyses of the other Lake Red Rock farmsteads will also raise their respective average values. It is postulated, however, that differences in sherd versus vessel count calculations will not greatly alter (if at all) the relative ranking of the ceramic assemblages. This postulation remains to be further tested when minimum vessel counts become available for the Ratcliff and Stortes/Crookham sites.

Recent data recovery excavations of a house site (13DM55) in southeast Iowa near Burlington also examined ceramics in terms of socioeconomic variability. This site consisted of the remains of a house cellar and six pits. The occupation range was determined to be from ca. 1851-1895, corresponding to the occupations of the Lake Red Rock sample sites. It could not be specifically concluded that this house site represented a farmstead, and it is therefore considered a rural household (Gade, personal communication 1989).

The ceramic analysis for this site utilized a methodology somewhat different than that formulated by Miller (1980) but based on the same premise. Specifically, ceramics were ranked on a 1 to 5 scale with undecorated being the lowest, followed by (in ascending order of value) minimally decorated, handpainted, transfer printed and ironstone, and porcelain. Vessel types included plates, platters, cups, bowls, and serving vessels. The percentage of vessels in each category was multiplied by the rank value. The sum of these products was then divided by 5 to yield the index value, which ranged from 20 to 100, with the greater values reflecting the more expensive ceramic vessels. A relative index value of 55.1 was calculated for the entire ceramic assemblage

from site 13DM55. A comparative analysis of the Sutton site vessel assemblage produced a relative index value of 56.5. Once again, the sample size was reduced because of the inability to place the embossed decorated wares in the analysis, perhaps more heavily weighting the ironstone portion of the assemblage. This type of decoration, however, would rank at a higher level than at least the minimally decorated wares and potentially would have only a minor affect on the overall relative index value. It would appear from the present analysis that the ceramics from the Sutton site and site 13DM55 rank slightly below the mean of 60, indicating economically middle level sites.

Real/Personal Property Census Estimates

To further examine possible socioeconomic variability between the Lake Red Rock farmstead sites, additional lines of evidence were analyzed. The first of these are census estimates of real and personal property values. The 1860 and 1870 U. S. Population Censuses both recorded these estimations, and all of the Lake Red Rock farmstead sites were represented in one or both of these censuses.

As noted previously, Levi Horsman, owner of the Sutton site in 1860, likely resided elsewhere. Therefore, the 1860 estimates of his real estate and personal property may not directly reflect the economic level of the site. Specifically, the value of his real estate was estimated at $2,000 with an estimated $1,200 personal property value. In comparison, Jonathan West (owner of the Ratcliff site) had real estate valued at $1,000 and personal property at $400. Andrew Stortes (owner of the Stortes/Crookham site) had $9,000 worth of real estate and $600 of personal property. Totaling these estimates and ranking them in order

places Stortes at the highest level with estimated values totaling $9,600, followed by Horsman with $3,200 and West with $1,400.

The suspected owner of site 218 in 1860 was John Walker. According to the population census, he had a combined total of $4,100 worth of real and personal property. The agricultural census indicated a farm valued at $2,000 with $100 worth of farm implements and $400 worth of livestock, or a total value of $2,500. The population census estimates places site 218 between the Stortes and Horsman farms, but the agricultural census data indicate a rank ordering of Stortes-Horsman-Walker-West reflecting the ceramic scaling order.

By 1870, Edwin Lutz was the owner and likely occupant of the Sutton site. According to the census, Lutz had an estimated $1,200 of real estate and $890 of personal property, or a total of $2,090. West remained the owner of the Ratcliff site, and his census estimates were $3,000 for real estate and $1,100 for personal property, or a total of $4,100. The Stortes/Crookham site was then owned by William Rees; his ce .us estimates were $2,000 for real estate and $1,000 for personal property, or a total of $3,000. This would reorder the sites' economic ranking, placing the Ratcliff site at the top, followed by the Stortes/Crookham site and then the Sutton site. It is known from probate data that the census estimates for William Rees did not accurately reflect his real estate value in particular. When he purchased the property in 1869-1870, he paid $5,500. At the time of his death in 1871, he had personal property worth $1,500. Therefore, by 1871 the combined actual value of the Rees real and personal property was $7,000,

assuming, of course, that the land was really worth what he paid for it. It does, however, accurately reflect his personal financial (and possibly credit) resources (Rogers et al. 1988:432). Comparative census data concerning site 218 is not available because it is not known who owned this site at that time or if it was even still occupied.

The lower level of the Sutton site compared to that of the Ratcliff site is partially reflected in the smaller size of the real estate which comprised this farm in 1870. Specifically, the Lutz farm totaled 50 acres compared to the 120 acre farm of Jonathan West. West had also been established on his farmstead for a lengthier period of time than Lutz, the latter having purchased the Sutton site only a few years prior to the census enumeration. However, West and Rees both had estimated personal property values higher than that of Lutz.

The previous investigation (Rogers et al. 1988:432-433) conducted an additional study utilizing census estimates from a sample of other farmsteads in Union and Polk townships. A total of 23 farm households comprised the 1860 sample. Combined real and personal property values went from a high of $9,600 (Stortes) to a low of $225. The estimate for Stortes was $3,500 higher than the next highest estimate of $6,100 for Alfred Rees of Union Township. John Walker ranked 8th, Levi Horsman ranked 10th, and Jonathan West ranked 16th.

A total of 12 farm households comprised the 1870 census sample. Combined estimations went from a high of $18,000 to a low of $340. Jonathan West ranked 6th, William Rees ranked 11th, and Edwin Lutz ranked 12th. It should be reiterated that the census estimates for Rees

do not fully reflect his actual real estate and personal property values.

Agriculture Census Farm Valuations

The 1860-1880 U. S. Agriculture Censuses provided estimates of the cash value of farms and the value of farm implements and livestock. Beginning with the 1870 census, additional estimates were provided for the value of all farm production including betterments and additions to livestock. Table 54 shows the estimated values for the Horsman, Stortes, and West farms for 1860. Combining the values for the farm, implements, and livestock showed Stortes at the top with a total value of $6,525, followed by Horsman with a total of $3,100 and West with $1,320. This repeats the ordering of the real/personal property data for that census year. As noted previously, the agricultural census data for the suspected owner of site 218 ranked this site between Horsman and West.

Comparisons with other farms in Polk and Union townships indicated that in 1860, 28 out of a total of 83 farms had cash values between $500 and $1,499, including the West farm. The majority (n=30, 36%) had values between $2,000 and $4,999, including the Horsman farm and John Walker's farm (site 218). In contrast, 7 farms had cash values between $5,000 and $9,999, including the Stortes farm, and only 2 farms were valued above $9,999 (see Appendix H, Table 1 in Rogers et al. 1988). Therefore, not only did the Stortes farm rank far above both the Horsman, Walker, and West farms, it also ranked above at least 71 other farms in these two townships. At the county level, a total of 1,451 farms had a total cash value of $2,778,960 in 1860 for an overall general average value of $1,915.20 per farm.

Table 55 presented the agricultural census data for 1870. Combined value totals indicated that the Rees farm was at the top with a total value of $7,850, followed by the West farm at $4,000 and the Lutz farm at $1,790. The estimated value of all farm production, betterments, and livestock additions were $1,555 for the West farm, $750 for the Lutz farm, and $745 for the Rees farm. Compared with the population census estimates, the agricultural census data appear to more accurately reflect the known value of the Rees farm ca. 1870 and clearly ranks the Rees farm above the West farm. The Lutz farm, however, persisted to be at a level lower than both farms.

Compared to other farms in Polk and Union townships, the cash value of the West farm was in the same range as 62 (29%) of the 214 farms in these townships, while the Rees and Lutz farms were respectively in the same ranges as 21 (10%) other farms. Only 9 farms had estimated cash values above $10,000. The majority of farms (n=80, 37%) had estimated cash values between $500-$1,499 (see Appendix H, Table 1 in Rogers et al. 1988).

Table 56 presented the 1880 agricultural census data for the Sutton and Stortes/Crookham sites. The Ratcliff site (i.e., the West farm) was not included because West had moved his farm operation to another location by that time. The estimated values for the James Rees farm (Stortes/ Crookham site) had a combined total of $7,805. In addition, he had paid $200 for wage labor, had $47 worth of orchard and forest products, and had an estimated value of $240 for all production, betterments, and livestock additions. In comparison, the Jury farm

(Sutton site) had a total estimated value of $1,812, with only $15 paid for wage labor. It did show an estimated value of farm production, betterments, and livestock additions of $565.

Comparison with the combined township data indicated that the $6,000 Rees farm value was in the same range with 35 (12%) out of 291 farms, while the $1,500 value of the Jury farm was also in the same range as 35 farms. The majority (n=107, 37%) of the farms in both townships had cash values between $2,000-4,999 (see Appendix H, Table 1 in Rogers et al. 1988).

Table 62 presents a summary of the socioeconomic analysis from the documentary and ceramic scaling data. The Stortes/Rees occupation consistently ranked higher than all of the sites, except in the 1870 population census estimation. From that data, the ranking of the three sites was nearly the reverse of what the 1860 data had shown. However, it is known from other docume ary sources that Rees' actual real/ personal property values were much higher than the census estimates, placing it above the other two sites. The 1870 farm cash values in Table 62 are likely a more accurate reflection of the rank ordering of these sites at that time.

While the 1860 data show the same ordering of sites as the ceramic scaling data, the census data for the Sutton site are of Levi Horsman's farm, which may or may not have included the Sutton site. Therefore, this correlation can only be tentative. In addition, the real/personal property estimated total for site 218 placed it at a higher rank than the Sutton site, although the 1860 agricultural census data for that site reflected the ceramic scaling ordering.

Table 62. Summary of the Ranking of Lake Red Rock Sites From Available Data.

Data Sets	Stortes/Rees	Sutton	218	Ratcliff
Ceramic average values*	1	2	3	4
1860 Real/personal property	1	3**	2	4
1860 Farm cash value	1	2**	3	4
1870 Real/personal property	2***	3	N/A	1
1870 Farm cash value	1	3	N/A	2

* = sherd count calculations
** = The data are for Levi Horsman, owner of the Sutton Site, who likely lived elsewhere. Possibly represents two farms.
*** = The census estimate appears too low compared to Rees' actual property according to probate and deed information from 1869-1871.

There does appear to be a definite change in the rank order between the Sutton site and the Ratcliff site by 1870 (Table 62), and this is perpetuated in the 1880 census data which shows the Sutton site valued at a substantially lower level than the Stortes/Crookham site (Table 56). It would appear that one of the earlier occupations of the Sutton site, perhaps that by Levi Sutton himself, had a higher economic level which accounts for the higher economic level of the deposited ceramic assemblage. The inability to refine occupation components on this site suggests that the influence of one or perhaps more occupations can mask the more subtle economic variability between differing occupations. The

census data indicate that the occupations by Lutz (1870) and Jury (1880) were at a lower economic level than both the Stortes/Crookham and Ratcliff sites, particularly the former. Therefore, while the previous investigation of the Ratcliff and Stortes/Crookham sites showed a positive correlation between ceramic scaling data and census valuations (Rogers et al. 1988:438), the present investigation produced somewhat more ambiguous results. Clarification might be provided by the calculation of minimal vessel count ceramic average values for all three sites, although it is suspected that the rank ordering of these sites would remain the same.

Artifact Patterns

The final variable to be examined in the socioeconomic analysis of the Lake Red Rock farmstead sites is that of artifact patterning. This method was utilized by Mansberger (1987) in a study of the Lincoln Home site in Illinois and was developed from South's (1977) artifact patterning studies, with adaptations by Otto (1977) and Heitzman (1980). It was also utilized in the previous investigation of the Stortes/Crookham and Ratcliff sites (Rogers et al. 1988:438-450). These studies hypothesized that certain functional categories of artifacts would be represented in differing proportions relative to socioeconomic levels.

In order to facilitate better comparisons with Mansberger's (1987) study, the functional categories utilized in the previous investigation (Rogers et al. 1988) were refined to correspond more closely with his functional categories. These categories included architectural, kitchen, clothing, personal, furnishings, tools/activities, arms, transportation,

other, and faunal material. The only difference between this categorization and that of Mansberger's (1987:200) study was the separation of faunal material from the catch-all "other" category. For purposes of comparison in the artifact patterning analysis, architectural-related items such as brick, mortar, and concrete rubble were removed from consideration because only samples of these items were collected.

The hypotheses to be examined are summarized from Mansberger 1987:200-201). In this study, a two-level socioeconomic stratification model is utilized, specifically, upper versus lower class.

1. Upper-class households will be represented by lower percentages of kitchen-related artifacts reflecting the greater percentage of nonfood related spending by the upper class consumer.
2. Lower-class households will be represented by lower percentages of architectural remains reflecting the less substantial and ephemeral nature of lower-class structures.
3. Upper-class households will have higher percentages of furniture-related items reflecting the greater amount of money expended for more and ornate furniture.
4. Lower-class households will have higher percentages of tool-related artifacts reflecting greater time spent on manual labor around the home. They could also possibly reflect the inhabitant's occupation.
5. Upper-class households will have higher percentages of clothing and personal items reflecting the greater amount of

money expended for the items. They could also be indicative of household size.

The study sample utilized by Mansberger (1987:202) as an upper/lower class model included two Illinois sites once occupied by relatively wealthy individuals (i.e., the Washburne and Hughlett sites) and two Illinois sites occupied by less well-to-do inhabitants (i.e., the Crazy Dog and Speckhardt sites). The Washburne site was the Galena home of a prominent politician and dates from the mid-nineteenth century. The Hughlett site was the rural homestead of a Galena lead smelter dating from the early to mid-nineteenth century. The Crazy Dog and Speckhardt sites were rural farmsteads dating from the mid-nineteenth century (ca. 1840-1880s) (Mansberger 1987:199). Added to the present comparative analysis is site 13DM55, for which a similar analysis has been conducted (Gade, personal communication 1989).

The previous investigation of the Stortes/Crookham site attempted to examine artifact patterning on an intrasite basis utilizing assemblages identified with the early Stortes/Rees occupation, the Crookham family occupation (known to have been extremely wealthy), and the later tenant occupations of this farmstead. That study found that on an intrasite basis, this type of analysis had limited utility in discerning possible socioeconomic differences between occupations. Factors such as the lengthy occupation span and the great amount of architectural construction and destruction had an affect unrelated to socioeconomic levels on the composition of the various assemblages. Additional factors including specialized refuse disposal and mass-production of glass containers and tablewares in the late nineteenth and

twentieth centuries were also determined to have an affect unrelated to socioeconomic levels on the configuration of the various assemblages (Rogers et al. 1988:445).

That study further examined the artifact patterning of the Stortes/Rees occupation on an intersite comparative basis with site 218 and the Ratcliff site (Rogers et al. 1988:446-450). It was found that the percentage differences between these sites was not remarkable except in the architectural and kitchen categories, which might have been influenced by noneconomic factors. The artifact patterning from site 218 did have some positive correlations with the lower-class model percentages; however, the ceramic scaling data and available census data had consistently ranked site 218 above the Ratcliff site.

It was concluded that while it would be difficult to classify all of the Lake Red Rock sample sites as "upper class" in terms of both status and economics, in general they did appear to represent socioeconomic levels above the lower class. The Stortes/Crookham site, in particular, more positively approximated upper class.

The present study compared the artifact patterning of the Stortes/Rees occupation, site 218, and the Ratcliff site with the assemblage from the Sutton site. Table 63 shows the percentages by functional category for each of these sites. Table 64 presents a comparison of these data with the mean percentages for upper versus lower class derived from the Illinois site sample (Mansberger 1987:202) as well as the results from a similar study of site 13DM55 (Gade, personal communication 1989). For the architectural and kitchen categories, the Sutton site ranked closely with the Ratcliff site with both having

Table 63. Intersite Artifact Patterning for Lake Red Rock Farmsteads.

Category	Stortes/Rees n=6,086	Sutton n=1,605	218 n=1,798	Ratcliff n=2,977
Architectural	45.0%	32.0%	12.0%	30.0%
Kitchen	18.0	34.0	49.0	23.0
Clothing	1.0	0.01	0.5	0.8
Personal	0.2	0.0	0.3	0.3
Furnishings	0.5	0.003	0.1	0.3
Tools/Activities	0.2	0.01	0.3	0.6
Arms	0.1	0.0	0.3	0.2
Transportation	0.6	0.002	0.05	0.3
Other	27.0	32.0	35.5	15.9
Faunal	7.0	0.002	1.8	28.0

Table 64. Intersite Comparisons Between Iowa Sample and the Illinois Upper/Lower Class Model Sample (Mansberger 1987:202).

Category*	Upper Class ---mean	Lower Class %---	Stortes/ Rees %	Sutton %	218 %	Ratcliff %	13DM55** %
Architectural	42.8	24.6	45.0	32.0	12.0	30.0	41.3
Kitchen	35.0	63.8	18.0	34.0	49.0	23.0	43.7
Clothing	0.3	0.3	1.0	0.01	0.5	0.8	3.9
Personal	4.2	1.2	0.2	0.0	0.3	0.3	1.4
Furnishings	2.5	0.8	0.5	0.003	0.1	0.3	0.6
Tools/Activities	0.1	0.1	0.2	0.01	0.3	0.6	1.2
Arms	0.1	0.0	0.1	0.0	0.3	0.2	0.2

* These are selected categories from the entire site or component assemblage. Percentages were calculated from the total number in each assemblage. ** The assemblage from 13DM55 did not include faunal material.

relatively upper-class percentages. In comparison, the Stortes/Rees assemblage exhibited definite upper-class percentages, while site 218 exhibited definite lower-class percentages. Site 13DM55 had a nearly one-to-one ratio of architectural and kitchen items. It was speculated that this ratio reflected a rural purchasing behavior associated with middle economic level households; however, it was noted that the high frequency of architectural items might best be explained by the nature of the site deposits and the excavation strategy utilized in the field. Specifically, the excavations had concentrated on the living quarters, which contained mixed house destruction deposits (Gade, personal communication 1989).

The furnishing and personal category percentages indicated lower class levels for all of the Iowa sites. Clothing items occurred in upper-class percentages for the Stortes/Rees, 218, and Ratcliff sites, with the highest percentages for site 13DM55 and the Stortes/Rees occupation. The Sutton site, on the other hand, had an extremely low percentage of clothing items. Conversely, the Sutton site was the only one to exhibit an upper-class percentage in the tools category. Archival data indicate that the extremely high percentage of clothing items at site 13DM55 reflects a domestic sewing industry rather than an extremely high economic status or large family size. It is known that there were two seamstresses related to the site owners operating in the site vicinity ca. 1860 (Gade, personal communication 1989).

Therefore, none of the sites in the Iowa sample positively corresponded with all of the upper/lower-class hypotheses. The ambiguity of this patterning, especially when compared to the economic levels

suggested by the Lake Red Rock census and ceramic data, further suggests a limited utility in this method for socioeconomic variability studies. The most positive correlations were in the architectural and kitchen categories, with the Stortes/Rees occupation exhibiting upper-class percentages and the remaining sites, except for site 218, approximating a more middle level. However, the composition of these categories could have been affected by a number of other factors not directly related to socioeconomic levels. The middle level ranking of the Sutton site and site 13DM55 is further supported by the relative ceramic index value results from both sites.

As noted by the previous investigation, the artifact pattern method may have its greatest utility in discerning socioeconomic differences between the extremes of upper and lower class sites (Rogers et al. 1988:449). From all available data, it would appear that none of the Lake Red Rock farmstead sites could be accurately characterized as lower-class sites. In general, the majority approximate a moderate or middle level economically, with the Stortes/Crookham site consistently ranking at a higher, more upper-class level. It is known that Andrew Stortes, James Rees, and Horace Crookham were all prominent in the community in addition to being economically well-off.

Conclusions

The data recovery investigations conducted to date at Lake Red Rock farmstead sites have yielded data concerning the development of farmsteads in the region and potential socioeconomic variability among these sites. All of the excavated farmsteads were initially settled in

the 1850s within 10 years of the first settlements of the county. The early occupations of the Ratcliff and Sutton sites appeared to be involved in subsistence level farming, although the Sutton farmstead was more involved in market production at that early date than the Ratcliff farm. Market participation increased at both sites, and by 1870 both were actively involved in this level of production. The Stortes/Crookham site, on the other hand, was actively involved in market production by at least 1860, if not sooner. This was attributed to the greater age, experience, and wealth of that site's early occupants. This farm continued to increase in production, size, and complexity and was still operating in the 1950s. The Ratcliff and Sutton sites, however, were abandoned in the 1880s or 1890s for locations with better road access. Neither achieved the level of production or complexity of the Stortes/Crookham farmstead.

The region of origin of the settlers of these farmsteads did not appear to have a discernible influence on the configuration or development of these farmsteads. The only possible correlation was in the similar configuration of the archaeological remains of the early occupations of the Stortes/Crookham site and that of the Sutton site (both settled by Upland Southerners) compared to that of the Ratcliff site. This correlation is extremely tentative, however, and requires a larger sample before definitive statements on farmstead configuration can be made. The suggested dietary patterns of all three farmsteads also appeared to be more indicative of market production than of either region of origin or subsistence level farming.

Socioeconomic variability among the farmstead sites did appear to be substantiated, with the most positive conclusions being drawn about the higher level of the Stortes/Crookham site. The other farmsteads in the Iowa sample and the Illinois sample appeared to be of a more moderate or middle level in comparison. A slightly higher level (but still below that of the Stortes/Crookham site) was suggested by the ceramic scaling data for the Sutton site. However, the other lines of evidence indicated some ambiguity in assigning a higher economic level to this site over that of site 218 and the Ratcliff site.

The initial testing of the sherd count adaptation versus the minimum vessel count method of calculating the ceramic scaling data resulted in the raising of the average value over that from the sherd count calculation. It is suspected, however, that similar minimum vessel count calculations for the other farmstead sites will also raise their average values but likely have little affect on the rank ordering of these sites.

A final note is made of a study by Atack and Bateman (1987:269) of the 1860 census data from selected areas in the northern states, including Iowa, which indicated that:

> Social mobility among rural households was largely dependent upon the accumulation of wealth. In the ante-bellum rural paradise farmers were indeed wealthier than other residents, as might be expected in an economy where land was both a major productive input and a personal asset. With respect to wealth accumulation, individuals behaved in a predictable, almost surprisingly rational, manner. Additions to wealth beyond age fifty-five were minimal; wealth maximization typically was reached by one's mid-sixties. Age was, in fact, the single most important individual determinant of wealth.
>
> Equality was a nineteenth century American watchword. Nowhere were conditions riper for attaining the egalitarian ideal than

> in the ante-bellum North. Was it achieved? Probably. Although not perfect, compared with the South or the northern cities at that time wealth was diffused rather equally.
>
> But comparative egalitarianism did not imply random access to wealth nor lack of discrimination among all groups in the rural economy. The ranks of the wealthiest held a disproportionate number of individuals who were male, native-born, white, literate, and middle-aged. The last is predictable, given the simple relationship between the passage of years and the building of wealth.

Age was likely a significant factor in the varying economic levels among the Lake Red Rock farmstead sample. Both Andrew Stortes and William Rees were in their late 50s when they occupied the Stortes/Crookham site. They had already accumulated their wealth by the time they each purchased this large farm. James Rees (whose farm had a high cash value in 1880), while being young (37), had at least partially inherited his father's farm and personal property. Also of note was the fact that Levi Horsman and Levi Sutton were both in their 40s when they owned the Sutton site. It is known that Horsman had accumulated some wealth, and it is only suspected that the higher economic level of the Sutton site ceramic assemblage is related to Sutton's occupation. That he was both a farmer and a doctor suggests greater education and perhaps greater socioeconomic potential than if he had been only a farmer.

The remaining farmers were in their mid- to late 30s when they occupied the Ratcliff and Sutton sites. Jonathan West was 34 in 1860, and his farm and real/personal property values were relatively low. However, these values had raised significantly by 1870, when he was approaching middle age. That Lutz and Jury were in their 30s when they occupied the Sutton site perhaps further substantiates the importance of age in wealth accumulation. Both farms were ranked at a level lower than

either the Stortes/Crookham and Ratcliff site occupations during their respective occupations. Future investigations should further examine the demographics of the region's population as a potential indicator of socioeconomic variability.

CHAPTER IX. TOWN DEVELOPMENT AND SOCIOECONOMIC VARIABILITY

Introduction

This chapter presents a discussion of the development of Percy and Dunreath at both the site-specific and regional levels. Their respective patterns of growth and development will be examined and reasons for their decline put forth. Where possible, comparisons will be made with similar communities in other regions. The potential socioeconomic variability represented by the archival, oral historical, architectural, archaeological, and dietary remains of both towns will also be explored.

Town Development

Both Percy and Dunreath were platted along the Wabash railroad in 1882. Both were also platted by the Union Land Company, which subsequently became the Red Rock Coal and Mining Company; however, their respective locations were chosen for different reasons. Dunreath was situated in the vicinity of known coal deposits, while Percy was situated only within an agricultural area. The purpose for its platting was specifically as a community trading center and shipping point to serve the railroad. Another difference between the two towns was that within two years of the platting of Percy, the land company became disenchanted with its prospective growth potential and sold out their holdings to a private individual and long-time resident of the area. In

contrast, a large portion of the Dunreath town plat remained in the possession of the coal and land company until 1911, when a wealthy local farm family purchased the company's holdings. It is likely that during the height of the coal mine operations at Dunreath, the company benefited from the rentals and leases of their landholdings.

The growth of Dunreath peaked in the 1880s-1890s when the coal mines were running at their peak. Its twentieth century history was one of gradual decline, ending with the virtual extinction of the town following the Great Depression. At its peak, census data indicated a total population for Dunreath of approximately 500, although oral history data indicate a peak at 1,000 (Mohler 1988; Nichols 1988a, 1988b). The latter is a definite possibility considering that several coal mines were often operating at the same time in the vicinity of this town, thus requiring a large miner population. In addition, the seasonality of this industry would result in a fluctuating miner population which might not coincide with census years. The lack of an 1890 census (which coincides with an active period in the town's growth) creates a critical gap in our knowledge of its actual size.

In comparison, the population growth of Percy was much less dramatic and slow, with the population size not peaking until the second decade of the twentieth century. Census and oral historical data indicate a peak population size of 100, while two written accounts by former residents placed the total between 200-400 (Fawcett 1958; Mikesell 1966). It would appear from all known data that the 200-400 range was much too high and that a total size of 100 more closely approximates reality.

Stromquist (1981:169) noted that the common pattern of growth of railroad towns was for "an initial period of spectacular growth based on the construction and development of railroad operations, followed by a period of very slow growth or even stagnation, as they sought to overcome the advantages of more established urban marketing centers and waited for their hinterlands to fill up." This did appear to be the case with the town of Dunreath; however, the primary reason for its early growth was the coal mining operations centered at this location. Percy, for some reason, did not even experience the "initial period of spectacular growth," but rather appeared to be somewhat stagnating during its first two decades until becoming an important shipping point in the 1910s-1920s. Much of this might be attributable to a low farm population in its hinterland as well as competition from other established towns in the area including Pleasantville, Prairie City, and Monroe, although none were in close proximity. Its rise in the first two decades of the twentieth century corresponds with the peak in importance of rail transport in the region. After the 1920s, improved roads, highways, and the increasing importance of the automobile and truck reduced rail shipment and provided individuals with greater accessibility to larger towns. The larger towns offered a wider variety of services and greater employment opportunities, helping to lure residents from the smaller communities (Heusinkveld 1958:254-259).

Heusinkveld (1958:258) noted that by 1930 in the three county area including Marion, Mahaska, and Monroe,

> almost every town of less than 2,500 population had declined in size. The trend was thus away from the small hamlets to the larger centers.

This reflected a nation-wide pattern wherein:

> the small town reached its zenith in 1910, when 17.5% of Americans lived in communities with populations of less than 10,000; that figure has declined ever since (to 11.2 % in 1980). By 1940 over half the nation lived in metropolitan areas of more than 50,000 (Smith 1989:189).

In the surrounding region, the towns of Knoxville, Pella, and Pleasantville were the three largest communities in the county. They all benefited from rail connections in addition to experiencing industrial growth. Knoxville further benefited from its political position as the county seat. Of the other towns in the project area, the town of Swan was most similar to Dunreath. It had rail connections in addition to significant coal mining operations in the late nineteenth and early twentieth centuries. The mines shut down by the 1920s, and like Dunreath, the town could not survive on its rail connections alone (Lufkin and Long 1980:10). It exists today only as a clustering of houses.

Other towns of importance in the region included Monroe and Prairie City to the north in Jasper County and situated along the same rail line into Des Moines as Otley and Pella in Marion County; Bussey, Tracy, Harvey, Durham, and Flagler situated on the north/south Wabash line which ran into Knoxville; and Melcher located on the 1912 Minneapolis, Des Moines, and Kansas City rail line southwest of Knoxville. By 1920, Melcher had surpassed Pleasantville in population but suffered a decline afterwards when rail transport diminished in importance. Of the above towns, those located in the southeast portion of the county were also oriented to the thriving coal mining operations in that area. The mining operations near Bussey were the largest in the county from 1895-1902.

Another mining town was Pershing, operating from 1900-1920. At one time this town had a population of 2,000. In addition to these established towns were ephemeral coal mining camps such as Everist which boomed when the mines were operating and disappeared once they shut down (Lufkin and Long 1980:10, 14).

Dunreath was never a coal mining camp in the same sense as Everist, although at times there were temporary camps set up near the mines around the town. Oral historical data indicate that many of these camps were nothing more than a clustering of shacks and were never organized entities such as Everist (Mohler 1988). There was once a "miner community" called White Chapel on the hill east of Dunreath; however, this was never an organized community but rather a small grouping of homes occupied in the 1890s (Nichols 1988b).

There is also little to indicate that Dunreath was ever an organized coal mining town such as Buxton in Monroe County, southeast of Lake Red Rock. Buxton was established by the Consolidation Coal Company in 1900 specifically as a mining community (Gradwohl and Osborn 1984). The company even employed an architect to design many of the buildings and homes. The town's population was dominated by black miners, although it became a more integrated community in practice. There is no indication that Dunreath was ever planned or built by or for one single coal company. The Red Rock Coal and Mining Company, who did own much of the town plat, was never a coal mining company as much as it was a land and coal resources development company. Furthermore, it appears that even though there were at least two large companies (i.e., the Black Diamond and Success companies) operating at various times in Dunreath,

neither dominated the town like the Consolidation Coal Company dominated Buxton. Oral historical data did indicate the one-time presence of a company store in Dunreath, but nothing is known of its affiliation or whether it operated in a monopolistic fashion (Mohler 1987, 1988). The fact that in the 1880s and 1890s there was often more than one company operating at the same time in Dunreath would suggest a lack of domination by one particular company and more of a free enterprise in the industry. Therefore, while Dunreath was oriented to coal mining, it was not perhaps the typical coal mining town compared to others in Iowa (Gradwohl and Osborn 1984; see also Schwieder 1983).

Coal mining communities in Iowa typically experienced "boom-town" growth when the mines were in operation but often "disappeared within a few years after the mines closed down" (Rutland 1956:37). While not a typical coal mining town or camp, Dunreath did experience this boom and bust type of growth. The coal mining industry in general, and Dunreath in particular, suffered during the economic depression of the 1890s (Schwieder 1983:25). By the late 1910s, the town was in decline to the point that all the oral history informants characterized their memories of the town as one in decay (Mohler 1987, 1988; Nichols 1988a, 1988b). It managed to survive into the 1920s primarily on its grain and cattle shipping trade as well as smaller scale coal mining. The cattle shipping trade was important primarily because of one family, the LeGrands, who used their landholdings in this area as the locus for their cattle business.

In general, railroad communities in the Midwest were ideally planned to be spaced at sufficient intervals to provide adequate

shipping points and avoid overlapping competition areas but close enough to eliminate competition from other railroads (McKay and Schmits 1986:19; Stromquist 1981:175, 179). McKay and Schmits (1986:57), in a study of a railroad community in Kansas, noted that:

> as the railroad brought prosperity to Barrett and other railroad communities, it also capped their growth by regulating the size of the trading radius allowed between communities along the railroads. The optimal distance was six miles, one community per township. But, the railroad platted Frankfort less than three miles distance from Barrett and later established Bigelow three miles away in the opposite direction. Barrett thus lacked a sufficient trading radius to sustain it, especially when farmers consolidated, thus eliminating possible rural patrons.

This might be a key factor in the inability of Dunreath to survive solely on its shipping and trading center roles once the coal mines had shut down. It was located less than three miles from Cordova, another Wabash railroad town which had always been an important shipping point. In addition was the close proximity of the town of Red Rock, the oldest town in the area, which had survived despite being bypassed by the railroad. Therefore, within a 3 mi radius of Dunreath were two other established communities, resulting in an overcrowded and overlapping competition sphere.

Dunreath's final "bust" period was precipitated by the Great Depression, during which time its last remaining store closed its doors. The town had been unable to fully establish its place in the crowded competition sphere in which it was located. In addition, the powerful LeGrand family lost much of their property during the depression, and as a result Dunreath lost much of its financial and employment support.

After the 1930s, the community continued to exist only as a clustering of houses around the church/school.

Percy, on the other hand, was situated 5 mi distant from Dunreath. Its nearest competing communities were Swan and Pleasantville on the south side of the river; Prairie City located approximately 10 mi north; and Runnells, another Wabash railroad town located 10 mi to the west. Dunreath was actually the closest real competition that Percy had, and the latter had established itself as an important shipping point by the time the Dunreath coal mines began to shut down.

An interesting comparison is the town of Bigelow, Kansas, founded in 1881. It was also platted as a railroad shipping point, with the additional attraction of a limestone quarry. Similar to Dunreath, the mining of limestone caused a boom period of growth in Bigelow in the 1880s and 1890s, ultimately suffering in the 1890s from both the national economic depression and the depletion of the limestone deposits. Unlike Dunreath, it rebounded in the early 1900s based on its agricultural shipping and trading services; however, it was not situated in as crowded a competition sphere as that of Dunreath. It could prosper at the expense of other less competitive communities. Its eventual, final decline was the result of the overextension of its hinterland's ability to support the town's businesses. Specifically,

> many of these small communities upon the railroad began to decline in the early twentieth century. With farm consolidation and improved communication including rural delivery by 1901 at Bigelow, their economic support slowly withered. These communities gained too many enterprises for their hinterlands to support. The distance between communities supported or founded by the railroad proved to be too little (McKay and Schmits 1986:83-84).

The slow development of Percy in the 1880s and 1890s was also likely affected by the economic depression of the 1890s. However, it was able to capitalize on the rebounding agricultural prosperity of the early 1900s. Its greatest blow was dealt by the changing nature of agriculture in the early to mid-twentieth century in addition to the damaging affects of the Great Depression and the proposed construction of Lake Red Rock. Fawcett (1958:12) noted that when her family moved to Percy in 1927, there were 10 businesses; by the 1950s, however, the number had dwindled to 2. Cochran (1989) noted that in the 1930s after the elevator had burned down, the bank had failed, and the other general store had closed, "it made it harder to keep the town going." This critical reduction in the town's services directly related to its inability to maintain its population. Fire took a great toll on Percy, having destroyed a general store, the original bank, three restaurants, and the elevator, all within a 10-20 year period. In fact, the store, the bank, and two of the restaurants all burned ca. 1913. The newspaper article (see Chapter VI) on the general store fire indicated a suspected arson, and one has to wonder if Percy's businesses were being plagued by an arsonist that year.

This patterning of development in the history of Percy can possibly be related to the tenets of central place theory wherein "the importance, or centrality, of a place will depend on the functions--economic, social, and political--it performs, and since the cost and frequency of demand for these functions varies, then the number of people necessary to sustain them at a place will differ" (i.e., the threshold population) (Lewis 1979:121). It was possibly not so much a

matter of a declining population being unable to sustain Percy's viability than a matter of a critical reduction in the functions the town could perform that resulted in its inability to sustain the existing population. This still indicates a positive relationship between the number of functions performed by a community and population size (Lewis 1979:122).

Bertrand (1980:197) noted that

> the businesses in a small community are highly interdependent. The restaurant depends on the grain elevator and the local plant and the banks depend on both operations. If the elevator or the plant closes, the position of the remaining businesses is immediately precarious....When vital services are no longer available the degeneration of a community proceeds to the point where it is no longer a bona fide community, but rather becomes a neighborhood.

This was especially true of the fate of Dunreath, but Percy did retain some of its viability as a community by sustaining a few businesses into its last decade. Had it not been for Lake Red Rock, there would likely still be a small community there centered around the general store and garage. However, the interdependency of its businesses during its heyday was reflected in the chain of events described above for the 1910s-1930s.

In sum, while there were differing factors central to the development of both Percy and Dunreath, their general decline was not unique on the regional or national landscape. Clawson (1980:67) noted that

> agricultural service towns and villages are by far the most numerous case of declining settlements in the United States, for the past century or so and for the present. Although sometimes this decline was caused by the loss of a resource base...on the whole the decline of the agricultural service town has been due to changes in the utilization of resources.

> American agriculture has undergone a virtual revolution in the past two generations; from the same area of cropland, or less, the output of agricultural commodities has more than doubled, while the labor input on the farms was declining by much more than half. The explanation is technological changes, such as the development of improved varieties...but it is also the greater use of...fertilizers and other chemicals, and more machinery.
>
> This specialization has shifted the employment in the total agricultural process away from the farms, mostly toward fairly large cities. But within the generally agricultural areas there have been important shifts away from the former agricultural service towns, due in part to changing transportation methods and in part to changing demands of the farmer for farm services and of the farm family for consumption and social services.

Socioeconomic Variability

This section will examine potential socioeconomic variability on an intra- and intersite basis concerning both townsites. Data sets to be examined include archival, oral historical, architectural, archaeological, and dietary remains. Architecture will further be discussed in terms of general form and type variations. The basis for many of these studies has already been set forth in the previous chapter concerning socioeconomic variability among farmsteads. Therefore, the theoretical or methodological underpinnings will not be reiterated, although new methods and techniques will be fully explained.

Archival

Unfortunately, one of the best sources for comparative real estate and personal property valuations--the population censuses--did not include this type of data after 1870, thus predating the establishment of both towns. The post-1880 censuses did, however, provide identifications of the professions of many of the towns' inhabitants,

although a critical census year--1890--is not represented in the existing data base, and the 1915 data are very time-consuming and difficult to use. Therefore, to provide some degree of personal and real estate property data, the tax lists for each town were examined. While these lists are extensive, a number of years are not represented, for example the early to mid-1880s and 1890s at Percy. As a result, the present analysis focused on key years for which data was available for both towns. These were 1888-1889, 1902, 1910, and 1919. These were supplemented with the 1885 tax list for Dunreath and the 1899 list for Percy. The tax records provided a listing by name of resident and nonresident lot owners and residents and nonresidents who did not own real estate along with their respective real estate and/or personal property taxable valuations. One problem encountered was for those individuals with no real estate holdings. The only way to determine a possible association with one of the towns was by the school district given or by correlations with other archival and oral historical data which noted an association or residence within one of towns. As a result, it is likely that some town residents were excluded from the analysis or that some nonresidents were mistakenly included. The number of exclusions or inclusions, however, would be small and likely have little overall effect on the analysis.

Table 65 presents the average taxable valuations for real and personal property at both Percy and Dunreath for some of the key years listed above. Tax data for 1885 were available for Dunreath and are included in this table to provide a better understanding of that town's economics considering that the mid-1880s was a peak period in the town's

Table 65. Average Taxable Valuations for Real and Personal Property for Percy and Dunreath.

Town/Property	1885	1888/1889*	1902	1910	1919
Dunreath					
Real Estate	$117.1	$67.8	$48	$26.8	$16.5
Personal Property	101.2	92.9	74.2	23.7	40.1
Percy					
Real Estate	N/A	158.4**	38.7	55	79.4
Personal Property	N/A	132.3**	77	94.7	153.9

* = 1888 is the Dunreath tax year; 1889 is the Percy tax year.
** = primarily business property.

growth. An examination of these data indicate that the highest real and personal property valuations occurred in the 1880s-1890s for Dunreath, while the twentieth century data show a decline, with average real estate holdings hitting a low of $16.50 in 1919. An upswing in average personal property valuations occurred between 1910 and 1919, perhaps reflecting the improved economy for both coal mining and railroad shipping during World War I.

The 1885 tax data for Dunreath showed 1 doctor (with taxable personal property valued at $187), 3 merchants ($90, $485, and $1,900), 1 telegraph operator ($0), 1 schoolteacher ($0), 1 broommaker ($80), 1 blacksmith ($0), 1 druggist ($400), 1 carpenter ($160), 1 butcher ($40), 1 railroad laborer ($0), 1 coal mine pit boss ($59), 15 coal miners (1

at $63, and 14 at $0), 4 farmers ($40, $35, $5, $0), and 3 unknowns (all at $0). An interesting note is the variation between the taxable valuations for the personal property of the three merchants. One store was obviously doing a higher level of business than the other two. The druggist, the doctor, and the carpenter had the next highest personal property valuations, perhaps indicating a higher economic level for these professions within the town. The remaining professions all had valuations lower than the average of $101.20.

The tax data for Percy indicate an unexpected high in 1889; however, the data is primarily from businesses with few other residents (Table 65). The twentieth century data does reflects a steady growth in the community reaching a high in 1919. This parallels the known data concerning the peak period in the town's growth.

In 1889, the town of Percy included 1 doctor (with taxable personal property valued at $127), 1 telegraph operator ($8), 1 potato shipper ($225), 2 farmers ($112 and $70, respectively), 2 merchants ($400 and $425), and 3 unknown occupations ($0, $8, $80). The stores were owned by two sets of partners, one of which was Worley and Gadberry, who operated the store evidenced archaeologically by feature 6. Both stores appeared to be operating at equivalent levels. The farmer with the $112 valuation was the owner/occupant of structure P. His real estate was valued at $954, while the other farmer had no real estate.

The 1888 data for Dunreath included at least one store with personal property taxed at $315 and real estate at $125. Other known occupations included 1 doctor (with taxable personal property valued at $205), 1 carpenter ($0), 1 telegraph operator ($10), 1 barber ($5), 1

school teacher ($0), 1 broommaker ($1,588), 1 attorney ($8), 1 coal mine pit boss ($91), 5 miners ($47, $15, and 3 at $0), and 19 of unknown profession with personal property valuations ranging from $0 to $423. The high personal property valuation for the broommaker is somewhat surprising considering the lower property holdings of the merchant, doctor, and attorney, professions typically considered to be at a relatively higher (or at least equivalent) social and economic level than a craftsman. The identification of the broommaker's profession comes from the 1885 Iowa State Census data. By 1900, this individual's profession was listed as laborer, and his personal property valuation at that time was $0. Furthermore, according to the 1885 tax list, the broommaker then had personal property valued at $80. It is suggested that the dramatic increase in his property valuations by 1888 indicate income from a source other than just making brooms.

Comparisons of the store operations in both Percy and Dunreath ca. 1888-1889 indicate relatively equivalent operations, with the taxable personal property valuation somewhat lower for the Dunreath store. Another interesting comparison is between the two town's doctors and telegraph operators. Both doctors had either above average or near average personal property valuations, with the doctor at Dunreath at a higher level. The telegraph operators (or depot agents) were at the low end of the scale with valuations of $8 and $10. Grant (1983:94, 102) has noted that while the small town depot agent was an important and valued member of the community, his financial compensation was modest at best. Therefore, the personal property valuations for these individuals might not be an accurate reflection of their social status in the community.

Tax data was available for Percy in 1899. The average value of real estate was $251.30, and the average value of taxable personal property was $80.00. At that time, the town included at least one known merchant (with taxable personal property valued at $400), 1 doctor ($104), 1 potato shipper ($0), 1 grain dealer ($0), 1 railroad worker ($159), 4 farmers ($0, $18, $159, and $436), and 8 unknowns (ranging from $0 to $33). The farmer with the $18 valuation was the owner/occupant of structure P, and his real estate was valued at $636. The store represented was that of Worley and Gadberry, and it is known that by this time Worley was occupying structure I. The grain dealer was Neal Shaffer, who would later occupy structure F. By 1902, his taxable personal property had only risen to $4.

In 1902, the town of Percy included 2 merchants ($275 and $457), 2 railroad workers ($89 and $38), 2 laborers ($17 and $0), 2 farmers ($281 and $48), 1 boarding house ($0), 1 grain dealer (the above noted Neal Shaffer at $4), and 10 unknowns (with valuations ranging from $0 to $210). The merchant at $275 represented the Cowmans' operation of the store evidenced by feature 6, while the merchant at $457 was the Walker Leuty store evidenced by feature 111. This was the latter's first year in operation, and his listing included both the store and his house (i.e., structure E). The boarding house was that operated by John Brown and his wife at the Oswald house (structure D).

The town of Dunreath in 1902 was much smaller than that indicated in the 1880s tax lists. It included 1 doctor ($746), at least 1 merchant ($615), 1 attorney ($0), 5 laborers ($5, $6, and 3 at $0), 3 farmers ($213, $120, and $22), 6 coal miners ($27, $5, $7, and 3 at $0), and 14

unknowns (with valuations ranging from $0 to $198). The doctor was the same individual as that recorded in the earlier tax listings. His increased personal property holdings likely reflect his advancing age (correlated with wealth accumulation) as well as his lengthy establishment in the community. The merchant appeared to be doing fairly well despite the declining coal mining industry. His personal property valuation was substantially higher than that of both merchants in Percy.

By 1910, the town of Percy included 2 merchants ($535 and $630), 1 boarding house ($303), 1 possible railroad worker ($223), 3 laborers ($232 and 2 at $0), 2 blacksmiths ($103 and $0), 2 carpenters (both at $0), 4 farmers ($143, $46, $38, and $0), 1 carpenter/bank cashier ($50), 1 depot agent ($15), and 11 unknown (with valuations ranging from $0 to $182). The depot agent was Clarence Taylor, who was then occupying structure d. The laborer with the $232 valuation was W. F. "Wild Bill" Cowman, who was associated with feature 108, the keyhole cellar behind the Leuty/Cochran general store. His taxable personal property valuation had risen from $17 in 1902 and would rise to $257 by 1919. His real estate holdings, which included the portion of the lot on which feature 108 was located, were valued at $40 in 1902 and $61 in 1910. His higher than average personal property valuations for 1910 and 1919 seems somewhat at odds with his reputation for never doing much, or "setting the world on fire" (Schrader 1988), nor does it fit with the small "shack" in which he and his extremely large family were known to have resided. Of course, the collective memory best recalls a time after the 1910s, when Cowman's fortunes might have taken a turn for the worse. The two merchants included J. L. Cochran, then operating the store evidenced

by feature 111, and Homer Hays, who was operating the store represented by feature 6. Both appeared to be operating at an equivalent level. The boarding house represents the John Cowman occupation of structure I, and the relatively high taxable personal property valuation of $303 suggests that business must have been fairly good. The real estate valuation of this property was also high at $317.

In comparison, in 1910 the town of Dunreath consisted of 1 merchant ($0, although the real estate was valued at $110), 1 railroad foreman ($6), 1 barber ($0). 1 boarding house ($0), 1 laborer ($7), 3 railroad workers ($40, $30, $0), 1 farmer ($234), and 16 unknown (ranging from $0 to $155). Only the farmer appeared to be prospering in Dunreath at this time. It was obviously a time of decline for the community.

The contrast between the fortunes of the two towns became pronounced by 1919 (Table 65). Percy included 2 merchants ($750 and $775), 1 boarding house ($41), 3 laborers ($257, $0, $0), 2 blacksmiths ($300 and $40), 2 farmers ($40 and $0), 1 carpenter ($0), 1 banker ($135), 1 railroad worker ($16), 1 depot agent ($0), and 13 unknowns (ranging from $0 to $800). Clarence Taylor was still the depot agent and lived in structure d. The boarding house was that run by the Cowmans at structure I, and it should be noted that the tax record further indicated that Cowman had $1,700 in "total money and credit," thus indicating that the low $16 personal property valuation did not accurately reflect his personal worth. The two stores included that of J. L. Cochran (feature 111), whose taxable personal property was valued at $750, and C. A. Miner ($775), who was then operating a store in the

concrete block building across the street from his former store (feature 6). Cochran was also then living in structure E.

Dunreath in 1919 consisted of 1 known store ($198), 1 barber ($6), 1 railroad foreman ($26), 4 laborers (all at $0), 2 miners ($109 and $0), 1 farmer ($179), 2 railroad workers (both at $0), and 22 unknown (ranging from $0 to $236). Once again, the tax data indicate an overall decline in the taxable personal property and real estate values of the town, corresponding to its known development.

In general, the tax data for both towns indicate that merchants, doctors, and farmers ranked consistently high in personal property valuations, while laborers, railroad workers, telegraph operators (depot agents), and coal miners generally ranked low.

Oral Historical

All of the oral history informants for the project were asked whether there were individuals in town who were considered better off or more well-to-do than others in the community. They were further asked that if there were individuals considered more wealthy than others, did these individuals interact socially with the rest of the town.

The informants for Dunreath all recalled a town in decline, and their consistent reaction to the above questions was that the people of Dunreath and the surrounding neighborhood were all "pretty much hand-to-mouth" and at the "same level economically" (Mohler 1988; Nichols 1988a). However, Nichols (1988a) went on to note that:

> of course the storekeep was considered tops, but finally even he didn't have anything. People owed him bills and couldn't pay. The depression hit and the mines went down. When they went down everything went down!

Both Nichols (1988a) and Mohler (1988) mentioned that the LeGrand family were considered at the very highest level when their farming and cattle raising operations were at their height. John LeGrand eventually owned much of Dunreath, and some of the remaining residents worked for his operation. Sam Emerson was another prominent farmer/land owner in the area, but neither Emerson nor LeGrand ever lived in Dunreath. Both suffered a similar economic and personal fate during the Great Depression.

> LeGrand had owned all this ground and he was the top man around here. And Sam Emerson up north, he was the same way--he had lots of stuff. They both killed themselves during the Depression (Nichols 1988a).

Correlating the oral historical data with the tax data from 1910 and 1919 indicates that the farmers were better off on the average than the known town occupations of railroad workers, barbers, laborers, and coal miners. For both tax years, 75-76% of the identifiable Dunreath population had below average taxable personal property valuations (Table 65). The highest personal property valuation in 1910 was for a farmer, but the highest valuation in 1919 was for an unknown profession. Although the storekeeper had no listed taxable personal property in 1910, he did have $198 worth in 1919, well above the average valuation.

In general, the identifiable Dunreath coal miners appeared to have had little taxable personal property for all the available tax years. The pit boss did have higher valuations over that of the miners for the two years (1885 and 1888) that he was listed but was still below average compared to others in the town.

From a study of oral historical and census data, Schwieder (1983:166) noted that:

> the distinction should be made between populations that lived in coal camps and those that lived in incorporated communities. In the latter, residents had far greater opportunities for education, social activities, religious activity, and employment. Census data from the incorporated communities of Beacon, Cincinnati, and Seymour indicate only slight differences, if any, between coal mining and other resident populations in the areas of sex ratios, religious preference, number of children, total size of households, and total number of employed persons in the households. [However,] substantial differences appeared in the areas of unemployment and income, with coal mining families earning less money and experiencing higher rates of unemployment.

While Dunreath was not an incorporated town, neither was it a coal camp. Oral historical data indicate that the Dunreath coal miners were an integrated part of the community, with many of the permanent residents having worked in the mines at one time or another in their lives. The ethnic backgrounds of the coal miner population reflected a diversity of nationalities, and while one informant spoke of groups by their nationalities, he indicated that social interaction was the norm (Nichols 1987). Therefore, its history more closely approximates that described above by Schwieder (1983), with the tax data appearing to correlate relatively lower economic levels with coal miners.

Schwieder (1983:168) further noted that to compensate for lower income and seasonal employment, miners' wives played a crucial role in supporting the family. They often kept boarders and "earned money by sewing, washing clothes, and selling extra dairy and garden produce" (Schwieder 1983:168). Botanical data from the suspected coal miner house sites in the present investigation indicated gardening activities. This produce would have at least gone for the supplement of family

subsistence, but it can be speculated that it served as an additional source of income for these families. The practice of taking in boarders was also common in the Dunreath area. Mrs. Rule (structure 14) operated a boarding house at one time, as did the Mohler family (Mohler 1987, 1988). It is also known that the Findlows operated a boarding house by the mine northeast of Dunreath. The 1895 population census, in particular, indicated that boarders were common in many households. One to two boarders was the norm, although some households had more.

As for Percy, oral history informants also noted that "people were pretty much equal" (Schrader 1988), although there was a greater tendency to single out the merchants and bankers as being at a higher level than others in the town. Cowman (1988) noted that the banker, Jack Leuty, "owned a lot of land" and was his landlord for a time. Kain (1988) also noted that "Leuty ran the bank--he was pretty well off--and had inherited a lot of land south of Percy." Leuty did own and occupy one of the larger homes in town (i.e., structure M) and was the Justice of the Peace in addition to being the town's only banker in the 1920s-1930s. The 1919 tax data indicate that while Leuty's taxable real estate valuation of $138 was above average, his personal property valuation of $135 was slightly below average (Table 65). Therefore, from all known data it would appear that while Leuty might have occupied a higher economic level if not status level above others in the town, the actual divergence did not appear to be great in 1919.

The oral informants for Percy most consistently placed the merchants at the higher level, although one informant noted that "the storekeepers were just common people" (Schrader 1988). J. L. Cochran was

often perceived as being at a higher economic level in town; however, Kain (1988) noted that at the time of his death in 1942, Cochran did not have much money and that "everyone was surprised...because he had always seemed to be doing good." Available account book and tax data do indicate that there was a time when Cochran was "doing good," but the burden of carrying so many people during the Great Depression obviously took its toll on his income and savings. His family was not left penniless, however, and they retained possession of one of their two houses and the store until Lake Red Rock acquisition. They sold the one house to the Findlows but leased the other house and store.

Tax data for the other, earlier merchants in Percy also indicate that they were at a higher level in both real estate and personal property valuations compared with other occupations. Oral history data from both Percy and Dunreath indicate that the status of merchants in the community appears to have always been high, even though this did not always coincide with personal wealth, particularly by the 1930s. This higher status level is not surprising considering that the storekeeper performed one of the most vital services to the town--providing people with the basic necessities of life. Added to their financial burden was the common practice of extending credit to those down on their luck and accepting trades instead of requiring cash payments. Cowman (1988) and Kain (1988) both noted that early in their married lives neither would have survived if it had not been for J. L. Cochran and Bill Findlow.

When asked if any people were better off than others or considered at a higher level, Mr. Kain (1988) noted that "yes, there was," but that in those days you "didn't have to have so much to be a rich man...you

could easily retire on $10,000 or $15,000." He considered Press Cowman as one of the richest men in town because Press had enough money to live on as well as to loan out. Cowman was retired when he lived in Percy and had made his money by farming. He was also J. L. Cochran's father-in-law and lived for a time in structure E, one of the smaller houses in town.

Some informants noted individuals who were considered poor, but as Mr. Kain (1988) commented, "nobody you might say lived on the wrong side of the tracks." Everyone socialized with one another, and no one was necessarily looked down upon (Kain 1988), although there were a few who were consistently characterized as "never known to have done much" or "never set the world afire" (Cochran 1989; Kain 1988; Schrader 1988). It should be noted, however, that these statements were always made with humor and acceptance that these were just people's quirks rather than statements of inferiority. In sum, the tax and oral historical data indicate that there were differing economic levels within Percy, but oral history further indicates that socially these differences were not great.

Architecture

The architecture of the structures standing at the time of Lake Red Rock acquisition have been analyzed in terms of form, type, and potential socioeconomic indicators. A total of 87 structures was surveyed, 18 at Dunreath and 69 at Percy. This included 24 houses, 7 commercial or civic buildings, and 56 barns and outbuildings. The term "vernacular" is used herein to designate a wide range of folk house types, i.e., common dwellings built by their original occupants or by people very much like them (Wyatt 1987:4-5; see also Glassie 1969;

Kniffen 1965). In general, vernacular houses combine functional construction with free use of native materials. While mirroring traditional notions of convenience and utility, they are usually built without any conscious effort to mimic current architectural fashion.

Like the term vernacular, "style" is one of the most abused words in the architectural lexicon. Houses of style differ fundamentally from vernacular houses in that they were created by schooled, self-conscious, and professionally trained architects or builders. As understood by culture historians, style is essentially a fad or fashion, and architectural styles refer to conceptual ideals that characterize historic architectural periods, e.g., Greek Revival and Queen Anne (see McAlester and McAlester 1984:4-19). Of course, some stylized architecture is only a skin-deep embellishment, like Victorian gingerbread or Tuscan columns, which can be found on vernacular houses.

Of the 24 residential buildings recorded at Dunreath and Percy, 23 could be classified as examples of vernacular architecture. The most numerous house type in evidence was the Gabled Cottage; 8 of these small utilitarian houses were identified in the survey, 5 in Percy and 3 in Dunreath. Gabled Cottages have been a staple of American home builders since the early 1900s. They are common in railway villages and as extra houses on farmsteads throughout the Midwest. The classification is somewhat imprecise: architects and lay people have used "cottage" to describe anything from an elaborate suburban dwelling to a lakeshore vacation home. In the context of Midwestern rural vernacular architecture, however, the Gabled Cottage classification is applied to a set of small, unpretentious dwellings that lack stylistic embellishment.

Older examples may be derived from the "One-and-a-Half Cottage" folk house of New England origin (Wyatt 1987:34-35), but most of the Gabled Cottages found in Dunreath and Percy seem to be Northern versions of the Lower Mississippi Valley Southern Bungalow or "Shotgun" folk house.

The most common version of the Gabled Cottage, seen in structure 3 (Tract No. 733) and structure 2 (Tract No. 734) at Dunreath, and the William Good house (Tract No. 1342) and structure N (Tract No. 1372) at Percy, was a linear, front-gabled three- or four-room house with a linear ground plan, most often with enclosed front porches and rear additions. Structure 13 (Tract No. 731) in Dunreath, structure E (Tract No. 1351) and structure A (Tract No. 1353) at Percy had compound plans, with ells or additions appended at right angles to the linear core of the house. In all examples, porches and appendages were less than room-sized. The William Good house (Tract No. 1342) in Percy was the only side-gabled variant of Gabled Cottage in the project area. All of these were very simple houses, essentially places to eat and sleep, with few amenities.

It has been hypothesized that the variation in house size, particularly in the town of Percy, was indicative of socioeconomic variation (Rogers 1988:186-187). The most obvious postulations would be that large houses were built by and for people of higher economic level, while the small houses were for those of a lower level. Considering that the Gabled Cottage is a small structure, it might correlated with individuals of a lower economic level. The William Good house in Percy was a small, three-room house originally used a saloon for the railroad gang which laid the tracks at Percy. It was subsequently owned and

occupied by Good for much of its history. He was a laborer, but one whom oral history informants recalled as never doing much in the way of work (Kain 1988). Tax data indicate that in 1902 and 1910, Good had $50 and $15, respectively, of taxable real estate, with no taxable personal property for either year (Table 66). He was listed as "exempt" from taxes in 1919. The pattern was much the same in 1927, when Good had $54 of taxable real estate and no taxable personal property. In this case, the small house size and a lower economic level appears to correlate.

Structure E was a Gabled Cottage with a compound plan and was somewhat larger than the William Good house but still categorized as a small house relative to others in the town. The primary owner/occupants of this small house were merchants and for a time a retired farmer, Press Cowman. The merchants included Walker Leuty and J. L. Cochran, whose store operation was represented archaeologically by feature 111. The tax data for both the Leuty and Cochran store operations (including the property on which structure E was located) showed relatively high taxable personal property, and from all indications the store was a fairly prosperous enterprise until the 1930s (Table 66). Press Cowman was also considered by one oral history informant to have been "about the richest man in Percy" (Kain 1988). From these data it would appear, in the case of structure E, that house size does not correlate with either economic or social standing in the community. It is known, however, that the Cochran family eventually moved into a larger house, and structure E might best represent their first available housekeeping setup before their store enterprise was going strong. Its small size also served as a nice retirement home for Cowman, despite his ability to purchase a

Table 66. Personal Property Taxable Valuations and Known Structure and Occupation Associations for the Townsite of Percy.

Structure/ Occupation	Tax Year 1889 $	1899 $	1902 $	1910 $	1919 $
Structure d/ depot agent	-	-	-	15	0
Structure P/ farmer	112	18	-	-	-
Feature 6/ merchants	425	400	275	630	-
Structure G/ blacksmith-carpenter	-	-	-	0	0
Structure I/ boarding house	-	-	-	303	41*
Feature 111 & Structure E/ merchants	-	-	457	535	750**
Structure e/ restaurant	-	-	-	223	-
Feature 108 house site/ W. F. Cowman-laborer	-	-	17	232	257
Structure M/ banker	-	-	-	-	135
Structure b/ carpenter/bank cashier	-	-	50	-	-
Wm. Good house/ laborer	-	-	0	0	-

* = $1,700 total money and credit
** = $500 total money and credit

larger home. The smaller house may simply have been more comfortable and convenient for a single individual. The Cochrans retained possession of the house and used it as a rental property for a number of years.

Seven specimens of the Gabled Ell House type were documented, 5 in Percy and 2 in Dunreath. This was the familiar Midwestern farmhouse that dominated much of the rural landscape in the Midwest and Northern

Plains. It was also known in the literature as the Gable-Front-and-Wing or the Upright-and-Wing folk house and was sometimes identified simply as the L- or T-house. In its central Iowa context, the Gabled Ell should be regarded as a vernacular house in the New England architectural tradition--one geographer called it "the most characteristic architectural fossil left behind by migrating New Englanders" (Lewis 1975:150). Availability of sawn lumber and easy balloon frame construction techniques made the Gabled Ell the norm for rural houses erected between ca. 1860 and 1920. Most of the Gabled Ell houses in the project area were devoid of stylistic details; however, the exposed rafter tails on the unoccupied structure 14 at Dunreath (Tract Nos. 728, 730, 746) suggested Craftsman style influences, while the pedimented door and window surrounds on structure R (Tract No. 1317) echoed the older Greek Revival. It is known that one of the original occupants of structure 14 was a carpenter, and it may have been that he actually built this house. Some of these houses grew in stages, with additions to meet the changing needs and rising expectations of the owners, and evolved into relatively large houses.

One of the Gabled Ell houses at Percy was structure P, the farmstead south of the railroad tracks and examined in the present archaeological investigation. This was previously categorized as a large house relative to others in the town (Rogers 1988:186-187). The main owner/occupant associated with this house was the Jones family. The 1889 tax list indicated that Elisha Jones, then owner of the farmstead, had taxable real estate valued at $954 and personal property of $112 (Table 66). By 1899, his real estate was valued at $636 and his personal

property at $18. The latter valuation was well below average, but the $112 valuation was only slightly below average for the respective tax years. The real estate valuations, however, were both well above average. The tax data from both Percy and Dunreath consistently showed farmers at the higher levels, and a positive correlation in this case between a large house size and higher economic level can perhaps be proposed. Around the turn of the century, the structure housed a number of boarders in addition to the resident owner, showing a functional use of its larger size. The remainder of its twentieth century history was characterized by tenant occupations.

Another of the Gabled Ell houses was structure F. This was a smaller house than that of structure P, and it was categorized as a medium-sized house. The two occupants most strongly identified with the early history of this house were Neal Shaffer and Mike Kingery. Shaffer was a grain dealer in the early 1900s, and Kingery was characterized as a "happy-go-lucky Irishman" who did just about everything for a living (Cochran, personal communication 1989). Kain (1988) noted that like Press Cowman, Mike Kingery was one of "them old fellows" who had enough money to loan out to others. According to the tax data, Shaffer had little taxable real estate or personal property in the two years in which he was listed (i.e., 1899 and 1902). This does, however, predate his occupation of structure E. Mike Kingery was listed in the 1927 tax list as the nonresident owner of the lots on which structure E was located, with a taxable valuation of $149.

Another of the subsequent occupants of structure E was the Findlow

family, who lived in this structure when they first moved to Percy. They had previously operated a boarding house and coal mining operation near Dunreath and upon moving to Percy became involved in the restaurant business (i.e., structure e). From all indications, this family was relatively well-off and was able to build another business when the recently purchased restaurant burned to the ground. From these data, it would be difficult to characterize this medium-sized house as a specific economic indicator. However, it can be stated that some of the individuals who occupied this house were "comfortable" economically and can perhaps be categorized at a middle to upper level relative to others in the community. It should be noted, however, that this was an old house not built on this property but moved first from a farmstead and then again from another lot in Percy. As such, its original value was likely lessened because it was a "used" structure out of its original, intended context. Therefore, its context in Percy might have been one of cheaper housing totally unrelated to size.

Two specimens of the Hipped Cottage type were found in Percy. This was a national folk house type dating from ca. 1900-1930 and more common in the Southern states. In contrast to the Gabled Cottage, the type was characterized by a nearly square ground plan, which allowed for a slightly more spacious house. The lapped board siding with cornerboards and six-over-six doublehung windows on structure j in Percy (Tract No. 1350) may have been inspired by the Colonial Revival Style and echoed the "Folk Victorian" house building tradition, which dated from ca. 1870-1915. The colonnaded front porch and gabled bay on structure d (Tract No. 1357) was a good example of some local carpenter's

inventiveness and calls to mind the pattern book architecture popular during the bungalow-building boom of the late nineteenth and early twentieth centuries.

Structure d was built for and originally occupied by Clarence Taylor, the Percy depot agent. As noted previously, depot agents typically held an important position in the community because they were the town's vital communication and transportation link with the railroad, but for this service they received only a modest income. The tax data reflects this for Taylor, who had well below average taxable personal property in 1910 and 1919 (Tables 65 and 66). However, his real estate valuations for the lot on which structure d was located were above average at $200 and $175, respectively. Perhaps it could be stated that the medium size of the house structure, along with some embellishments such as the bay window, reflects a modest but well-invested income in addition to being a complement to his position in the community. Another potential indicator of a socioeconomic level above that of the lowest level was the well-constructed, substantial tile block cellar designated as feature 50. This cellar represented a greater economic investment compared to the average wood-lined cellar at other house sites in Percy but was likely not as expensive (or as pretentious) as the brick cellar (feature 90) at structure I. The latter may have been built for a merchant who appeared to have a high economic standing in the community.

Structure H in Percy (Tract No. 1348) was the only authentic Bungalow in the architectural sample. The Bungalow was an Anglo-American translation of an East Indian folk house and was the most popular house

built in America between 1900 and 1940. A vernacular house, the Bungalow was also in a sense an example of propaganda architecture, i.e., the Bungalow idiom stressing simplicity, informality, and flexibility that was propounded by the progressive housing movement in pattern books and builder's guides like The Craftsman, Architectural Record, Good Housekeeping, and The Ladies Home Journal in the early 1900s. This house was moved onto this site from a nearby farm in 1924. From that time on, it served as the residence for two of Percy's merchants, Clarence Vanderlinden followed by Bill Findlow. While not a large house, it was attractive and spacious--a structure complementing a merchant's status in the community but not in a pretentious way. Its modest size might also reflect the declining economy of the town after the 1920s, when a larger house might have been out of reach financially even for a higher socioeconomic position such as a merchant.

The Corn Belt Cube house type, also known as the American Four-Square or Builder's Cube, was the chronological successor to the Gabled Ell and was widely regarded as the mascot of the early twentieth century boom in commercial agriculture. One specimen was recorded in Percy--structure I (Tract No. 1349) and one in Dunreath--structure 11 (Tract No. 725). The Corn Belt Cube was what the prosperous farmer or village merchant wanted as the symbol of his family's standing in the community. It is known that structure I at Percy was built for John Worley, a local merchant in the 1890s. He and his partner operated the neighboring store evidenced archaeologically as feature 6. This large house is the most positive architectural/economic correlation in the town of Percy. Tax data showed that Worley's store and real estate both had high tax

valuations and was operating at a level competitive with other stores in the community (Table 66). A further possible indication of Worley's high socioeconomic standing in the town was evidenced by the relatively elaborate brick cellar designated as feature 90. This cellar appeared to be unique at the townsite and was clearly a "step above" the wood-lined cellar evidenced at most of the house sites. As such, it would have been another physical symbol of the family's personal wealth and standing in the community.

The later history of the house was primarily as a boarding house or hotel; therefore, its large size and original pretension as a status or economic symbol was later more indicative of function. However, tax data showed that, particularly in 1910, the Cowman boarding house had real estate and personal property tax valuations well above average (Tables 65 and 66). In contrast, oral historical data indicate that the later boarding house operation by Ben Roush and his wife was something less of a success. Kain (1988) noted that:

> Ben Roush never did have anything...he was just like the rest of us. Ben worked on the section and ran the hotel, but they never did have much.

Therefore, the large size of the house eventually became more reflective of its function than as a symbol of economic or social status.

Because of its cube shape, this type of house had a floor plan that was ill-adapted to the harsh extremes of the Iowa climate. Over the years, the owners of structure I tried to overcome this defect with the additions that wrap around the side and rear of the house. The large front porch typical of Midwestern Corn Belt Cubes was conspicuously absent: the entry portico on the house functioned as a decorative detail

only, suggesting that the house's occupants rarely used the front entry except for ventilation.

Structure M in Percy (Tract No. 1363) was a specimen of vernacular architecture known as the Box or I-House. Simple side-gabled houses were a traditional expression of Northeastern folk architecture that came west with the railroads in the mid-nineteenth century. The house was elaborated with an enclosed porch and a one-story rearward addition. Stucco and aluminum combination storm windows and doors were added to make this otherwise very old-fashioned house appear more modern. This house was built and occupied by Jack Leuty, the town banker and Justice of the Peace. As noted previously, many oral history informants placed him at a higher economic level than others in the town. While not a particularly pretentious house, it was larger than the majority of houses in Percy, and the use of stucco was unique. It can perhaps be postulated that in this case the large house size appears to correlate positively with a higher socioeconomic standing in the community.

Structure G (Tract No. 1348) was an example of the Gable-Front house type. The type is best understood in the context of "Greek Revival Vernacular," i.e., an undecorated version of the classically styled house. This type of modest "cottage" dwelling was popular throughout the Midwest between ca. 1900 and 1920. As a national folk house type, it may be viewed as an early prototype of the Bungalow and the Craftsman movements. This structure was built and primarily occupied by John "Booker" Brown and his wife. He was a blacksmith, carpenter, and jack-of-all-trades but was not noted for having much in the way of money. Tax data showed real estate valuations of $50, $48, and $60 for 1902, 1910,

and 1919, respectively, but no taxable personal property (Table 66). Once again, this appears to correlate a small house size with a lower economic level.

The only house of style, structure b in Percy (Tract No. 1361), was a Craftsman Bungalow, sometimes referred to as the Arts and Crafts Style (see Clark 1972; Smith 1983). While nearly devoid of ornamentation, structure b nevertheless embodied many of the tenets of Gustav Stickly and other members of the progressive house movement (ca. 1905-1930), e.g., the low-pitched gable roof with wide eaves and exposed rafter tails, the eave wall chimney, the integral front porch, and the unbalanced arrangement of windows along the sides of the house. This was probably a contractor-built pattern book house, although probably not one of the pre-cut, mail-order houses that occasionally turn up in surveys of small towns throughout the Midwest. However, the house was built for Edgar Roark, a carpenter/bank cashier, and it is possible that he built the house himself using a pattern book. The house was built in 1910, and the tax data for that year indicated that Roark had $50 of taxable personal property (Table 66). Tom Fawcett and his family were the final occupants, and they operated a garage, one of two surviving businesses in the 1960s. It appears from the sketchy data that the individuals who occupied this house made a comfortable living but would not have been considered wealthy. The medium size of the house structure might then correlate with a moderate economic level.

Seven civic and commercial buildings were also identified in the survey. Two of these, the Marion County shop and the church/school, were in Dunreath. Percy's relict business district contained a bank, the

general store, the barbershop, an auto repair shop, and the office of the Justice of the Peace.

The Percy Savings Bank building was the result of small town businessmen's attempts to make their simple, flat-topped office appear larger and more pretentious like the flat-roofed masonry buildings in the big cities. The roof was stepped, a common alternative to the false-fronting techniques commonly applied to wooden commercial buildings. Like many small town buildings of pretension, the walls were fired brick: the bankers wanted to create an urban atmosphere for their customers. However, the history of Percy businesses was commonly one of destruction by fire. The construction of this building and the once adjacent concrete block store/Oddfellows Hall followed in the wake of several destructive fires, and the respective building materials might be more indicative of precautionary measures against fire.

The barbershop (Tract No. 1347) and general store (feature 111) (Tract No. 1351) in Percy were examples of the traditional country store form: built of wood, longer from front to back than wide, with their gable roofs oriented perpendicular to their narrow facades, and small additions to the side or rear. The type was vernacular but was also a legacy of the Greek Revival Style (see Hamlin 1944). Virtually all of the small railway villages and farm trade centers in the Midwest have buildings very similar to these, which constitute cultural relics of the commercial fluorescence of the period from ca. 1880 to 1920.

The office of the Justice of the Peace (Tract No. 1363) was an architectural hybrid, combining elements of traditional classical revival styling and eclectic character defining details. The side-gabled

livestock (possibly adapted for machinery storage), while it may be surmised that the fairly spacious upper level contained a hay mow and possibly a threshing floor and grain bins.

The corn crib on the structure P farmstead (Tract No. 1312) at Percy was another traditional Midwestern form, with two cribs with lean-to roofs built facing each other to form a single gable roof; the grain handling equipment was in the upper portion of the central area, while the ground level was probably used to store machinery. The double corn crib at Dunreath (Tract No. 725) was similar in function but smaller in size than that at structure P. The structure b barn (Tract No. 1361) in Percy, on the other hand, was a small livery or wagon shed housing one or two horses and fodder.

Forty seven accessory buildings were surveyed at Dunreath and Percy. These were mostly small, utilitarian structures made from boards, shingle, sheet metal, or tarpaper. Some were constructed with recycled materials such as salvaged lumber, scrap sheet metal, and secondhand doors. Others were built in stages and evolved from one unit to two. While a few were built as multipurpose structures and were put to a variety of uses at different times, most served only a single specific function. They included automobile garages, storage sheds, chicken coops, outhouses, a hay shed, a wash house, and a summer kitchen.

The appearance of most of these buildings was largely determined by function. For example, the poultry houses in which hens were kept to provide eggs and meats were simple, shed-roofed structures, rarely more than 6 to 8 ft high (to reduce air space and heating requirements). The west, north, and east sides were solid boards, but the south sides were

almost all windows and doors to admit heat and light. Some appear to have been converted to hog houses.

Storage sheds were built since the earliest days in both communities as shelters for agricultural produce, tools, buggies, and farm machinery (and after ca. 1900 for automobiles). Those present in the 1960s represented several different vernacular building types but generally lacked decoration. Many had dirt floors, with the walls resting directly upon the ground. Perhaps the most interesting character defining detail was the exposure of the roof rafter tails under the eaves of a few of the sheds in Percy, which suggests a borrowing from the Craftsman and Bungalow movements. On several otherwise undistinguished structures, a picturesque character was sometimes achieved by using vertical board and batten siding to exaggerate the vertical aspect. Small multipane windows were sometimes added to garages to make them look more like domestic buildings. A few progressive property owners "tricked out" their outbuildings with extra molding, drop siding, or imitation brick composition shingle wall cladding in an attempt to add character. Most of the outhouses at Percy were conventional and lacked conspicuous ornamentation, although in a few cases the privy represented a better piece of architecture than any of the other outbuildings on a particular property.

In its local context, the wash house at structure A (Tract No. 1353) can best be described as eccentric. The building appeared to have been prefigured, i.e., designed from the outside-in, using a preconceived shape without regard to interior functioning. The unique overshot

roof was borrowed from an Upland South folk building tradition. Given that a number of structures in Percy were moved in from neighboring farms, it is entirely possible that this structure was also moved and therefore was not in its original context.

Building construction at both Dunreath and Percy was spurred by the availability of materials, particularly lumber. Local builders used pine boards and cedar (after ca. 1930 composition) shingles purchased from local lumberyards or shipped by rail from mills in the Mississippi River Valley or the Pacific Northwest. Some outbuildings and perhaps a few houses were constructed with locally produced lumber. Narrow-reveal clapboard and lapped board siding was probably the most common wall cladding on houses constructed prior to ca. 1915; after ca. 1900, wide-reveal lapped board, flushboard, and drop or shiplapped siding were popular. Stucco, a popular finish for "modern" houses after ca. 1915, was used on only one dwelling. Composition shingle wall sheathing (i.e., shingles) came into extensive use after World War I. Split wood shingles were the most common roofing material for pre-1940 houses; however, as the original wood roofs deteriorated, most were replaced (or covered over) with composition shingles by the 1960s. In addition to forest products, brick and cement for building construction were also imported; however, the concrete foundation of structure d was made from a crude mixture of local materials. As noted previously in this report, local bricks might have been used, but there was evidence that brick and tile were brought in from Des Moines and Missouri by train despite local availability. The foundations of structure G, feature 111, feature 6, structure I, and structure P all utilized locally available sandstone in

their construction. The closest outcropping would have been the quarry at Red Rock, with the rock brought in either by train or wagon.

The general impression of the places that existed at both Dunreath and Percy in the 1960s is that of two rural neighborhoods. The homesteads were commodious, typically combining several town lots, with large setbacks from the street. The typical house site was punctuated with accessory buildings, barns, and sheds which knitted house and outbuildings together in a continuous assemblage of structures with its neighbors, undulating back and forth along the street. Juxtaposed to the residences were agricultural buildings (barns, corn cribs, shed), civic buildings (church/school, Justice of the Peace), and small businesses (general store, bank, barbershop, auto repair shop). Outbuildings tended to be directly associated with adjoining residences or businesses, and accessory structures such as outhouses and garages were usually part of the primary homestead ensemble of buildings. Although the spacing between primary buildings and outbuildings varied somewhat between Dunreath and Percy, the architecture of both villages as a whole was quite sensitive to the scale of houses and outbuildings and their environment.

The predominant residential style-types recorded at Dunreath in 1961 and at Percy in 1965 were variations of one or another of the common Midwest vernacular house building traditions. All were built as detached, single-family dwellings. With a few exceptions, these were small houses, seldom exceeding one and one-half stories in height. The typical house plan was linear or L-shaped, and houses typically had proportions of one-to-two or two-to-one, width to depth; the most common

ground plan was a simple rectangle two or three rooms (excluding porches) deep. Houses with compound plans were sometimes "squared" by appending porches or one-story additions to infill the space between the core and the ell. Massed plan houses, i.e., those with square or rectangular ground plans more than two rooms wide and two rooms deep, were rare. Gable roofs, with either single gables or intersecting gables, were the norm. In both communities, the predominant directional emphasis for houses was with the narrowest facade facing the street, with the open gable end oriented perpendicular to the axis of the roof.

The houses of both villages appear to have been constructed exclusively of wood, utilizing balloon frame structural systems. The predominant wall cladding materials were horizontal boards (i.e., lapped, clapboards, composition board, shiplapped or simple drop siding) and composition shingles (i.e., asphalt roll or asbestos sheathing); modern cladding materials (i.e., stucco, fiberboard, plastic, or metal strips) were also in use. The most common roofing material was composition shingles (i.e., "roll" roofing, asphalt, or bituminous), although older houses and agricultural structures were roofed with split wood (cedar) shingles. Most houses lacked basements and rested on masonry foundations, generally exposing less than 1 ft of poured concrete or block. Small cottages were often on concrete piers or blocks which were buried up to the walls to provide support. At least one small house in Percy (structure G) rested on a stone foundation, and two houses (I and P) had combination stone/concrete foundations.

Fenestration was typically symmetrical, emphasizing balanced facades. Doublehung windows with multipane glazing, wooden frames,

sashes, and muntins were nearly universal; metal combination windows were rare. Exterior doors were paneled or veneered, sometimes with glass panes.

Porches were a standard feature, and many houses had more than one. These were normally constructed as an addition to the core of the house, seldom under the principal roof, and were either open or enclosed to form small rooms. Roofs on larger porches were supported by turned wooden columns; those above grade had railings or balustrades.

The architecture of both Dunreath and Percy was characterized by its plainness. Decorative details were most commonly applied to roof and wall finishes through the use of clapboards, simple corner boards, or imitation brick composition siding; to roof-wall junctions in the form of narrow moldings or trim beneath the eaves or exposed rafter tails; and to small functional details such as door and window surrounds, glazing, chimneys, and porch columns. Consistent with the Midwestern color tradition, the predominant exterior color for houses in both Dunreath and Percy appears to have been white.

Correlations of house size with socioeconomic standing appeared to have some validity at Percy, particularly with structure I. In general, the larger houses were originally owned and occupied by persons considered by other town residents to have been at a higher economic level, specifically merchants and the banker. Another large house was occupied by farmers, who from tax data were found to have been consistently among the higher levels economically at both Percy and Dunreath. One contradictory correlation was noted for structure E, a small house but one occupied by merchants and a retired farmer who was

considered one of the richest men in town. In this case, house size was not reflective of either economic or social status. In addition, the later occupations of structure I were also contradictory to its original correlation with a high economic level. Specifically, during the Roush occupation the house was operated for a time as a boarding house but one which was not very profitable. Roush also worked for the railroad, but even with two incomes the family was perceived as "never having had much." In conclusion, caution should be used in making firm conclusions about socioeconomic status based on house size or type alone. The large house size of structure I may originally have been reflective of wealth and status, but it later primarily reflected its function as a boarding house. Likewise, the small house size of structure E was more an indicator of a transitional house occupied until the store business got off the ground as well as a retirement home for a single individual.

Archaeological

Two potential socioeconomic variables will be examined in this section, specifically, ceramic economic scaling and artifact patterning. Both methods were previously described concerning the farmstead socioeconomic analysis. The only deviation from that methodology is the utilization of ceramic index values formulated by Thomas (1987) and Henry (1987). These two studies attempted to expand the application of Miller's (1980) original technique into the late nineteenth and twentieth centuries. Both utilized ceramic prices listed in reprints of mail order catalogs from 1895 to 1927, resulting in price indices for the 1890s, 1900s, and late 1920s. The present analysis further adapted both studies for the utilization of sherd counts by averaging the index

values for cups and saucers, plates, and bowls. A minimal vessel count study is underway and will be utilized in future analyses of these assemblages. To adapt these indices for sherd count calculations, the prices for cups and saucers, plates, and bowls were averaged.

The formulations by Thomas (1987) for the 1890s and 1900s were utilized to examine selected features from both Dunreath and Percy. Henry's (1987) late 1920s formulations were utilized in the examination of several features at Percy, primarily because of the addition of embossed decorated wares which were not present in Thomas' (1987) late 1920s index. Note should be made of the adjusting of the original porcelain categories from Thomas'(1987) study. Specifically, his original category for the 1890s index was transfer-print/gilt/porcelain, a type which did not occur in the assemblages under examination. Additionally, the 1900s category of decal/gilt/porcelain also rarely occurred in that specific combination. Porcelain was present in the assemblages, however, and to exclude this ware type from the analysis would have significantly affected the resulting average values. It was therefore decided to make this a more generic "porcelain" category but still utilize the given index values. While it is recognized that other types of decoration on porcelain likely had differing values, it was felt that the relative level of porcelain compared to the other categories would remain the same.

The features selected from Dunreath for this analysis included the two cellars (features 2 and 6), one of the privies (feature 3), and one of the refuse pits (feature 4). The latter two features were combined for the ceramic scaling analysis because both appeared to be associated

with the same house site and had approximately the same early 1890s mean artifact dates. Feature 1, an early privy, could not be utilized in the ceramic scaling analysis because only one refined earthenware sherd was recovered from the fill and would therefore have little comparative meaning.

All of the selected features had artifact assemblages dating from the 1880s-1890s except for feature 6, which also included material from the early twentieth century. Therefore, the ceramic assemblages from all features were first examined by utilizing Thomas' (1987) 1890s values, with the feature 6 assemblage further examined by the utilization of the 1900s values.

Table 67 presents the 1890s average ceramic values calculated for the Dunreath features. There was little significant variation between the average values of these features, but feature 6 was at the highest level followed by features 3 and 4 and feature 2. The higher average value for feature 6 reflects the presence of porcelain in this assemblage, whereas it was absent from the others. Considering the index scale of values potentially ranges from 1.00 to 3.49, these features ranked at the low end of the scale.

Table 68 presents the average value for the feature 6 assemblage utilizing the 1900s index values. While still at the low end of the relative scale, the average value of 1.37 is higher than that obtained by the 1890s values. This is the result of the higher prices for porcelains and transfer printed wares as well as the inclusion of decal decorated wares in the early 1900s compared to that of the 1890s.

The features selected from Percy included 3 cellars (features 52,

Table 67. Calculation of Average Ceramic Values for Dunreath Features Utilizing Thomas' (1987) 1890s Values.*

Type	Number	1890s Values	Sum of Number x Index Value	Total Count	Average Value
Feature 2					
Undecorated	38	1.00			
Molded	1	1.13			
Transfer-print	1	1.36	40.49	40	1.01
Transfer-print/ gilt		1.97			
Porcelain**		3.49			
Features 3 & 4					
Undecorated	10	1.00			
Molded	1	1.13			
Transfer-print	4	1.36	16.57	15	1.10
Transfer-print/ gilt		1.97			
Porcelain**		3.49			
Feature 6					
Undecorated	35	1.00			
Molded	8	1.13			
Transfer-print		1.36	51.02	45	1.13
Transfer-print/ gilt		1.97			
Porcelain**	2	3.49			

* = adjusted for sherd counts by averaging the values for cups and saucers, plates, and bowls.
** = the original category was for transfer-print/gilt porcelain, a type which did not occur in this assemblage although porcelain was present.

108, and 110), 2 privies/refuse pits (features 29 and 68), a well (feature 120), the burned store deposit (trenches 4 and 6, and zone G of trench 1), and the town dump episode in the store cellar dating from 1913-1924 (zones A-E in trench 1). These features were chosen because they were datable to the earlier occupations of the town as well as

Table 68. Calculation of Average Ceramic Value for Dunreath Feature 6 Utilizing Thomas' (1987) 1900s Index Values.*

Type	Number	1900s Values	Sum of Number x Index Value	Total Count	Average Value
Feature 6					
Undecorated	35	1.00			
Molded	8	1.62			
Gilt		1.86			
Transfer-print		2.06	72.47	53	1.37
Decal	9	2.24			
Decal, gilt		2.47			
Gilt, porcelain**	1	4.35			

* = adjusted for sherd counts by averaging the values for vessel types.
** = the original category was for decal gilt porcelain.

being the best representatives of its peak period in the first two decades of the twentieth century. It should be noted that for feature 52, all levels were included in the analysis except the east half of the feature. This was because of the inclusion of a portion of the intrusive privy feature 69 in the east half excavation. For feature 108, only zone D (which dated from the 1890s to early 1900s) was utilized in the analysis. For feature 68, only the lower zones (E, F, G, and I) were utilized. Additional features were examined including the cellar and privy at structure F (features 80 and 89) and the well behind structure e (feature 107). These features were datable to the 1920s occupation of the townsite and were examined as a comparative sample. Additionally, the ceramic assemblage from the town dump episode was examined utilizing both Thomas'(1987) 1900s and Henry's (1987) 1920s index values because of the overlap in its utilization period with both the 1910s and the 1920s.

Unfortunately, other features possibly dating from the peak period of Percy, including features 88, 91, 92, and 99 at structure E; 73 at structure G; and 53 at structure d, did not contain ceramic material in sufficient quantities to provide meaningful comparisons. The focus of the analysis was therefore narrowed to the above noted features.

Table 69 shows the calculation of the average value for feature 52 utilizing the 1890s values. The artifacts from this feature had mean ceramic and glass dates from the 1880s and 1890s; therefore, it was felt the 1890s index values best applied to this assemblage.

Table 70 presents the average value calculations from 1900s index values for features 29, 68, 120, 108, and 110 as well as the town dump deposit (trench 1, zones A-E) and the burned store deposit (trenches 4, 6, and zone G of trench 1). All of these features dated from the early 1900s and 1910s and were therefore best represented by the 1900s index values.

Table 71 shows the average value calculations for features 80, 89, 107, and the additional analysis of zones A-E of trench 1 utilizing the 1920s index values. The assemblage from trench 1 encompassed the period from 1913 to 1924, and it was felt that the overlapping of 1900s and 1920s values warranted a comparative examination. The result was a lowering of the average value from the 1900s level of 1.62 to a 1920s level of 1.45. This is primarily the result of lower prices for decal decorated wares and porcelain in the 1920s. Because the town dump deposit primarily dated within the 1900s range, and further that the 1920s index included late 1920s prices, it is felt that the 1900s average value of 1.62 more accurately reflected the rank of the

Table 69. Calculation of Average Ceramic Value for Feature 52, Percy, Utilizing Thomas' (1987) 1890s Index Values.*

Type	Number	1890s Values	Sum of Number x Index Value	Total Count	Average Value
Feature 52**					
Undecorated	28	1.00			
Molded	4	1.13			
Transfer-print	2	1.36	47.68	38	1.25
Transfer-print/ gilt	1	1.97			
Porcelain***	3	3.49			

* = adjusted for sherd counts by averaging the values for vessel types.
** = all levels except the east half.
*** = original category was for transfer-print/gilt porcelain.

assemblage. Excluding the trench 1 deposit from consideration, the ranking order of the features utilizing the 1920s index values from high to low is as follows: feature 89, feature 107, and feature 80. What is interesting about this ordering is the fact that features 89 and 80 are from the same house site (structure F) and likely reflect virtually the same occupation or occupations. One problem in assigning economic significance to these different values is the specialized nature of the feature 89 fill (i.e., a privy) compared to the generalized deposition of feature 80 (i.e., a cellar filled with deposits from the surrounding yard midden as well as purposefully discarded refuse at the time of filling). In addition, the temporal range of the feature 80 artifacts extended beyond the 1920s and may therefore be an inaccurate reflection of the actual ceramic value. As such, the assemblage from feature 89 would better represent the 1920s occupation of structure F.

Table 70. Calculations of Average Ceramic Value for Percy Features and Trenches Utilizing Thomas' (1987) 1900s Index Values.*

Type	Number	1900s Values	Sum of Number x Index Value	Total Count	Average Value
Feature 29					
Undecorated	2	1.00			
Molded	2	1.62			
Gilt		1.86			
Transfer-print	1	2.06	9.54	6	1.59
Decal	2	2.24			
Decal, gilt		2.47			
Porcelain**		4.35			
Feature 68, Zones E, F, I					
Undecorated	93	1.00			
Molded	12	1.62			
Gilt	16	1.86			
Transfer-print	1	2.06	252.65	159	1.59
Decal	16	2.24			
Decal, gilt	10	2.47			
Porcelain**	11	4.35			
Feature 120					
Undecorated	28	1.00			
Molded	10	1.62			
Gilt	1	1.86			
Transfer-print		2.06	68.56	48	1.43
Decal	7	2.24			
Decal, gilt	1	2.47			
Porcelain**	1	4.35			
Feature 108					
Undecorated	50	1.00			
Molded	25	1.62			
Gilt	4	1.86			
Transfer-print		2.06	134.93	95	1.42
Decal	11	2.24			
Decal, gilt	5	2.47			
Porcelain**		4.35			
Feature 110					
Undecorated	14	1.00			
Molded	1	1.62			
Gilt		1.86			
Transfer-print	3	2.06	48.68	30	1.62
Decal	12	2.24			
Decal, gilt		2.47			
Porcelain**		4.35			

* = adjusted for sherd counts by averaging values for vessel types.
** = original category was for decal gilt porcelain.

Table 70. (cont'd.).

Type	Number	1900s Values	Sum of Number x Index Value	Total Count	Average Value
Trench 1, Zones A-E					
Undecorated	140	1.00			
Molded	40	1.62			
Gilt	12	1.86			
Transfer-print	5	2.06	398.24	246	1.62
Decal	15	2.24			
Decal, gilt	11	2.47			
Porcelain**	23	4.35			
Trenches 4 and 6, and Trench 1, Zone G					
Undecorated	686	1.00			
Molded	74	1.62			
Gilt	1	1.86			
Transfer-print	2	2.06	1297.76	968	1.34
Decal	187	2.24			
Decal, gilt	6	2.47			
Porcelain**	12	4.35			

Comparisons of the 1920s average values of the feature 89 assemblage (representing structure F) to that of feature 107, which represents the fill episode of the structure e (restaurant) sandpoint well after 1918, indicate a higher economic level for the structure F assemblage. It is difficult to draw specific conclusions from this ranking because of the different functions of these features (i.e., one is for a habitation site and the other is for a commercial site), but they do provide the initial data base from which future studies can make comparisons. Considering the scale of the 1920s values is from 1 to 2.76, the 1.72 average value for the feature 89 assemblage indicates a rank slightly below the mean of 1.88, perhaps suggesting a middle range

Table 71. Calculation of Average Ceramic Value for Percy Features and Trenches Utilizing Henry's (1987) 1920s Index Values.*

Type	Number	1920s Values	Sum of Number x Index Value	Total Count	Average Value
Feature 80					
Undecorated	23	1.00			
Molded	6	1.17			
Gilt**	4	1.37	54.82	41	1.34
Decal	3	1.84			
Porcelain	5	2.76			
Feature 89					
Undecorated	13	1.00			
Molded		1.17			
Gilt**	5	1.37	60.33	35	1.72
Decal	7	1.84			
Porcelain	10	2.76			
Feature 107					
Undecorated	15	1.00			
Molded	1	1.17			
Gilt**		1.37	33.65	23	1.46
Decal	2	1.84			
Porcelain	5	2.76			
Trench 1, Zones A-E					
Undecorated	140	1.00			
Molded	40	1.17			
Gilt**	14	1.37	389.06	269	1.45
Decal	26	1.84			
Porcelain	49	2.76			

* = adjusted for sherd counts by averaging the values for vessel types.
** = original category was gilt band.

economically. In comparison, the known archival, oral historical, and architectural data concerning the occupations of structure F also suggested a middle range socioeconomic level relative to other occupations in the town.

The 1890s and 1900s values for both Dunreath and Percy features are compared by rank ordering in Tables 72 and 73. The 1890s rank ordering places feature 52 (Percy) at the top followed by Dunreath features 6, 3/4, and 2. The range of values goes from a high of 1.25 to a low of 1.01. Considering the range of the 1890s index values from 1 to 3.49, the average values for the Dunreath and Percy features were well below the mean of 2.24 and would suggest lower levels economically. In contrast, the archival and architectural data from the late nineteenth century occupation of structure P (represented by feature 52) indicated a relatively high economic level. Being below the mean of the index value range does not, however, preclude a higher economic level for feature 52 relative to the occupations of Percy or Dunreath considering that overall both might economically rank below comparable towns in this or other regions. The Dunreath house sites represented by the selected features are suspected coal miner residences, and the documentary data indicated that coal miners ranked economically low compared to other occupations in the town. This suggests that the lower average values for these features compared to that for Percy feature 52 correlates positively with the documentary data concerning the coal miner occupations. The occupation reflected in feature 52 was that of a farmer, and available documentary data indicate this profession consistently ranked at the high end of the scale in both Percy and Dunreath. That the differences between the average values is slight would suggest that the divergence economically between these occupations was not extreme, although it is recognized that the utilization of sherd counts tends to homogenize the resulting average values.

Table 72. Relative Ranking of 1890s Percy and Dunreath Features.

Site/Feature	Feature Function	1890s Average Values*
Percy/Feature 52	cellar	1.25
Dunreath/Feature 6	cellar	1.13
" /Feature 3 & 4	privy & refuse pit	1.10
" /Feature 2	cellar	1.01

* = sherd count calculations

Table 73. Relative Ranking of 1900s Percy and Dunreath Features.

Site/Feature	Feature Function	1900s Average Values*
Percy/Feature 110	cellar	1.62
" /Feature 29	privy	1.59
" /Feature 68	privy/refuse pit	1.59
" /Feature 120	well	1.43
" /Feature 108	cellar	1.42
Dunreath/Feature 6	cellar	1.37

* = sherd count calculations

The rank order of 1900s average values for both townsites in Table 73 once again indicated that Percy features ranked above Dunreath features. Correlating these data with the archival, architectural, and oral historical data indicates that some of the features associated with merchants (features 29 and 110) as well as that associated with the Cowman boarding house occupation (feature 68) ranked at the high end of

the scale, although one of the other features associated with a merchant (feature 120) ranked slightly lower. Those features possibly associated with a coal mine engineer and a laborer (feature 108) and coal miners (feature 6) comprised the lowest two features; however, feature 108 had an average value nearly equivalent to that of feature 120. Considering the general index value scale is from 1 to 4.35, all of the sampled features rank low in comparison. However, as noted above, relative to other occupations in the region the overall economic ranking might be lower for these towns. One precautionary note in the above comparisons is the commercial associations of features 120 and 110. Feature 120 was located outside the general store (feature 111), and feature 110 was behind the restaurant/store (structure f). Because they were not associated with habitation sites, their ceramic assemblages may be more reflective of the commercial operations rather than household use and display and therefore may be less useful as indicators of consumption and consumer choices related to socioeconomics. They do, however, provide data on the ceramics utilized in the restaurant and store operations and likely reflect what was available for purchase at the local stores.

The 1900s average values do indicate some variation in the economic levels, with the most pronounced variation being between the two towns. Intrasite variations were more subtle. Overall, Dunreath consistently ranked at a lower level than comparable Percy features. When only the keyhole cellar features are considered (i.e., features 110 and 108 at Percy and feature 6 at Dunreath), the divergence is greatest between feature 110 (1.62) and feature 6 (1.37). However, as noted above the

commercial association of feature 110 may be less useful in comparisons with actual habitation sites. If these features can be meaningfully compared to one another, then correlations with the other lines of evidence suggests a positive association between a higher economic level for merchants over that of coal miners. The closer ranking of feature 108 to that of feature 6 perhaps further suggests a correlation with the general lower ranking of both laborers and coal miners. The only ambiguity in the comparative data is the relatively high personal property valuations for W. F. Cowman during the years in which he was associated with feature 108. The oral historical and architectural data for this occupation, however, indicated a lower socioeconomic level.

A similar study of a townsite in northeast Mississippi also resulted in average values which showed only a moderate amount of variation. The sample of features included representatives of merchants, farmers, a hotel, lawyers, store clerks, and a minister. Comparisons with documentary evidence indicated that these slight differences seemed to be meaningful and positively correlated with merchants ranking at the high end of the scale, followed by the clerk and overseer, and the other professions ranking in more ambiguous order but at the lower end of the scale. A comparative analysis of the economic levels of professions in that region indicated that "backcountry" merchants and professionals fell within a moderate socioeconomic level, with planters being at the highest level. Therefore, the lack of planters in the examined town placed merchants at the high end of the local economic scale, with the ceramic data reflecting the actual, more moderate socioeconomic level (McBride and McBride 1987).

While that study was of an ante-bellum southern town, there are some correlations with the data from Percy and Dunreath. Within and between these two towns, merchants, professionals (particularly doctors), and farmers consistently appeared at the high end of the socioeconomic scale, while laborers and coal miners generally fell at the low end of the scale. The ceramic scaling data, however, produced overall low economic values compared to the potential range of the ceramic values. Knowing that both towns were always small and underdeveloped compared to other towns in the region, it is likely that at the regional level the occupations of these towns were at a moderate to low level economically.

A final note of interest is in the average values calculated from the Percy town dump episode dating from 1913-1924 and the burned store deposit dating from 1913. While not representative of an individual occupation's socioeconomic level, it does show the relative value of the ceramics available for purchase in the store in 1913 as well as the overall level of the town's ceramic consumption in the ensuing decade. Compared to the general range of 1 to 4.35, the resulting values were at the lower end of the scale and perhaps correspond to an overall moderate to low economic level for the town in comparison to regional variation. However, between the two assemblages and compared to the other 1900s average values (i.e., from 1.42 to 1.62), the burned store deposit was much lower than the town dump deposit, which ranked at the high end of the scale. The average value of the burned store deposit may be skewed too low because of the greater fracturing of vessels due to the intense heat as well as the possibility that the recovered ceramics represent

only a portion of the wares actually in stock. Decal decorated sherds did predominate the decorated categories, and it is likely that minimum vessel counts will place the emphasis on this type of decoration over that of undecorated vessels. This will result in the raising of the average value. In comparison to the town dump deposit, however, it appears that the greater porcelain vessel potential of that assemblage will continue to rank this deposit above that of the store. What this perhaps suggests is that overall the town's ceramic consumption pattern was oriented to somewhat more expensive wares, with decal decorated being in greatest favor. That the same categories of decorative types were present in the burned store deposit as those in the town dump suggests that the town's consumer tastes could be satisfied in the stock carried by the local stores.

Artifact Patterns

To further examine potential socioeconomic variability at the town level, the artifact assemblages from selected features were examined by the previously discussed artifact patterning method and hypotheses. Faunal material was not included in the functional categories for either townsite.

Tables 74 and 75 show the artifact patterning results, by feature, for each of the townsites. Comparing these percentages to those of the upper-class/lower-class mean percentages of the study by Mansberger (1987:202) (see Table 64), all of the Dunreath features had lower-class percentages of architectural and kitchen material except for features 1 and 2, which had upper-class percentages of kitchen items. Feature 1 was a specialized privy deposit and did not contain the type of generalized

Table 74. Intrasite Artifact Patterning for Dunreath Features.

Category	Features 1 n=127	2 n=548	3 n=193	4 n=33	6 n=2201
Architectural	7.09%	28.65%	1.55%	3.03%	5.32%
Kitchen	18.10	44.34	74.10	84.80	88.01
Clothing	3.94	1.09	2.59	0.00	1.82
Personal	2.36	0.18	1.04	0.00	0.45
Furnishings	42.50	2.55	10.40	0.00	1.27
Tool/Activity	3.15	0.91	8.81	0.00	1.73
Arms	0.00	0.00	0.52	0.00	0.18
Transportation	0.00	0.00	0.00	0.00	0.36
Other	22.80	22.26	1.04	12.10	0.86

Table 75. Intrasite Artifact Patterning for Percy Features.

Category	Features 29 n=1971	52* n=940	68** n=3792	80 n=554	89 n=213	107 n=1906	108 n=306	110 n=882
Architectural	89.49%	64.90%	27.40%	21.66%	27.20%	20.41%	27.40%	25.51%
Kitchen	2.94	21.20	50.80	59.60	60.10	62.30	59.80	55.10
Clothing	0.76	1.06	10.50	0.36	0.47	0.31	2.60	3.85
Personal	0.00	0.74	0.45	1.08	0.94	0.99	0.00	0.00
Furnishings	2.89	0.64	4.11	1.98	1.88	0.89	0.65	2.40
Tool/Activity	0.10	1.38	2.56	4.15	1.88	3.36	1.31	3.29
Arms	0.30	0.00	0.53	0.18	0.00	0.00	2.94	0.00
Transportation	0.00	0.32	0.24	0.90	0.94	0.37	0.65	3.29
Other	3.50	9.79	3.51	10.11	6.57	11.38	4.57	8.96

* = includes all levels except the east half
** = includes only zones E, F, I, and G

yard midden deposits that features 2 and 6 (cellars) received, but this does not explain the upper/lower-class split for feature 2. The remaining categories showed more ambiguous results, with features 1 and 2 having the most upper-class percentages. Feature 3, another privy, also had a high (upper-class) percentage in the furnishings category. The high percentages in the furnishings category reflect a large quantity of kerosene lamp chimney glass and, for the privy features, are more indicative of the high incidence of breakage of these items at the privy location than of socioeconomic level. The majority of the Dunreath features all had upper-class percentages of clothing items.

Correlation with the ceramic scaling and documentary data sets would indicate a positive association, particularly with the architectural category. The kitchen category also showed positive correlations except for the upper/lower-class split for features 1 and 2. The known data for these habitation sites strongly suggest that they were occupied by coal miners in the 1880s and 1890s. Tax and archival data indicate that coal miners fell within the lower end of the economic scale; therefore, the positive lower class correlations in the architectural and kitchen category lends some credence to the artifact patterning method in the socioeconomic examination of these sites. The low percentages of architectural items likely reflects the insubstantial construction of the miners' houses as well as their short existence compared to other structures in the town. In contrast, the ambiguities of the remaining categories indicate that the deposition of these items was being affected by activities other than, or in addition to, economics. The generalized deposits of the cellar features perhaps

provide a better test of this methodology, although the upper/lower-class ambiguities for feature 2 (which had the lowest ceramic average value) indicate some problems in assigning socioeconomic meaning to the composition of all of these categories.

Table 75 shows the intrasite artifact patterning for Percy features. Only features 29 and 52 had upper-class percentages of architectural and kitchen items, while the remaining features all showed lower-class percentages in both categories. The remaining categories once again all exhibited ambiguity in the upper/lower-class percentages, with only one feature (107) having lower-class percentages in all categories. This feature was the well associated with the restaurant (structure e) and as such is not as meaningful as an indicator of material consumption as those features associated with habitation sites.

The high architectural percentage for feature 29 reflects the large quantity of nails which were deposited in the fill when a portion of the wood lining was removed. Therefore, this category is more indicative of this remodeling than of economic level. The remaining categories (except for personal items) did, however, exhibit upper-class percentages. It is known that this feature was associated with a merchant occupation and perhaps shows a positive socioeconomic correlation. Unfortunately, the specialized nature of this privy deposit may not be an accurate reflection of the occupation as a whole.

The upper-class percentages for feature 52 (a cellar) were in the architectural, kitchen, and clothing categories. The remaining categories all had lower-class percentages. The known tax, archival, and architectural data from this house site (structure P) did indicate a

higher socioeconomic level for the farmstead occupation with which feature 52 was associated. Therefore, particularly for the architectural and kitchen categories, there appears to be a positive correlation with the artifact pattern and an upper-class level.

The lower-class percentages for feature 68 (the privy/refuse pit associated with structure I) appear to be more indicative of the specialized nature of this deposit than of economic level. The high kitchen percentage reflects the large quantity of ceramic vessels, medicine bottles, and glass tablewares in the fill. The ceramic scaling data indicated a relatively high average value for this assemblage, and the tablewares included luxury, display-type items such as the etched glass pitcher. Correlation with the known tax, archival, and architectural data further suggests a higher socioeconomic level for the Cowman boarding house occupation. The fact that a number of boarders may have been depositing items in this feature indicates that the percentages of artifacts were being affected by other factors in addition to economics. However, the "house-cleaning" nature of the assemblage configuration would suggest a greater association with the Cowmans than with their boarders. In this case, the artifact patterning method does not show a positive correlation with the other socioeconomic data sets.

Features 80, 89, and 108 all showed lower-class percentages of architectural and kitchen items. The latter feature was associated with the J. W. Parmenter/W. F. Cowman habitation site, and the other two were associated with structure F. The known data concerning these house sites indicate a middle to lower socioeconomic level, with structure F at a

higher level than the Cowman occupation. The only ambiguity in the data sets was for Cowman's tax information, which showed a relatively high personal property valuation during the time he owned this site. All of the other data, however, indicated that he was not a rich man, and it is known that he did not live ostentatiously.

While some of the features showed positive correlations of the artifact patterning with the other socioeconomic data sets, it is felt that the specialized nature of some of the feature deposits reflected factors other than economic influence in their configuration. It was postulated that like the farmstead artifact patterning study, the greatest utility of this method would be in inter- rather than intrasite comparisons. Table 76 presents a comparison of the Percy and Dunreath features which had habitation site associations. For Percy, commercially associated features such as 110, 107, 120, and the burned store deposits were not included. Likewise, the town dump episode and features 80 and 89 were excluded because they clearly postdated the Dunreath habitation site occupations.

For the architectural and kitchen categories, the Dunreath assemblage exhibits definite lower-class percentages, while the Percy assemblage shows upper-class percentages. Both assemblages had upper-class percentages of furnishings and clothing items, while both had lower-class percentages of personal and tools/activities items. Once again, the ambiguity of the categories other than architectural and kitchen items indicates less utility in their application to socioeconomic studies. The higher occurrence of clothing items might be more indicative of household size or, in the case of feature 68 at

Table 76. Intersite Artifact Patterning for Percy and Dunreath.

Category	Dunreath* n=3102	Percy** n=7009
Architectural	9.25%	49.88%
Kitchen	76.53	33.76
Clothing	1.81	6.16
Personal	0.52	0.34
Furnishings	3.74	3.15
Tools/Activities	2.06	1.61
Arms	0.16	0.50
Transportation	0.26	0.20
Other	5.67	4.39

* = includes features 1, 2, 3, 4, and 6.
** = includes only habitation features 29, 52 (except east half), 68 (zones E, F, I, and G), and 108 (zone D).

Percy, a specialized *house*-cleaning episode where old clothes and shoes were thrown away in a dense concentration.

The extremely low percentages for the personal item category (compared to the Illinois sample) occurred at all the Lake Red Rock farm and townsites examined to date. This would suggest that something other than economics was affecting the occurrence of these items in the archaeological record. It is known that the inhabitants of both Percy and Dunreath could have virtually every consumer need or want fulfilled by the stock available at the local stores; therefore, isolation from marketing networks would not explain the low occurrence of personal items.

In sum, the artifact patterning methodology appears to have the most consistent, positive socioeconomic correlations in the architectural and kitchen categories, while the other categories

appeared to have less economic utility. Additionally, intersite comparisons appeared to be more meaningful, although there were selected intrasite feature comparisons which correlated with the other socio-economic data sets. In general, on an intersite basis, the suspected coal miner habitation sites of Dunreath ranked at a definite lower level in the architectural and kitchen categories than the Percy assemblage, which exhibited a higher economic level and included features associated with a boarding house, merchants, and farmers. Correlating this with the known tax, archival, oral historical, and architectural data, it would be expected that sites associated with low-income coal miner habitations would fall into a socioeconomic level lower than that of higher income occupations such as merchants and farmers.

Finally, Table 77 presents a comparison of the artifact patterning exhibited by the town dump deposit (Trench 1, zones A-E) and the burned store deposit (Trench 1, zone G, and trenches 4 and 6). Because these deposits were not specifically habitation deposits, they are not as reflective of consumer choice, although they do provide significant data on the overall consumer tastes and availability of items in the local stores. The town dump deposit could be indicative of the consumer choices of the town as a whole and therefore potentially reflecting the general socioeconomic level of the town, but the percentages showed too much ambiguity. Specifically, the deposit exhibited lower-class percentages of architectural, personal, and tools/activities; however, the architectural category would have little meaning because this was not a habitation deposit, and the high occurrence of tools and machine parts reflects the specialized dumping nature of this deposit. The

Table 77. Intrasite Artifact Patterning for Percy Trenches.

Category	Trenches 1--Zones A-E n=9307	Trenches 1--Zone G/4 and 6 n=5029
Architectural	18.01%	22.50%
Kitchen	38.88	35.40
Clothing	6.15	1.95
Personal	0.27	0.06
Furnishings	1.48	1.01
Tools/Activities	3.59*	1.35
Arms	0.34	0.04
Transportation	1.41*	0.02
Other	29.87	37.60

* = does not include large items of this category noted in the field but not collected.

assemblage did exhibit upper-class percentages of kitchen, clothing, and to a lesser degree furnishing items.

Examination of the artifact patterning of the burned store deposit (Table 77) shows that the available (sampled) stock exhibited an emphasis on kitchen, clothing, and tools/activity-related items over personal, transportation, arms, and furnishing items. The architectural category is more indicative of the destroyed store structure itself than of the store's inventory. The high percentage of the "other" item category reflected the intense heat of the fire which rendered a large quantity of glass unidentifiable as to original function.

Dietary Remains

The dietary remains from both townsites will be first examined concerning general subsistence patterns. The faunal assemblages will then be analyzed in terms of potential socioeconomic indicators.

In general, the subsistence pattern at the Dunreath house sites indicates a reliance on cattle and pig, with no evidence of game or fish supplements. It is known from oral historical data that the twentieth century occupations exploited the game and fish resources (Mohler 1987; Nichols 1987); however, the lack of this type of material in all of the features (including two privies) would suggest that the suspected coal miner occupations were not supplementing their meat diet in this manner. According to both the 1885 and 1895 Iowa State censuses, there was a butcher in Dunreath; therefore, the meat cuts would have been available locally.

The botanical remains from Dunreath indicated the exploitation of both locally grown and wild plant foods, with a reliance on goods obtained mainly through the market system. There was evidence that the occupations had kitchen gardens, possibly correlating with documentary data that coal miners' wives often supplemented the family's income and diet with homegrown garden produce. They also often raised chickens, pigs, and milking cows to provide extra income (Schwieder 1983:70). It is possible that some of the pig remains represent locally raised meat. Oral historical data indicate that during the twentieth century occupation of Dunreath, the inhabitants commonly had gardens for the family's use, supplemented with store-bought and wild plant foodstuffs. Mushrooming and berry picking were common events. People also often raised a few hogs and chickens (Mohler 1988; Nichols 1987).

The pattern at Percy was somewhat the same. Oral history indicates that people often had their own gardens and chickens. Some had milk cows, and at least two occupants had small orchards. In addition, wild

plant foods were also exploited including berries, mushrooms, and wild plums. However, the majority of the botanical data indicate a heavy reliance on market produce and kitchen gardens with less evidence of wild plant food foraging. Oral history (Kain 1988) and faunal data also indicate that the meat diet was supplemented with locally available wild game (such as rabbits) and fish, with little archaeological evidence of imported items. It is known that there was a butcher shop in Percy in the early twentieth century (Mikesell 1966), and it is likely that the meat cuts evidenced in features dating from that period were locally available.

The 1911 account book from the Cochran store in Percy indicated that in addition to the staple foodstuffs such as flour and sugar, some fresh produce was available including apples, bananas, oranges, peaches, apricots, lemons, prunes, raspberries, onions, and potatoes. Some canned vegetables and fruits were also available including corn, tomatoes, sauerkraut, and some of the fruits noted above. Meats available at the general store included bacon and pickled oysters. The foodstuffs at the store were primarily shipped in by rail, although in season some locally produced items were available. The account book also noted that the people of Percy and the surrounding hinterland often paid their bills or supplemented cash payments with the sale of butter, cream, lard, and eggs to the store. Therefore, raising a few chickens and a milk cow even in town was a practical solution to the problem of obtaining fresh poultry and dairy products as well as providing another potential source of income.

The analysis of faunal remains as they relate to dietary patterns

has been shown by numerous recent studies to be of great utility in the examination of socioeconomic variability (e.g., see Spencer-Wood 1987a). The basic premise for this type of study is that certain butcher units of beef and pork were more expensive than other units. The predominance of expensive meat cuts in a faunal assemblage with a documented context would suggest a higher economic level for the associated occupation.

The high-value cuts for beef, in descending order of price, consist of short loin, sirloin, ribs, round, and rump. Medium-value cuts included chuck, arm, cross and short ribs, and plate and brisket. Low-value cuts are neck, foreshank, and hindshank (Branstner and Martin 1987:316).

Pork cut values are not as well documented as beef cuts, but in general the loin and ham/leg are higher valued, with ribs, butt, and picnic shoulder somewhat less expensive, and feet and head/necks being low-valued (Henry 1987:371).

The faunal assemblage from the Dunreath features, while sparse, did provide some data on butchering units (see Table 17). By feature, the privy designated as feature 1 had primarily medium-valued cuts of beef, with a small quantity of low-valued cuts. Features 2 and 3 had small amounts of high-valued cuts, while feature 4 had a variety of high to low beef and high-valued pork cuts. Feature 5 had a single medium-valued cut, and feature 6 had two low-valued beef cuts and one high-valued pork cut. Combining the entire assemblage indicates that 42% (n=8) were high-valued cuts, 31.6% (n=6) were medium-valued, and 26.3% (n=5) were low-valued. Considering that these features likely represent lower socioeconomic level coal miner occupations, the predominance of high-

valued cuts is somewhat surprising. However, the small size of the assemblage precludes a definitive economic statement. The assemblage primarily reflects a variety in consumer choice that may have had more to do with personal food preferences than with economic level.

The faunal assemblage from selected features at Percy provided a larger sample from which to examine potential socioeconomic variation based on the represented butchering units of both beef and pork (see Tables 41-44). Habitation site features examined included feature 108 (associated with a coal mine engineer and a laborer), 52 (a farmer), 68 (a boarding house), 73 (a blacksmith/carpenter), 80 (a grain dealer and tenants including a restaurateur/merchant), and 92 and 99 (merchants and tenants). Of these, features 92 and 99 only contained one specimen of butcher cut beef and pork, respectively, and as such can provide little meaningful data. Feature 92 had one medium valued beef cut (chuck), while feature 99 had one high valued pork cut (short cut ham).

The remaining habitation site features in the sample had larger assemblages of butchering unit specimens. The majority (40%, n=4) of the beef butchering units from feature 108 were medium-valued cuts, with 20% high-valued and 20% low-valued. Of the four pork butchering units from this feature, three were medium-valued and one was low-valued. Taken together, the butchering units from feature 108 were predominated by medium-valued cuts. This feature was a cellar associated with the Parmenter/Cowman occupation of a small house site. Architectural and oral historical data suggested a low socioeconomic level for this site; however, tax data indicated that Cowman, a laborer, had relatively high personal property valuations compared to others in the town during the

time that he occupied this house site. Ceramic scaling analysis resulted in a middle to low level average value, while the artifact patterning analysis showed lower class percentages in both the kitchen and architectural categories. From all data sets, it would appear that the occupation represented in feature 108 correlates most positively with a middle level socioeconomically with tendencies toward a lower level in the architectural, oral historical, and artifact patterning data.

The beef butchering units from feature 52 were predominated by medium-valued cuts (76.9%, n=10), with only 15.4% high-valued and 7.7% low-valued (Table 41). On the other hand, the pork butchering units showed a nearly even split between medium-valued (47.5%, n=19) and low-valued (45%, n=18) cuts, with only 7.5% (n=3) high-valued cuts. This cellar feature was associated with a late nineteenth century farmstead which, from architectural, tax, and census data, ranked relatively high socioeconomically compared to contemporaneous occupations in Dunreath. Ceramic scaling analysis indicated that this feature ranked above all comparable Dunreath features and in the artifact patterning analysis showed upper class percentages in both the architectural and kitchen categories. In general, all of the data sets suggest a relatively high socioeconomic level for the late nineteenth century farmstead occupation compared to the data recovery sample. The middle level suggested by the faunal data may reflect the possibility that in comparison to the region as a whole, the farmstead more closely approximated a middle class as opposed to a higher class socioeconomic level, although it may also be a reflection of individual food preferences.

The faunal assemblage of feature 68 showed 43.8% (n=7) medium-

valued beef cuts, 37.5% (n=6) high-valued cuts, and 12.5% (n=2) low-valued cuts (Table 41). The pork butchering units were predominated by low-valued cuts (53.3%, n=32) followed by 35% (n=21) medium-valued and 11.7% (n=7) high-valued. Feet parts comprised a total of 23 out of 60 pork butchering units (Table 43). The feature is associated with the Cowman boarding house at structure I. Archival and architectural data from this occupation indicated a relatively high socioeconomic level compared to others in Percy and Dunreath. Ceramic scaling data corroborated the high ranking, but the artifact patterning data showed lower class percentages in the architectural and kitchen categories. The ambiguity between the rankings of beef versus pork butchering units (i.e., medium versus low) may be a reflection of the food preferences and offerings associated with the boarding house occupation more so than economics. An interesting note is the predominance (77.8%, n=14) of high-valued pork cuts recovered from feature 65 which was also associated with structure I (Table 43). This might suggest that high-valued pork cuts were under-represented in nearby feature 68; however, the lack of diagnostic material in feature 65, precludes an association with any specific occupation of structure I. It may be that this feature was deposited by a previous or later occupation of the house unrelated to the Cowman boarding house occupation represented in feature 68.

Feature 73, associated with structure G, had only 3 beef butchering units and 2 pork (Tables 41 and 43). These included 2 medium-valued beef cuts, 1 low-valued beef cut, and 2 low-valued pork cuts. While this assemblage is too sparse to make meaningful conclusions concerning the socioeconomic ranking of this feature, it does suggest some correlation

with the architectural, oral historical, and archival data concerning the occupation of this house site that it ranked at a low level relative to other occupations in Percy.

Feature 80, associated with structure F, also contained sparse butchering unit remains. These included 2 medium-valued beef cuts, 2 medium-valued pork cuts, and 1 low-valued pork cut. The occupations associated with this cellar feature appeared to be at a middle range socioeconomic level according to archival, architectural, and oral historical data. Ceramic scaling data indicated a middle to low relative ranking, while the artifact patterning showed lower class percentages of architectural and kitchen items. The faunal data tentatively suggest a correlation with the other data sets, thus indicating a middle range socioeconomic level compared to other occupations in the town of Percy.

While not directly comparable to the features associated with habitation site occupations, those faunal assemblages associated with businesses and combination residences/businesses also can provide some data concerning socioeconomic levels and/or consumer preferences. Feature 120, associated with the Leuty/Cochran store (feature 111), had only 3 medium-valued beef cuts, specifically rib/chuck units. Features 107, 109, and 110, associated with structures e and f, showed 46.7% (n=7) medium-valued, 40% (n=6) high-valued, and 6.7% (n=1) low-valued beef cuts, with 2 low-valued pork cuts recovered from feature 110.

The assemblages associated with the store/residence designated as feature 6 (i.e., feature 29 and the general deposit from trench 4) exhibited 4 medium-valued and 1 low-valued beef cuts. The pork butchering units were predominated by low-valued cuts (52.9%, n=9),

followed by 41.2% (n=7) medium-valued and 5.9% (n=1) high-valued cuts. The butcher unit assemblage from feature 29 specifically showed a preference for pork over beef and a nearly equal occurrence of low-valued and medium-valued units. This privy feature is associated with the actual occupation of the feature 6 store/residence and as such reflects the consumer preferences and potential socioeconomic level of the merchants who lived there. The ceramic scaling data from this feature indicated a relatively high ranking, with the artifact patterning analysis also showing upper class percentages of architectural and kitchen items. These data sets all appear to be compatible with the archival and oral historical data that merchants ranked at the higher end of the socioeconomic scale in both Percy and Dunreath. The faunal data may suggest that on a regional or larger scale, the higher level occupations at Percy may rank more accurately within a middle level socioeconomic range, although they may simply reflect individual food preferences.

The faunal material from the general fill deposit of feature 6 may reflect the consumer choices of the town as a whole because this is primarily a town dump deposit dating from 1913-1924. Beef predominated the butchering units, with only 9 pork units compared to 43 beef (Tables 42 and 44). Of the beef units, 58.1% (n=25) were low-valued cuts, 34.9% (n=15) were medium-valued, and 2.3% (n=1) were high-valued. The pork units showed 77.8% (n=7) low-valued and 22.2% (n=2) medium-valued. This suggests that the town as a whole during this period had a preference for low-valued cuts of both beef and pork, although it cannot be positively stated that this faunal deposit came from a number of

households providing a good assessment of the town on the average, or only a few households, thus perhaps biased to a certain socioeconomic level rather than a cross-section of all levels.

In general, the butchering unit assemblage from all of the selected features from Percy (i.e., Tables 41-44) showed a preference for medium-valued beef cuts and low-valued pork cuts followed by low-valued beef cuts and medium-valued pork cuts. High-valued beef and pork occurred in low numbers. Overall, 58.6% (n=157) of the butchering units were pork, while 41.4% (n=111) were beef. In comparison, the Dunreath butchering unit assemblage (Table 17) showed a predominance of beef cuts (84.2%, n=16) over pork (15.8%, n=3) and high-valued cuts over medium-valued and low-valued cuts. A larger sample would be required from Dunreath features before great significance could be placed on the differences in the consumer preferences and/or socioeconomic levels suggested by the intersite data. The other lines of socioeconomic evidence consistently ranked Percy features and occupations above those at Dunreath.

Conclusions

The development of both Percy and Dunreath reflected the general trends of small town growth and decline in the region and nation, although there were some major differences in their respective histories, the most significant being the differing orientations of their early periods. Percy was always simply a trading center and railroad shipping point, while Dunreath was a coal mining center in addition to its railroad services. Therefore, the dramatic growth of Dunreath in the 1880s and 1890s was directly related to the coal mine

operations, and likewise its dramatic decline in the twentieth century was due to the mines shutting down. It is suspected that it was unable to survive on its railroad function primarily because it was situated in an overcrowded competition sphere. Percy, on the other hand, experienced only slow growth in the 1880s and 1890s and did not peak until the second decade of the twentieth century. It never achieved the same population levels as Dunreath, but it was able to survive as a viable town for a longer period of time.

The study of socioeconomic variation in both towns examined various sources of evidence. The tax data indicated variation in economic levels, and correlations with identifiable professions showed merchants, farmers, and doctors consistently at the higher economic levels, with laborers, coal miners, railroad workers, and depot agents at the low end of the economic scale. However, as noted previously, the depot agents had a higher social status in the community despite a lower economic level.

Oral historical data also indicated socioeconomic variation, particularly in Percy. The merchants and town banker were consistently considered to have been at the high end of the economic scale, while others were perceived as being poor. In essence, people perceived a three-level economic partitioning, with the "upper class" being the merchants and banker; the "middle class" being the majority of residents who were laborers, carpenters, blacksmiths, railroad workers, butchers, barbers, mechanics, the depot agent; and the "lower class" being those who did little in the way of work and basically "just got by." Added to the economic upper class were at least two retirees who had substantial

life savings and were considered by some to have been rich. Tax data for Percy also indicated that the boarding house operation of John Cowman was at a relatively high economic level.

Correlating house size and socioeconomic level appeared to have some validity for Percy. The most positive correlation was with structure I. There were some contradictions in house size/socioeconomic level, particularly for structure E, a small house occupied primarily by merchants and a retired farmer who was considered one of the richest men in town. In addition, the changing occupations of structures indicated that while size might have originally been a socioeconomic indicator, it later came to reflect function more than economics.

The ceramic scaling and artifact patterning data did show some correlations with socioeconomic levels indicated by other sources. The best comparisons were on an intersite more so than an intrasite basis, with Dunreath features consistently ranking lower than Percy features. It was speculated that the lower economic level of the suspected coal miner habitation sites at Dunreath showed a positive correlation in the archaeological data and in comparison to Percy features, which were associated for the most part with relatively higher socioeconomic occupations.

The dietary remains did provide significant data on the subsistence patterns at both townsites. The botanical remains indicated a reliance on goods obtained through the market system supplemented with some wild plant foods and kitchen garden produce. The faunal remains indicated a dependency on domesticated beef and pork, particularly at Dunreath, with the Percy assemblage showing additional exploitation of locally

available poultry, fish, and other aquatic species. Socioeconomic data based on butchering units in the faunal assemblages was inconclusive for the Dunreath features because of the small size of the recovered sample. The butchering unit data from Percy features in general correlated positively with the known or suggested socioeconomic levels of the selected features based on other lines of evidence. Overall, the butchering unit assemblage indicated a preference for pork over beef, although the divergence between the two was not great. A preference for medium-valued and low-valued cuts of both beef and pork over that of high-valued cuts was also suggested. These data may indicate that on a larger, regional or national scale, the deposits from Percy may reflect an overall middle to low range socioeconomic level in comparison to other communities. This was also suggested by the overall low average values of the ceramic scaling data from both townsites relative to the potential range of index values.

CHAPTER X. CONCLUSIONS

The data recovery excavations at the Sutton site, Dunreath townsite, and Percy townsite provided a wealth of data applicable to a number of behavioral studies aside from the socioeconomic orientation of the present research. As such, they have substantially added to the data base concerning farmstead and town development in the region. Comparisons with other farmsteads in the Midwest region were facilitated by recent studies conducted by Illinois and Iowa archaeologists. Unfortunately, there is little comparative townsite data, although it is hoped that the forthcoming report on the Hutsonville, Illinois, excavations will provide some comparable data. This town was established in the early 1800s along the Wabash River, and the excavations encountered numerous privies, cellars, cisterns, wells, foundations, and refuse pits (Phillippe 1987).

The data recovery results from the Sutton site indicated a small farmstead occupied from ca. 1855 to ca. 1883. The remains of this farmstead, while sparse in comparison to the nearby Stortes/Crookham farmstead site (Rogers et al. 1988), did provide comparative socioeconomic and farmstead development data. It was found that the initial occupation of the Sutton farmstead was operating at a near subsistence farming level with some market involvement and became increasingly involved in market production over the next two decades.

This was comparable to both the Ratcliff and Stortes/Crookham farmstead operations, although the latter farm was involved more in market production from the start.

The region of origin of the original settlers of these farmstead sites did not appear to have had a great influence on the configuration or development of these sites. It was speculated that the similar configurations of the archaeological remains of the early occupations of the Stortes/Crookham site and the Sutton site might be indicative of their similar Upland South background, but this remains for further testing with a larger sample.

The continued study of potential socioeconomic variability among Lake Red Rock farmstead sites indicated some variation, with the most positive correlations concerning the higher socioeconomic level of the Stortes/Crookham site. The other farmsteads, including the Sutton site, appeared to be of a more moderate or middle level in comparison. There was some ambiguity in the various lines of socioeconomic evidence concerning the relative ranking of the Sutton site. Ceramic scaling data indicated a level approaching the high level of the Stortes/Crookham site, but documentary data associated with the farmstead occupations indicated a somewhat lower level compared to site 218 and the Ratcliff and Stortes/Crookham sites.

The oral historical, archival, architectural, and archaeological investigations of the two townsites provided a tremendous amount of data, the full potential of which has only been touched on in the present analysis. While neither town was unique on the regional landscape, they each had unique qualities in their growth and

development which gave each town its own individual personality. One gets the impression from the descriptions of early Dunreath that it was something of a wide-open town, although perhaps not as wild or dangerous as the notorious rivertown of Red Rock. Many of the oral history informants seemed to wistfully reflect on the tales of Dunreath's early days and perhaps regret that they missed the period "when Dunreath was at its top" (Nichols 1988a). While Percy had its "wild days" too, particularly when bootlegging was a common occupation in the surrounding river bottoms, its overall history was one of a stable, family-oriented community. The continued ties that former residents still have to both towns illustrate the persisting strength of both communities long after they had ceased to exist--a telling statement on the importance of small towns in rural America and the very real grief felt for their demise.

The socioeconomic analysis of the townsites indicated variation among and between the towns, with the most positive evidence provided by intersite comparisons. All data sets indicated socioeconomic variation, with the strongest conclusions made concerning tax, oral historical, architectural, and archaeological data. Correlations with known professions indicated that merchants, farmers, bankers, and doctors ranked at the higher socioeconomic levels, while laborers, railroad workers, and coal miners ranked at the lower levels. Oral history perceptions suggested a three-level partitioning of socioeconomic levels at Percy, approximating an "upper/middle/lower class" division. The other lines of evidence provided the most positive socioeconomic variation on a two-level scale, or upper and lower class. Ceramic scaling and faunal data (from Percy), however, suggested that on a

larger comparative scale, the occupations of both Percy and Dunreath might rank within a middle to low range compared to other towns.

Botanical and faunal material provided important data on the dietary patterns of both farmsteads and townsites. While the occurrence of both at the Sutton site was extremely sparse, the suggested patterning of the botanical material correlated with the patterning previously recognized for the early occupations of the Stortes/Crookham and Ratcliff sites. The dietary remains and oral historical data from the two townsites indicated that while the reliance was on domesticated animals (the majority of which were likely "store-bought") and poultry and vegetables (which were raised by the town inhabitants), dietary variety was provided by fish, wild game, and plant foodstuffs. This pattern was more prevalent at the Percy townsite than at the suspected coal miner habitation sites at Dunreath.

In general, the town stores were able to provide every basic consumer need as well as the nonessentials. The Cochran store in 1911 had a wide variety of stock shipped in from Des Moines and could order anything else that was not normally in stock. It was also an easy and relatively inexpensive trip for individuals to ride the train into Des Moines, take advantage of the shopping facilities there, and return home--all in one day. Oral history indicates that this was a common practice in the early to mid-twentieth century before passenger service was discontinued (Findlow 1987).

The 1913 deposit from the burned store provided data on the available stock and particularly provided information on the types of ceramics that were popular. The predominant decoration type was

decalcomania/embossed/gild. Ceramic maker's marks indicated manufacture at the potteries of East Liverpool, Ohio. Stonewares were also available, predominantly from the Western Stoneware Company of Illinois and the Red Wing Stoneware Company of Minnesota.

In general, locally produced items were sparse in the artifact assemblages from both towns, with the exception of some bottles from Knoxville and a few potentially locally made stonewares. It would be expected that some of the drainage tile and unmarked bricks were produced at the local kilns; however, several marked tiles and bricks showed origins in Missouri and Des Moines. Obviously, the rail connections were an important determinant in the acquisition of manufactured goods despite geographic proximity to the same type of products. This also appears to have been the case in the late nineteenth century occupations of Dunreath, where the assemblage was predominated by nonlocally produced items of national and international origins.

The stoneware assemblage from the Sutton farmstead site was comprised entirely of locally made wares. Comparative analysis indicated a predominance of middle-stage type wares potentially associated with the Gidel and Whitebreast kilns. An interesting correlation was its similarity to the stoneware assemblage from the early occupation of the nearby Stortes/Crookham site, thus suggesting similar market sources.

The stoneware assemblages from both townsites were predominated by nonlocal, mold-made wares, but both also included some earlier, wheel-thrown wares similar to those produced locally at middle-stage kilns. The occurrence of local wares at the Dunreath house sites is not so unexpected because the early years of that town's growth overlapped with

the final years of the middle-stage kiln operations. However, the presence of local, wheel-thrown wares at Percy features, which dated primarily from post-1900, indicates either curated wares discarded long after purchase or that the local industry was still producing wheel-thrown and early-type molded wares into the twentieth century.

Finally, it should be noted that the research presented in this report is not intended to be finite and represents an ongoing, continuing examination of the data. It is hoped that the data base provided by this study will benefit future research, both documentary and archaeological. It is also hoped that the examination of similar sites in Iowa and the Midwest will be able to utilize, expand, and improve upon these data. Of particular interest would be comparable studies of townsites and a greater cross-section of farmsteads representing the extremes of low to high socioeconomic levels.

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APPENDIX A

SITE PHOTOGRAPHS

Figure 1a. Sutton site looking southwest.

Figure 1b. Sutton site looking southeast.

Figure 2a. Base of feature 2, Sutton site.

Figure 2b. Slope area of Dunreath looking southwest.

Figure 3a. Test trenches at Dunreath looking south.

Figure 3b. Stripped quarter-block at Dunreath looking north.

Figure 45. North profile of feature 1, Dunreath.

Figure 46. East profile of feature 2, Dunreath.

Figure 5a. Percy townsite looking north.

Figure 5b. Area south of railroad grade, Percy.

Figure 6a. Stripped area, structure P, Percy, looking southeast.

Figure 6b. Bay window foundation, structure d, Percy.

Figure 7a. Cellar foundation, structure d, Percy.

Figure 7b. Feature 111 foundation, Percy, looking southwest.

Figure 4a. Base of feature 108, Percy.

Figure 4b. [illegible] of feature 108, Percy.

Figure 9a. Profile of feature 107, Percy.

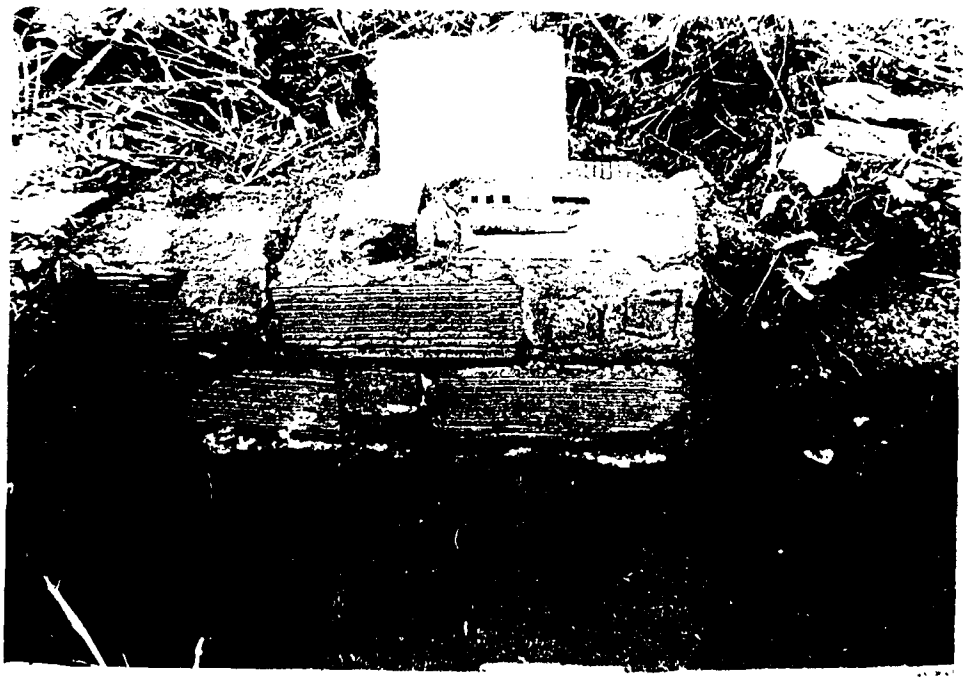


Figure 9b. Northeast corner of foundation f, Percy.

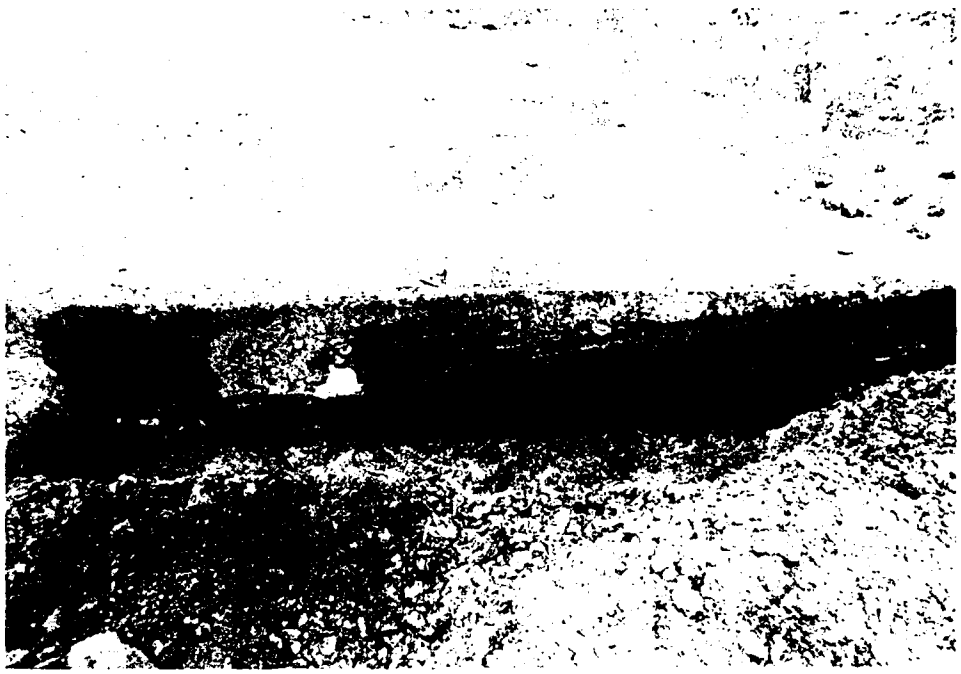


Figure 10a. West profile of feature 52, structure P, Percy.

Figure 10b. Base of feature 52, structure P, Percy.

Figure 11b. Profile of interior wall of structure I from bottom. Percy.

Figure 12a. Cellar, structure I, Percy, looking north.

Figure 12b. Southeast corner of cellar floor, structure I, Percy.

[illegible] of feature 6a, structure I, Percy.

[illegible] of feature 6a, structure I, Percy.

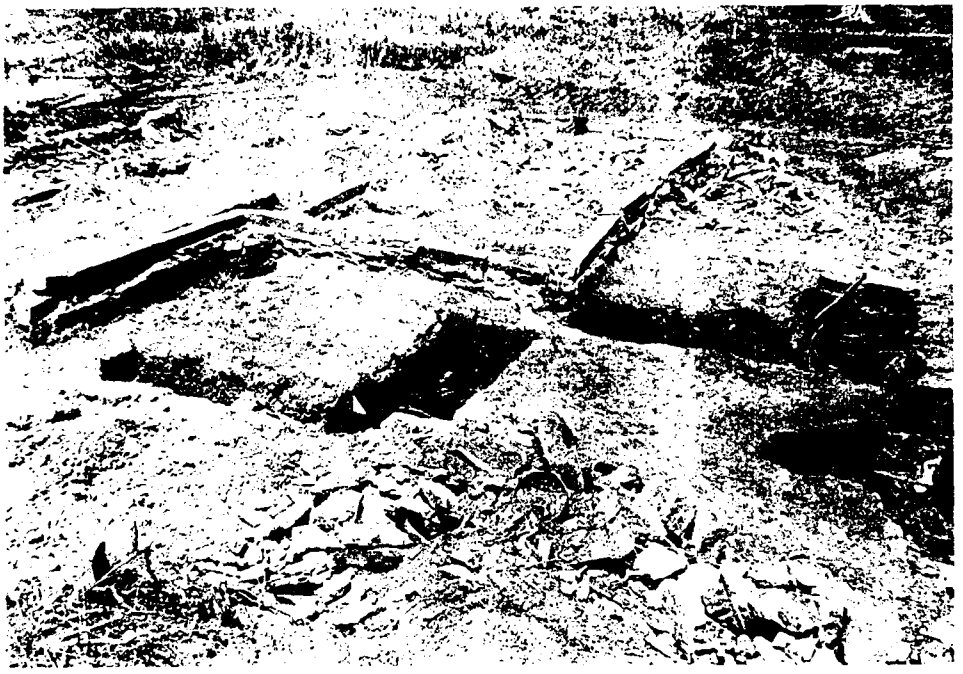


Figure 16a. Profile of north wall of feature 6 foundation, Percy.

Figure 16b. Profile of feature 28, Percy.

Figure 17a. North profile of feature 42, Percy.

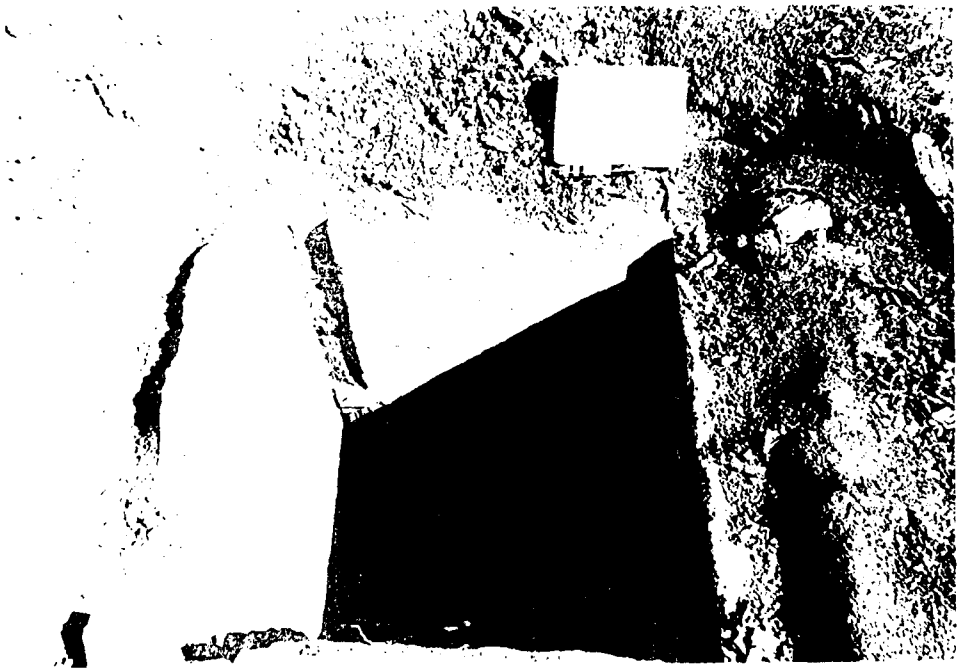
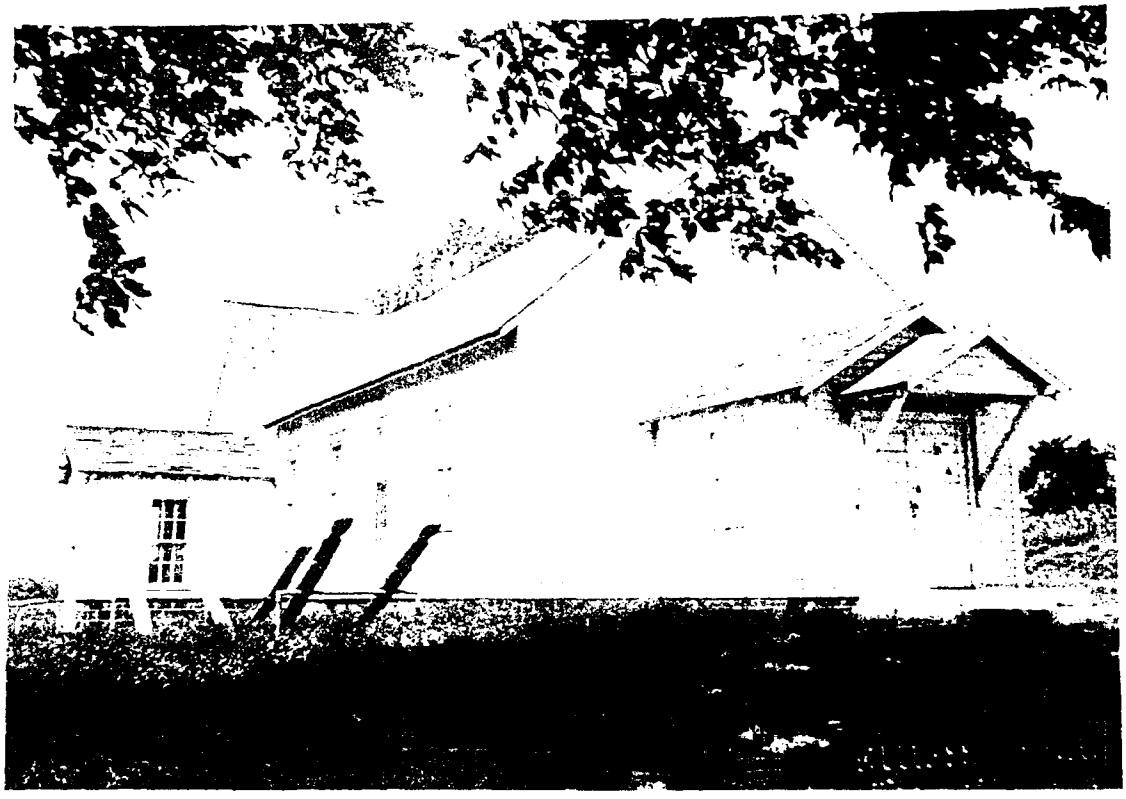


Figure 17b. [illegible] Percy.

APPENDIX B

STRUCTURAL PHOTOGRAPHS



s. Sunneath school.

t. Sunneath sawmill and crew.

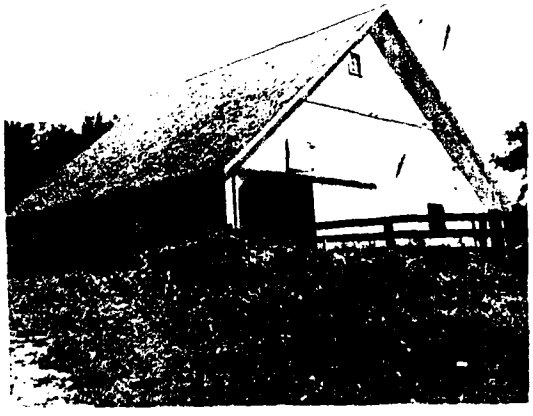
u. Early [illegible] Sunneath.

a. Carey store in Dunreath

b. Nichols family in front of their home in Dunreath.

Figure 2. Early structures in Dunreath.

a. Structure 16.



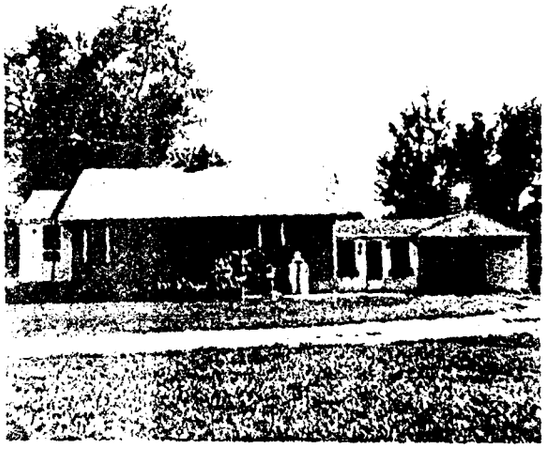
b. Structure 17.

c. Structure 15.

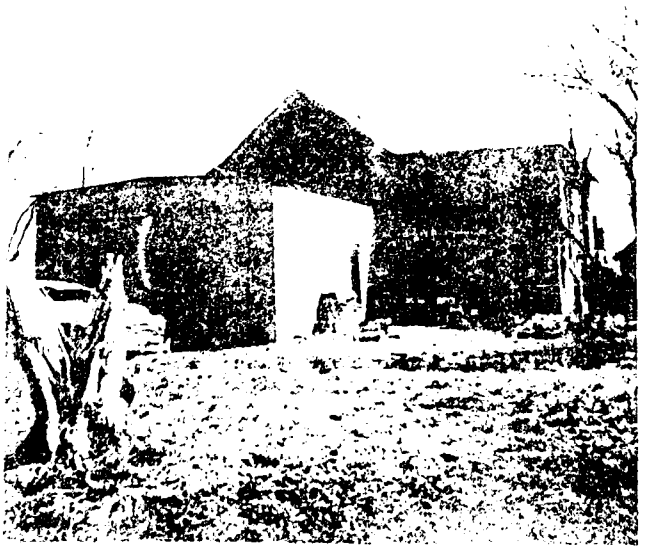
d. Structures 12 and 13.

Figure 3. Structures in Meredith.

Structure 3



Farmhouse 2, Plymouth.

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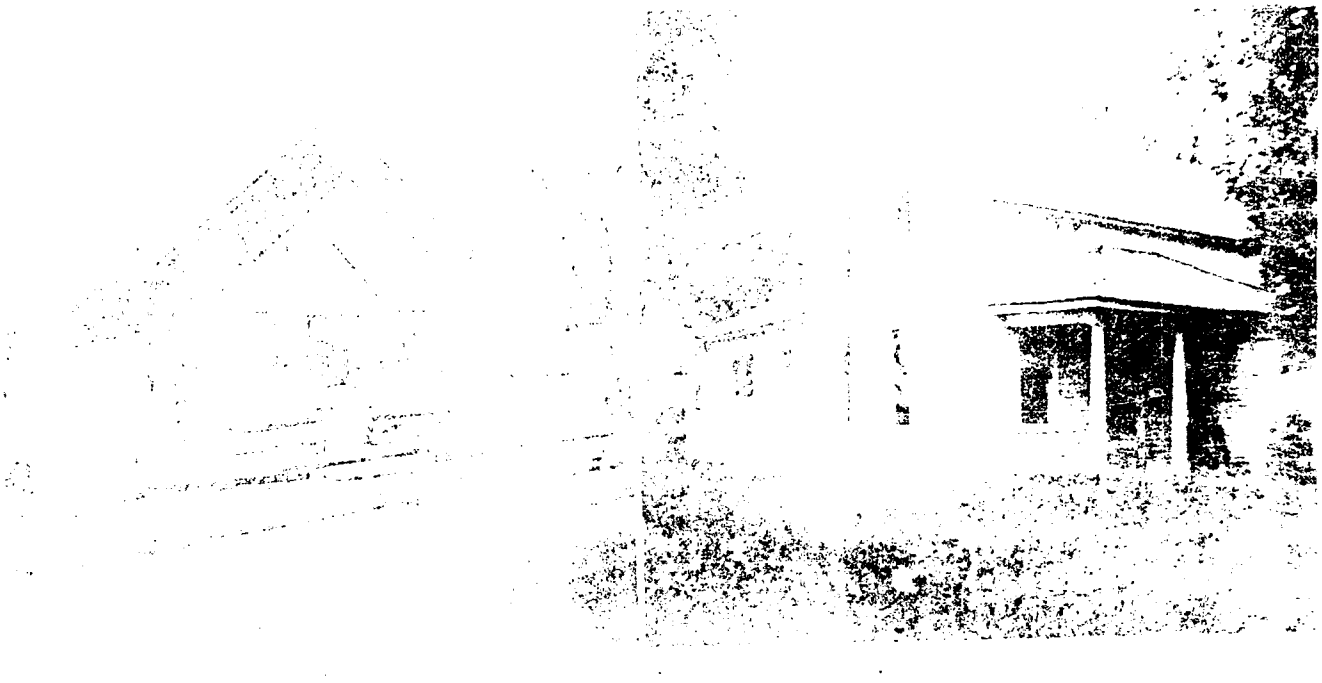
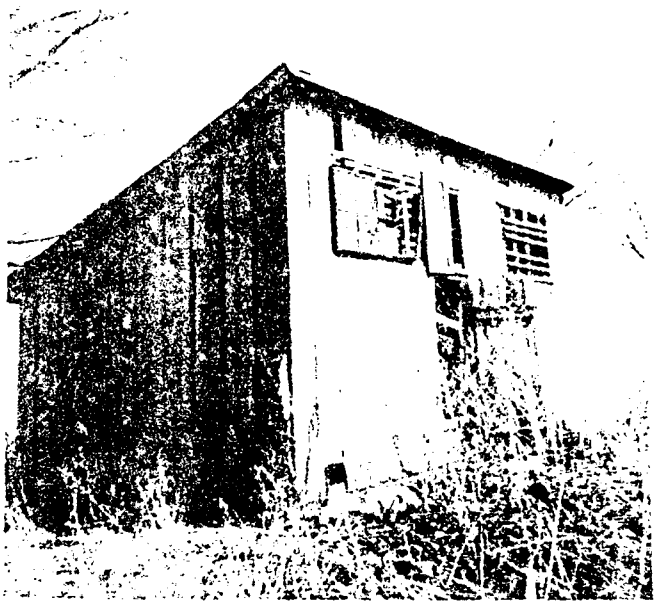
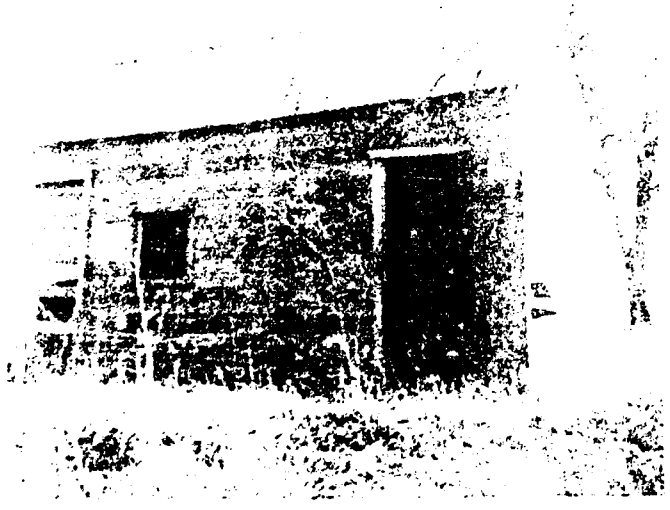
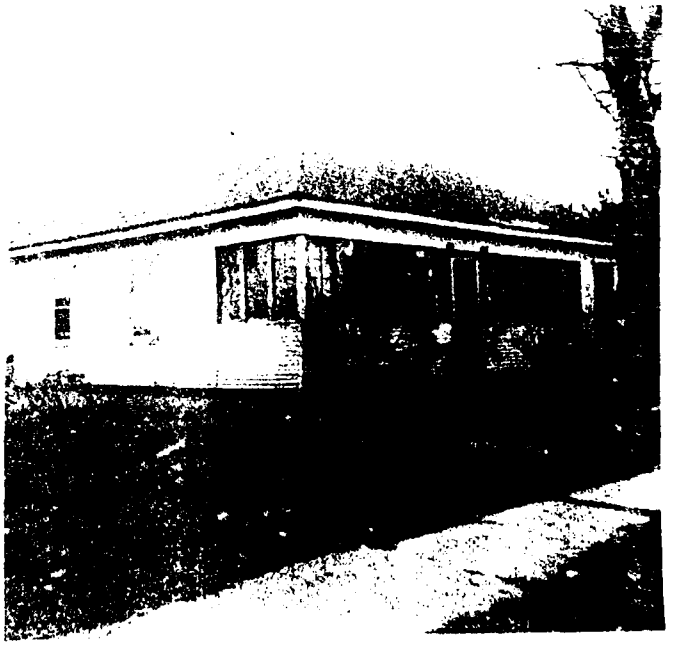
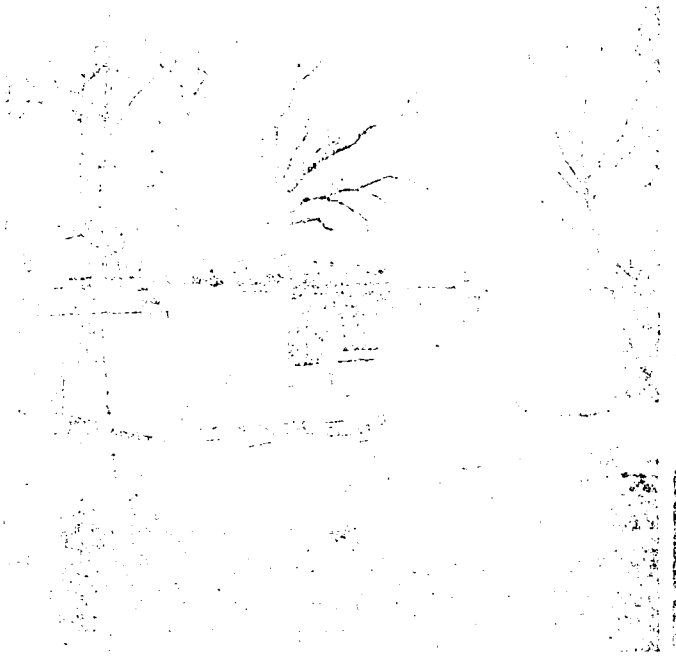
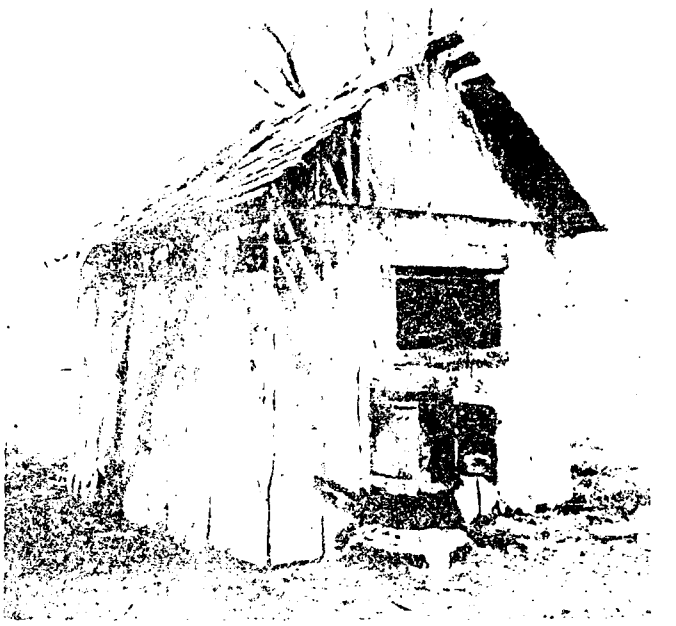


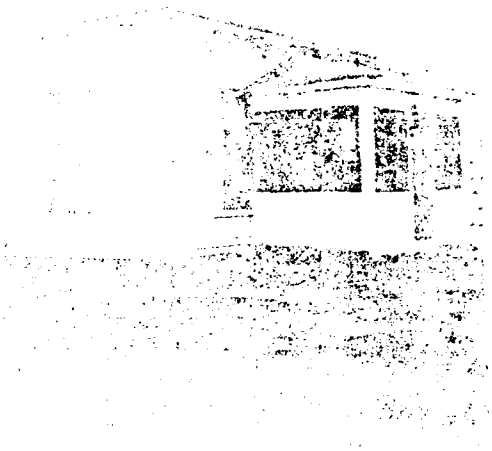


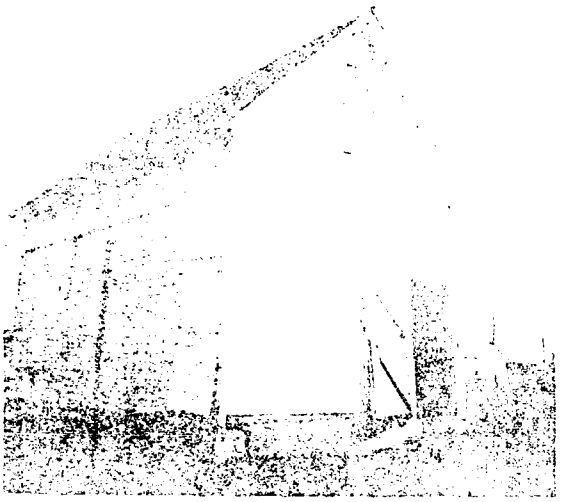


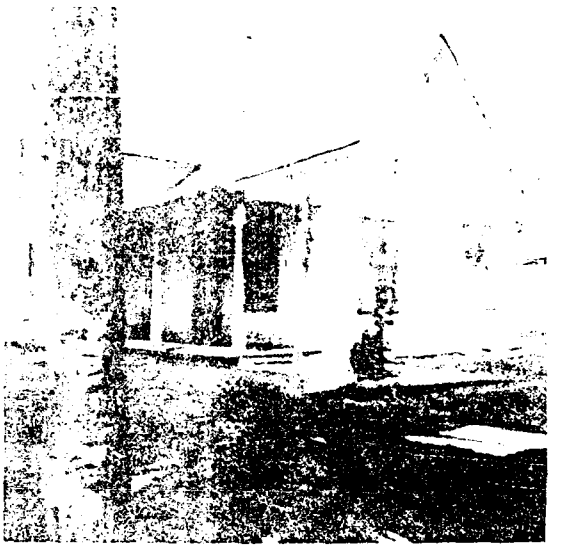


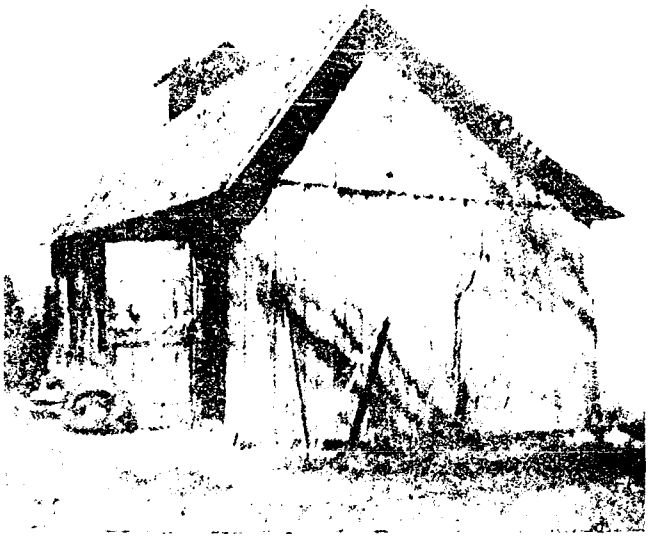












a. Structures C, Barn.

b. Structures M, K, and L.

c. Structures J and outbuildings.

APPENDIX C

ARTIFACT PHOTOGRAPHS

Figure 1. Ceramic and glass artifacts, site 13MA266.

a. Top left - shell edge rim sherd, scraped surface
Top right - shell edge rim sherd, feature 3, zone E
Bottom left - maker's mark, scraped surface
Bottom right - embossed saucer rim sherd, feature 3, zone E

b. Mold blown bottle, feature 13, zone A

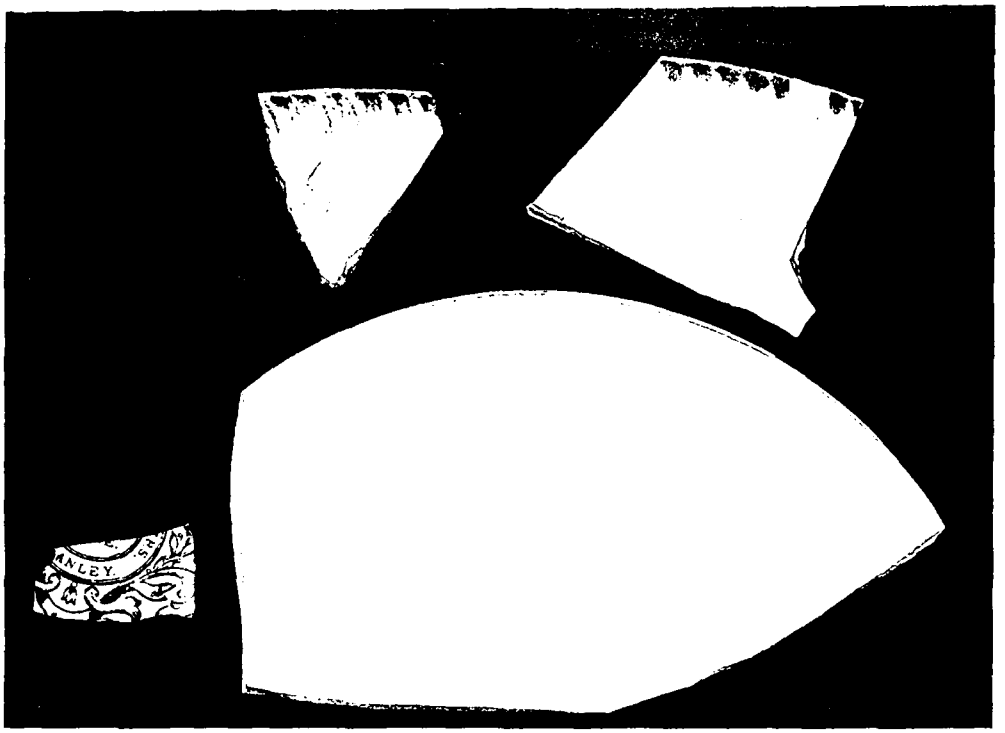
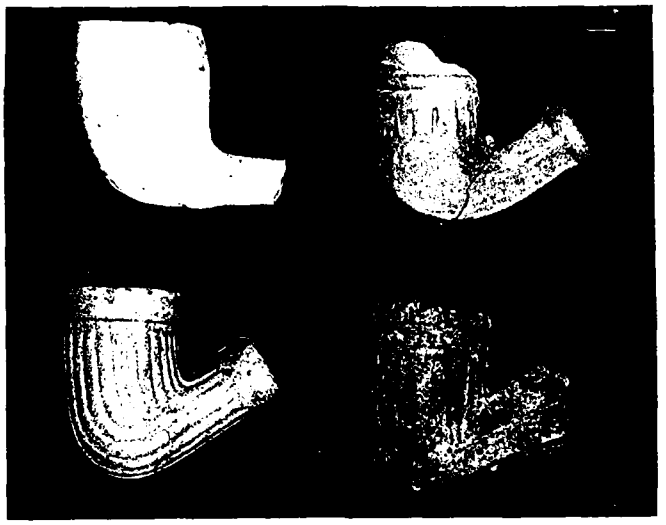


Figure 1. Ceramic and glass artifacts, site 12MA266.

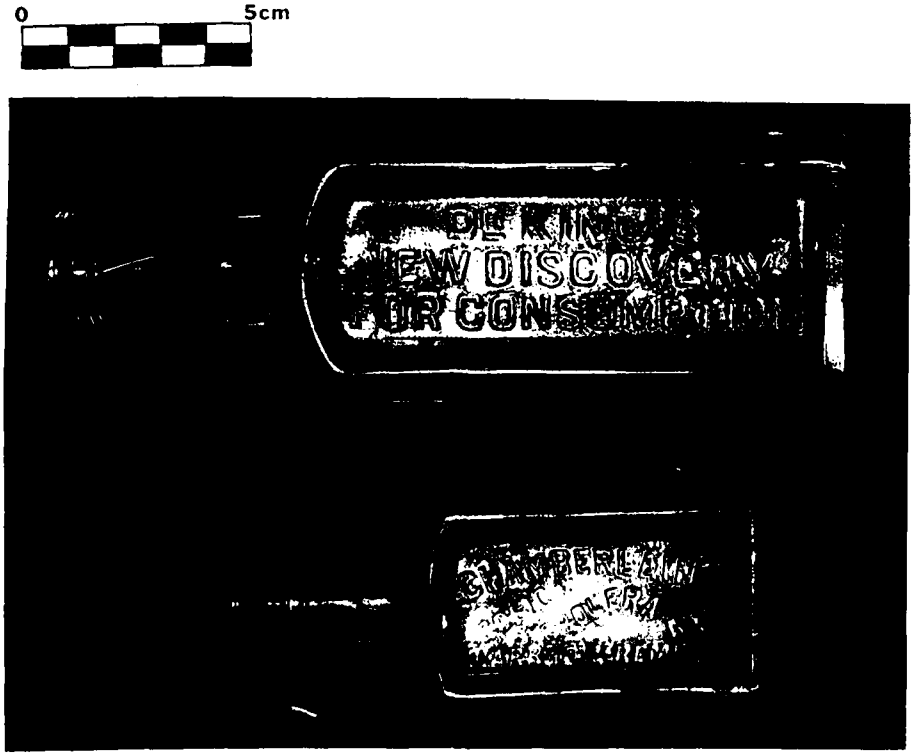
Figure 2. Ceramic and glass artifacts, sites 13MA449 and 347.

a. Top row - Kaolin pipe, feature 1, and detached stem pipe, feature 2, zone A, site 13MA449
Bottom row - detached stem pipe, feature 120, site 13MA347, and detached stem pipe, feature 6, zone A, site 13MA449

b. Top - medicine bottle, feature 6, site 13MA449
Bottom - medicine bottle, feature 1, site 13MA449



a



b

Figure 2. Ceramic and glass artifacts, sites 13MA449 and 347.

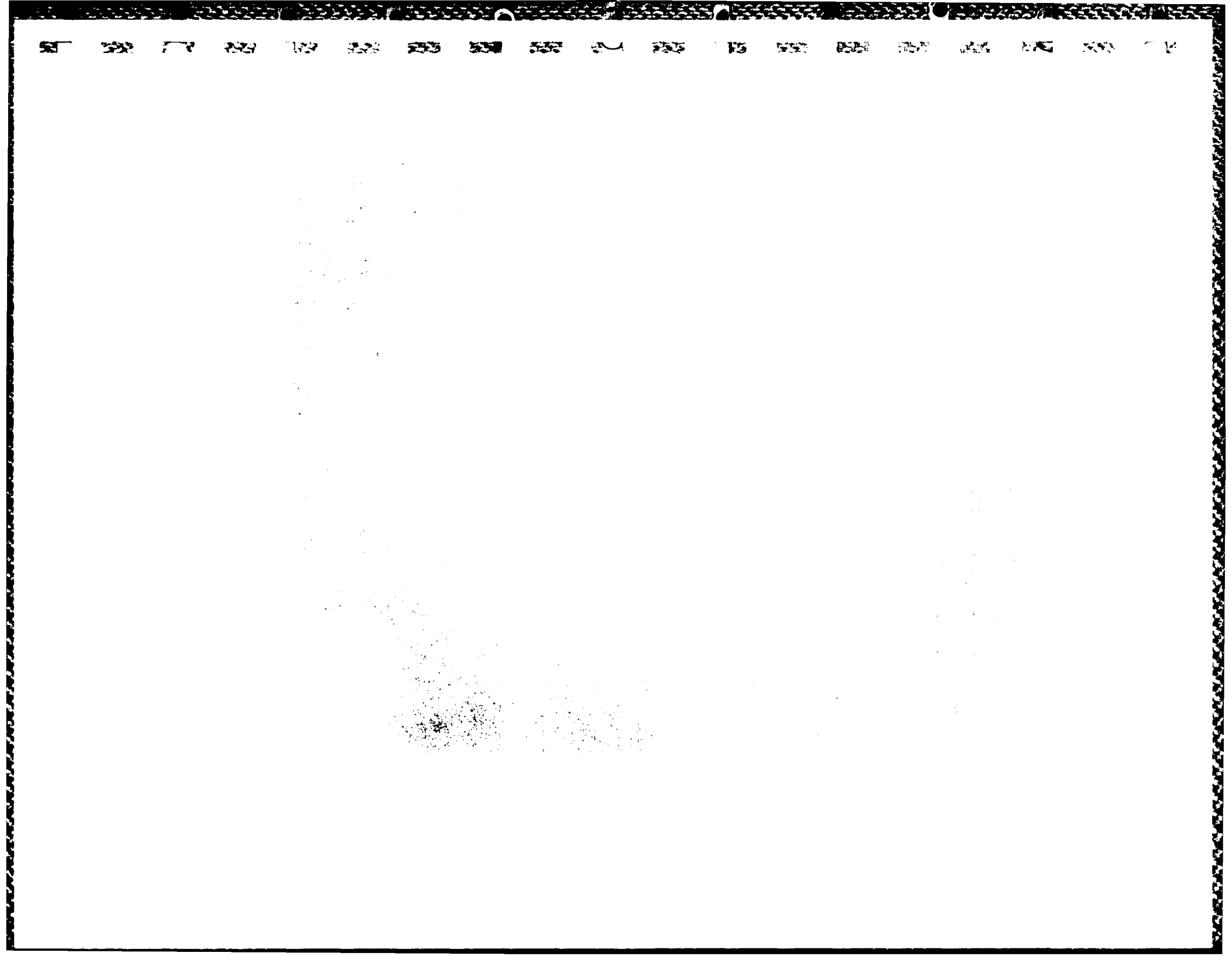
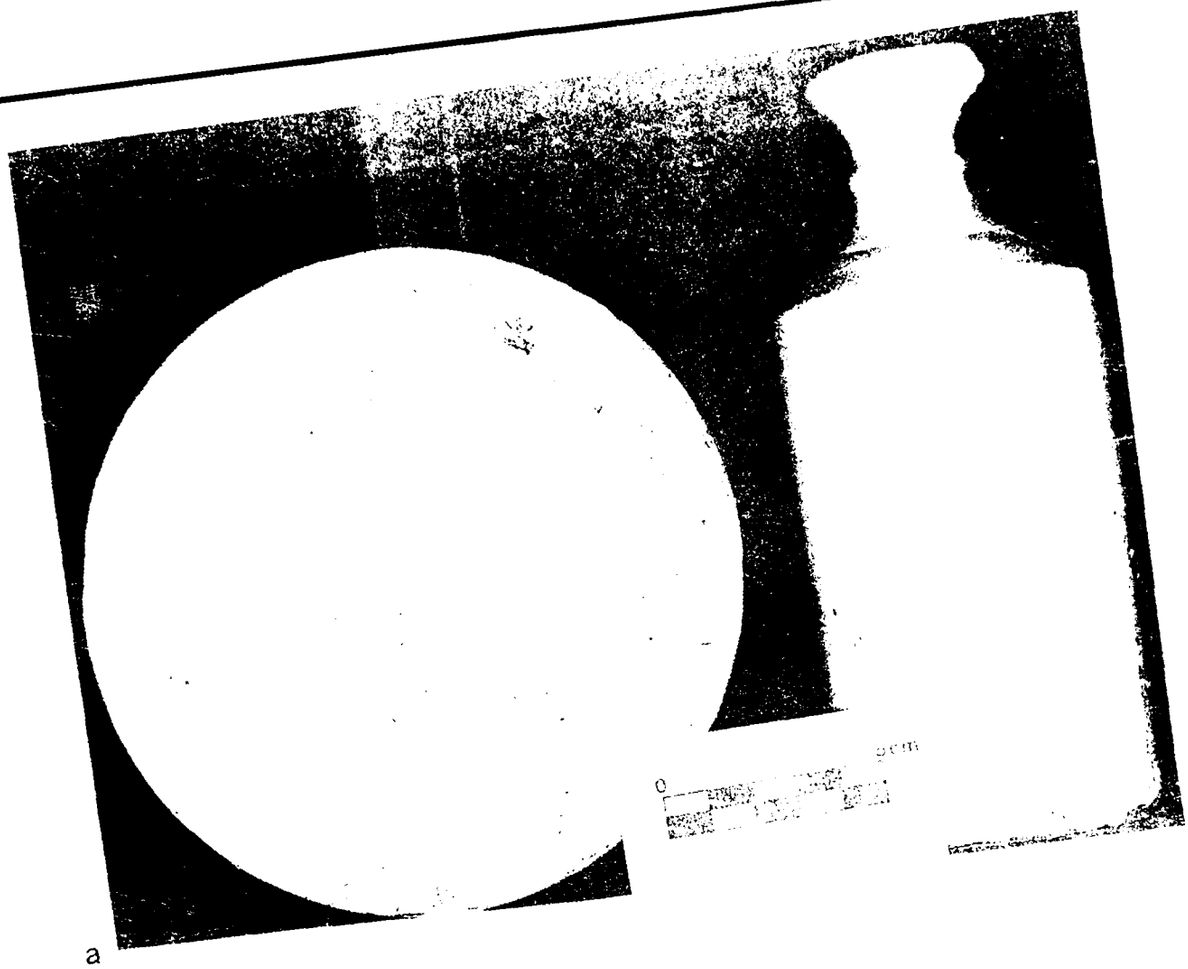


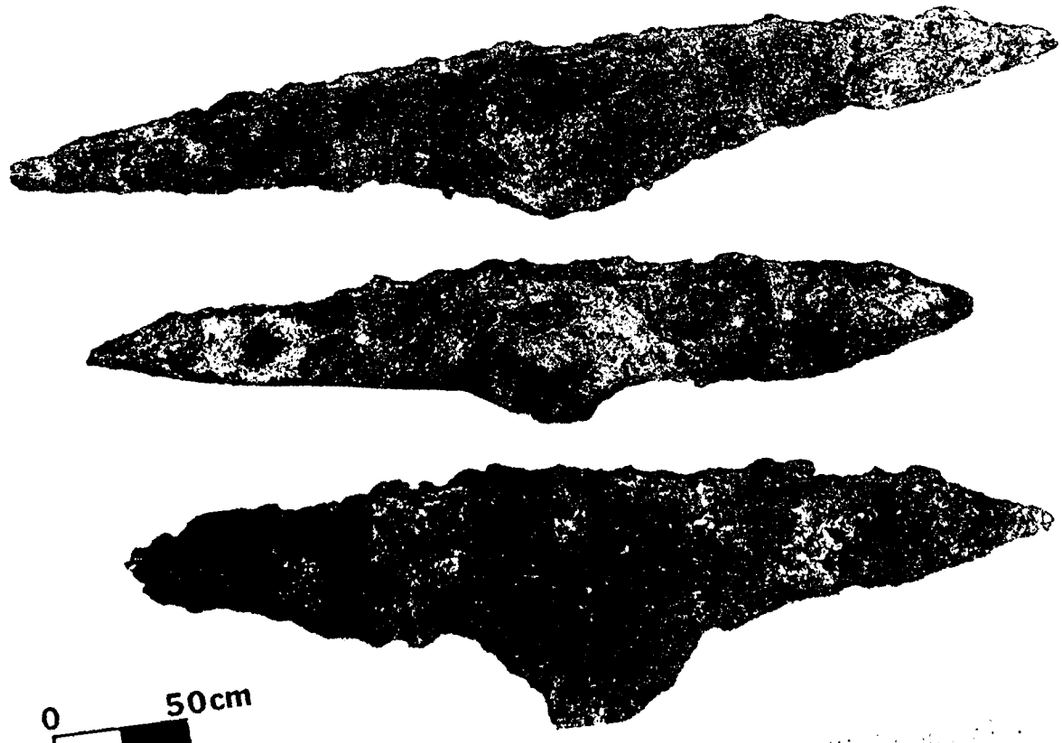
Figure 4. Ceramic and metal artifacts, sites 13MA449 and 347.

a. Left - stoneware maker's mark, feature 6, site 13MA449
Right - Bristol glazed ink or blacking bottle, feature 68, site 13MA347

b. Iron pick-ax heads, feature 6, site 13MA449



a



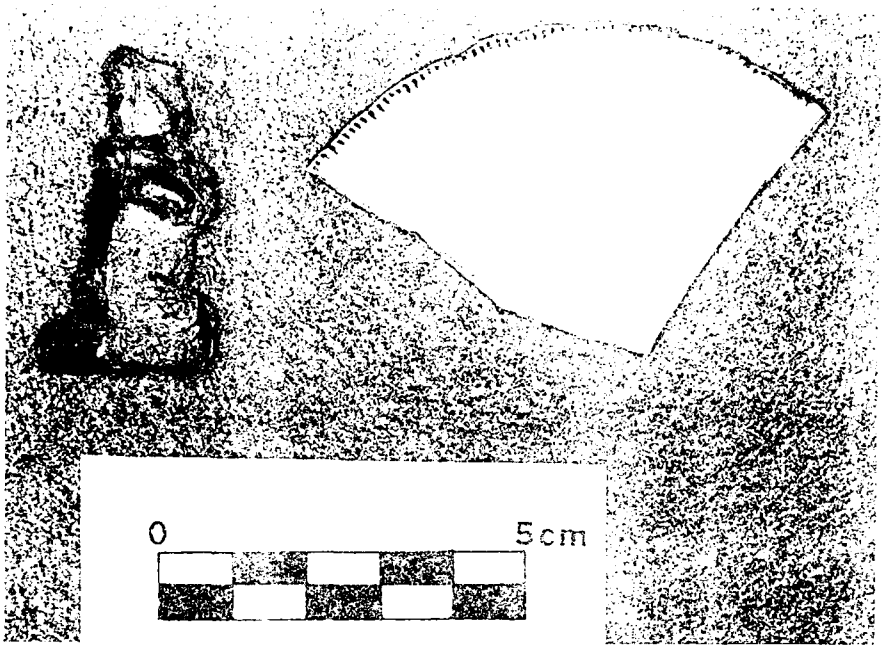
0 50cm

b

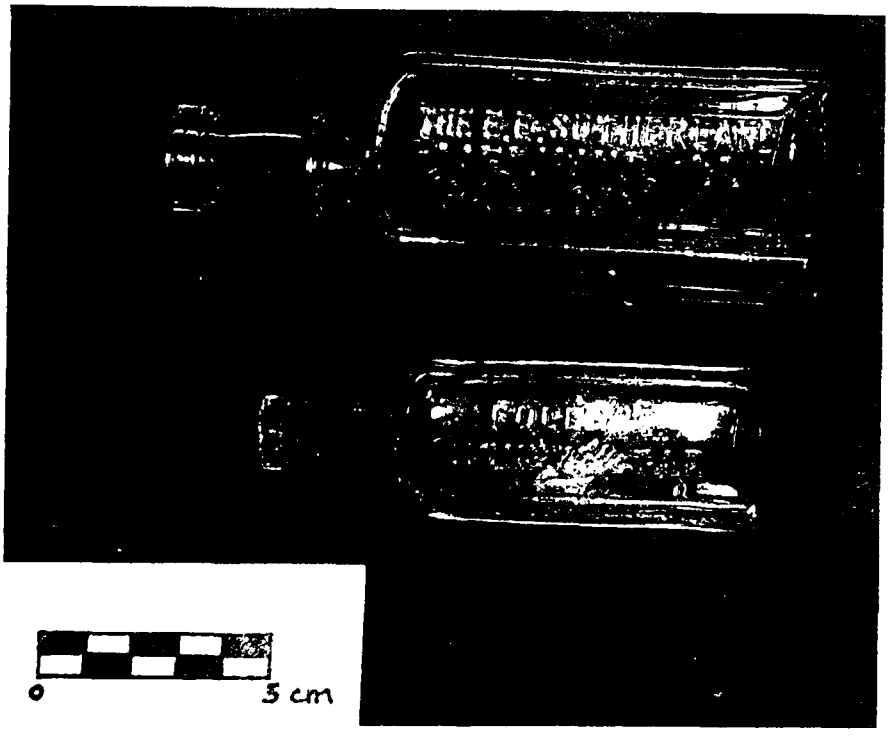
Figure 6. Ceramic and glass artifacts, site 13MA347.

a. Left - stoneware whistle, trench 5
Right - shell edge cup plate, feature 52

b. Top - medicine bottle, feature 68, zone A
Bottom - medicine bottle, feature 68, zone E



a



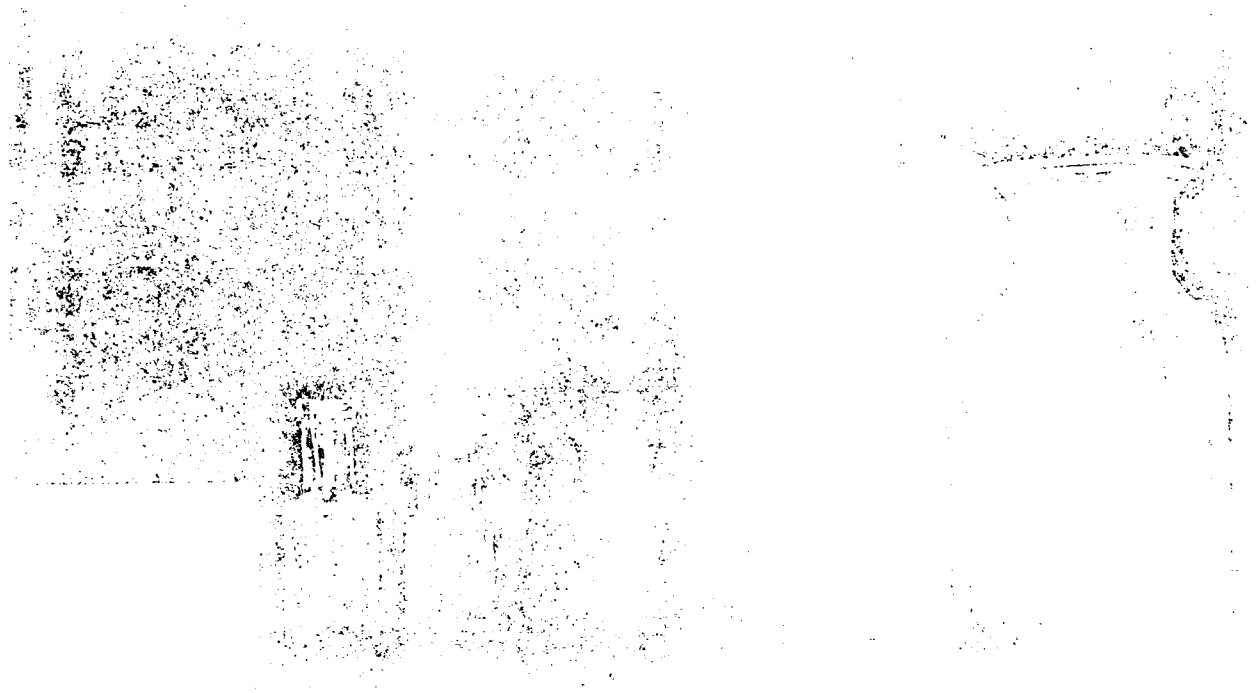
b

Figure 6. Bottle and base fragments, site 1PM37.

Figure 7. Glass and ceramics, feature 68, site 13MA347.

a. Sample of bottles

b. Porcelain doll heads



b

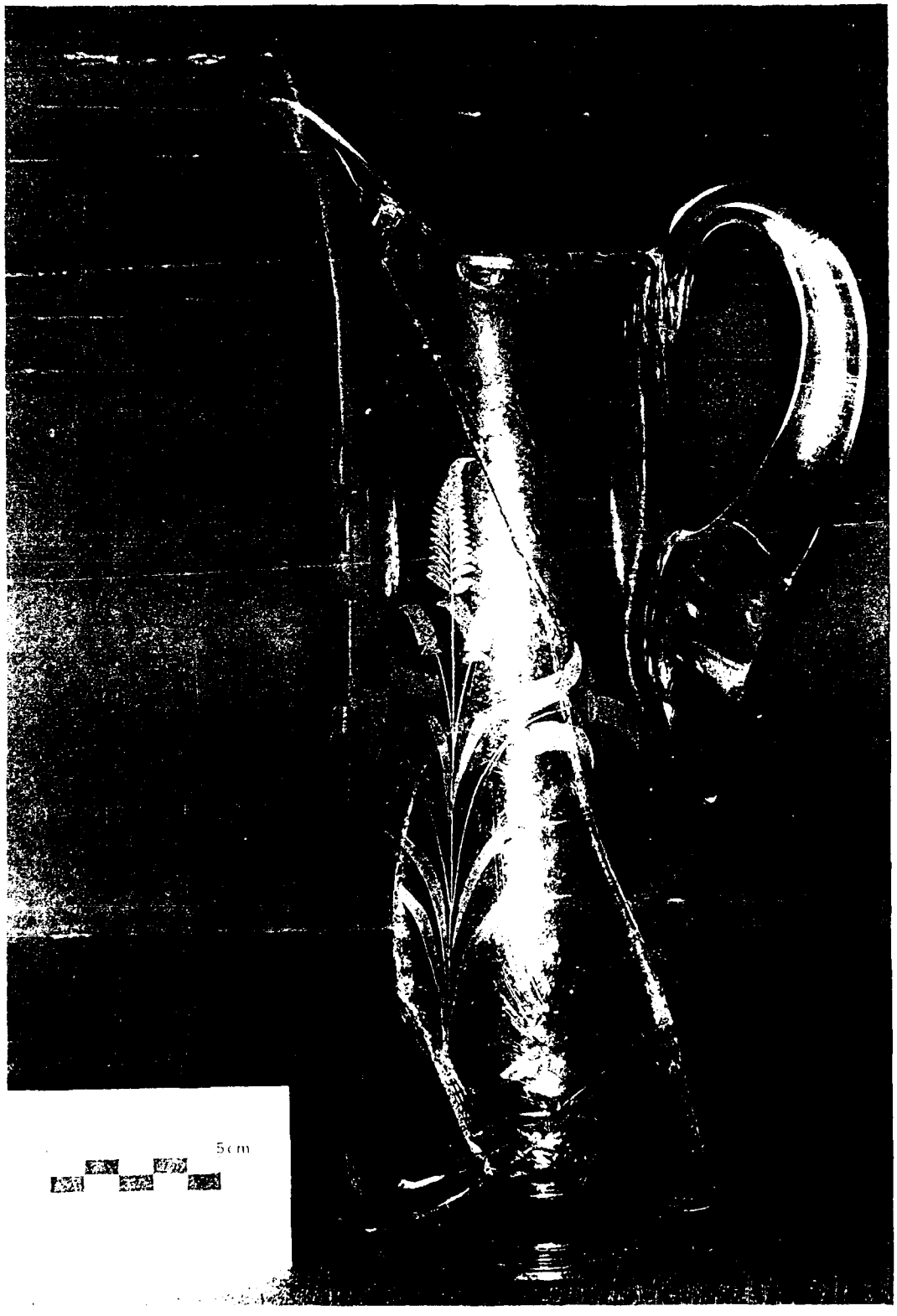
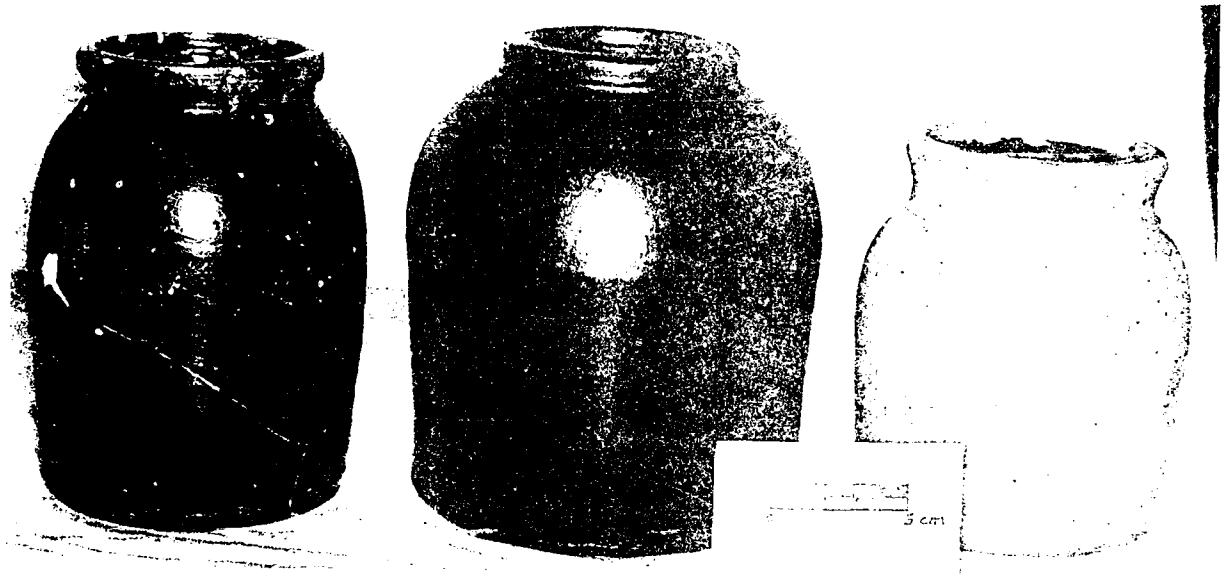


Figure 8. Etched glass pitcher, feature 68, site 13MA347.

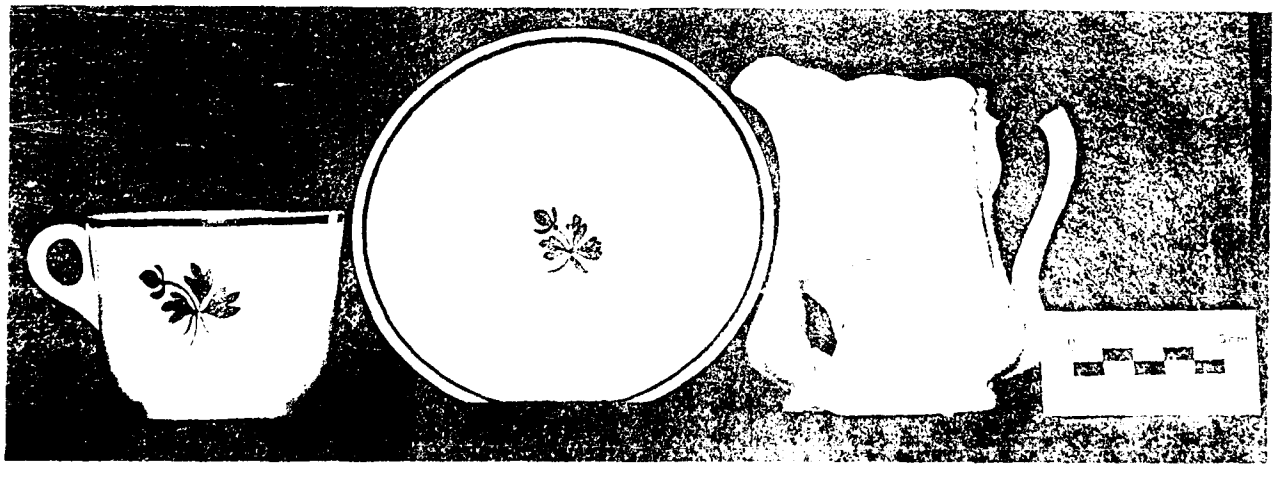
Figure 9. Ceramics, feature 68, site 13MA347.

a. Slip and salt glazed stoneware preserves jars

b. Tea leaf and embossed ironstone wares



a



b

Figure 9. Ceramics, feature 68, site 13MA547.

Figure 10. Sample of bottles from feature 6, trench 1, site 13MA347.

APPENDIX D

ARTIFACT SUMMARY TABLES

Table 1. Artifacts, The Sutton Site (13MA266).

Type	CSC	Stripped Surface	Features 1	2	3	4	8	10	11	12	13	Area A	TOTAL
CERAMICS													
Pearlware:													
undecorated		1											1
transfer print	1												1
Whiteware:													
undecorated	33	35	3	2	1		3						77
embossed	14	3		1	1								19
transfer print	1												1
flow transfer print			1										1
sponge	1												1
unid. decoration	1	2											3
shell edge		2			1								3
Ironstone:													
undecorated	17	16	2	1						1			37
embossed	3	8	1										12
Yellow Ware:													
mottled	1	1											2
Stoneware:													
unid. glaze	2												2
slip glaze	30	21	4										55
salt glaze	36	37	3	1	2	2							81
slipped only	12	5											17
decorated	2	5	1										8
Porcelain:													
button (Calico)	1												1
Miscellaneous:													
drain tile			1										1
GLASS													
Bottle:													
moldblown	34	16	3			1							54
unidentified	55	18			1	2							76
machine made	20	1											21

Table 1. (Cont'd).

Type	CSC	Stripped Surface	Features 1	2	3	4	8	10	11	12	13	Area A	TOTAL
3 pc plate/snap case	1										22*		23
2 pc moldblown	1												1
moldblown figural	1	2											3
freeblown	1												1
applied tooled-cork	2												2
improved tooled-cork	1	1											2
machine-cont. thread	1												1
Tableware:													
pressed	8	4			1			1					14
Miscellaneous:													
window	65	7	1		1		2		1				77
mirror	2												2
lamp chimney	1	1			1								3
METAL													
Nails:													
machine cut	53	8	3	36	290	7			1		2		400
wire nails	5	5											10
unident. nails	13				3	1							17
Other Architecture:	3				1								4
Kitchen:													
containers	4				12								16
kettle/skillet	2												2
stove part	1	2											3
Clothing:													
buckle	1												1
button				1									1
shoe parts					3								3
Tools/Activities:													
machine parts	8												8
tools	1												1
paint can	1												1

* = fragments from one vessel

Table 1. (Cont'd).

Type	CSC	Stripped Surface	Features 1	2	3	4	8	10	11	12	13	Area A	TOTAL
hook	2												2
spike												1	1
Transportation:													
wagon parts	1												1
harness furnishings	2												2
Other:													
unidentified	20	1	1	3	20	1			2				48
fencing	2			2									4
OTHER													
Architecture:													
brick	74	8	32	4	13	1	1	1	1		1		136
mortar	1												1
sandstone	209		15			15	2	1					242
limestone	11												11
Clothing:													
leather shoe parts					5								5
Other:													
other rock	4												4
slate	1												1
cinders/clinkers	52	1			10	5			4				72
plastic	4												4
cut wood								1					1
unmodified bone	1				1								2
Prehistoric:													
lithics	15					1	1	2					19
ground stone	1	2											3
ceramics	4					1							5
hematite	1												1
Total historic =	824	211	70	52	367	35	8	4	9	1	25	1	1,607
GRAND TOTAL =	845	213	70	52	367	37	9	6	9	1	25	1	1,635

Table 2. Test Trench Artifacts, Dunreath (13MA449).

Type	Test Trenches by Quarter Blocks														TOTAL
	10NE	11NW	11NE	11SE	11SW	10SE	10SW	9SE	16NW	16NE	15NW	15NE	14NW	13SE	16S	
CERAMICS																
Whiteware:																
undecorated	21					24	17	6	3	11	5			3	6	96
embossed	1					1	1	3		4						10
transfer print	1									1						2
handpainted flow										1	2				1	4
transfer print flow	1														1	2
decalcomania								1								1
Ironstone:																
undecorated	10					8	8	10	1	2						39
embossed							1			1						2
transfer print	2															2
handpainted rim band						1				1						2
luster tea leaf						1	1									2
decalcomania								2								2
Yellow Ware:																
undecorated						1										1
Red Ware:																
undecorated								1								1
Stoneware:																
slip glaze	14				4	16	15	9	2	3	1	8				71
salt glaze	4				1	4	5	4		2	1	1				22
Bristol glaze	5					2	1	9	4	3	2			1		27
Bristol/Albany	2						2	5	1	1						11
Albany slip glaze						4	4			1						9
decorated						1										1
Porcelain:																
undecorated	1		1					2		4						8
embossed								1								1
decalcomania								1		1						2
overglaze wash	1															1
toy dish															1	1
Miscellaneous:																
drainage tile	2					3	1	1		1						8

Table 2. (Cont'd).

Type	Test Trenches by Quarter Blocks															TOTAL
	10NE	11NW	11NE	11SE	11SW	10SE	10SW	9SE	16NW	16NE	15NW	15NE	14NW	13SE	16S	
Bottle:																
moldblown							1									1
unidentified	23	1	1		2	22	9	34	5	13	2	2			8	122
machine made	2	1						3		1					2	9
3 pc plate/snap case								1								1
improved tooled-cork	2	1				2		2						1		8
ground/screw thread								1								1
machine-cork	1								1							2
-crown									1							1
-screw	1							1			1				1	4
Jar:																
machine pressed						1		1								2
unidentified	1					1		8	4	5	1					20
Tableware:																
pressed	8		1			3	5	1	2			1				21
Miscellaneous:																
window	5					12	5	7		4						33
lamp chimney												1				1
jar lid liner	3					2	2	2								9
METAL																
Nails:																
machine cut	2					1	1	2								6
wire nails			1					2	2	3						8
unident. nails			1			6	3	2		2					3	17
Kitchen:																
kettle						1	1									2
containers															1	1
stove parts						6			1							7
Personal:																
pocket watch									1							1
Tools/Activities:																
machine parts	1			1		1	2	4		2				1		12
spike						1	1	1								3
tool							1		1						2	4

Table 2. (Cont'd).

Type	Test Trenches by Quarter Blocks															TOTAL
	10NE	11NW	11NE	11SE	11SW	10SE	10SW	9SE	16NW	16NE	15NW	15NE	14NW	13SE	16S	
Transportation:																
wagon parts	1						2									3
railroad spike			1					1						1		3
horseshoe	2															2
Furniture:																
caster						1										1
lamp parts	1															1
Other:																
unidentified					1	12	6	3			1			2	1	26
wire					1						1			1		3
fencing						1										1
unidentified spring									1							1
OTHER																
Architecture:																
brick	1					1	4	5	1	3	1			31	12	59
sandstone									1							1
limestone									1							1
concrete								1								1
Clothing:																
shell button		1														1
Other:																
other rock																
slate																
cinders/clinkers			1			1	1	2	3	2				1		11
coal						2										2
slag							1									1
mussel shell								1		1						2
Prehistoric:																
cobble tool							1									1
TOTAL =	119	4	7	1	9	142	102	140	36	73	18	13	0	42	39	745

Table 3. Stripped Blocks and Area Artifacts, Dunreath (13MA449).

Type	--Stripped Quarter Blocks-- Block 10 SE SE	Block 10 NW SW	Block 9 SW SE	--Areas-- 1	2	TOTAL
CERAMICS						
Whiteware:						
undecorated	25	9	15			49
embossed		5	3			8
transfer print	2					2
decalcomania		1	1			2
Ironstone:						
undecorated	7	8	4			19
embossed		2				2
luster tea leaf				1		1
Yellow Ware:						
sponge			1			1
Red Ware:						
undecorated			1		7	8
Stoneware:						
slip glaze	52	22	4	3		81
salt glaze	6	12	2			20
slipped only				1		1
Bristol glaze	2	8	18			28
Bristol/Albany		1	7			8
Albany slip glaze	2		3			5
decorated				1		1
Porcelain:						
undecorated		1	4			5
embossed			1			1
button	2		1			3
doll part			1			1
Miscellaneous:						
drainage tile		1				1
kaolin pipe				1		1
GLASS						
Bottle:						
moldblown	2		2			4
unidentified	13	21	19	1	1	55
machine made	1		2			3
improved tooled-cork	3	1	3			7
machine-screw		2				2
-cont. thread		1				1
kickup	1					1
Jar:						
machine pressed	1					1
unidentified	1					1
Tableware:						
pressed	3	1	3	2		9

Table 3. (Cont'd).

Type	--Stripped Quarter Blocks-- Block 10 SE SE	Block 10 NW SW	Block 9 SW SE	--Areas-- 1	2	TOTAL
Miscellaneous:						
window	6			5	2	13
jar lid liner	1	4				5
METAL						
Nails:						
machine cut	3				5	8
wire nails			1	2		3
unident. nails	3	1				4
Other Architecture	1	1				2
Kitchen:						
kettle		1				1
containers				3		3
stove parts			2			2
utensils			1			1
Tools/Activities:						
machine parts	13	5	3			21
tool	2		1			3
containers	1					1
Transportation:						
wagon parts			1			1
harness parts			1			1
railroad spike			3			3
Furniture:						
hook	1					1
Other:						
unidentified	6	1	2	1		10
wire			2			2
OTHER						
Architecture:						
brick	2	4	4			10
Other:						
cinders/clinkers	1	2				3
coal				2		2
slag		1				1
TOTAL =	163	117	115	23	15	433

Table 4. Feature Artifacts, Dunreath (13MA449).

Type	Features																				TOTAL
	1				2				3	4	5	6				7					
	S1/2	A	B	C	W1/2	A	B	C				S1/2	A	B	C	S1/2	A	B	D		
CERAMICS																					
Whiteware:																					
undecorated					12	26			6	4	14	10	8	6	5						91
embossed						1				1	4	2		4	1						13
transfer print									3	1											4
transfer print flow					1																1
luster tea leaf												1									1
decalcomania												1	2	6							9
Ironstone:																					
undecorated	1											4		2		1					8
embossed													1								1
Yellow Ware:																					
undecorated											1		1								2
sponge												1	1								2
brown glazed												1									1
Stoneware:																					
slip glaze	1				1	3		1	50	11		3	2	1							73
salt glaze					3	4		1	10	1			1								20
Bristol glaze											12	50	31	13	1						107
Bristol/Albany					3				33	1		31	53								121
Albany slip glaze					2					1		4	4		2						13
decorated					1							1	1	1							4
Porcelain:																					
embossed													1								1
embossed/gilded														1							1
button	1			4					2												7
Frozen Charlotte doll															1						1
door knob										1			1	1							3

Table 4. (Cont'd).

Type	Features 1 S1/2	1 A	1 B	1 C	2 W1/2	2 A	2 B	2 C	3	4	5	6 S1/2	6 A	6 B	6 C	7 S1/2	7 A	7 B	7 D	TOTAL
Miscellaneous:																				
clay marble												1			2					3
redware door knob												1								1
detached stem pipe						1							2							3
kaolin pipe	1																			1
drainage tile					6	5		1				1			2					15
GLASS																				
Bottle:																				
moldblown					2				7		7	40	5	16						77
unidentified	1				2	47		2	10	2	402	241	115	675	30					1527
machine made													1		1					2
3 pc/improved tld ck	1					1			2		1	11	4	19						39
3 pc plate/snap case									1	2	18	27	10	34	1					93
turnmold												4								4
applied tooled-cork														2						2
improved tooled-cork					1			2	1	2	23	54	8	31	3					125
-crown													2							2
-screw											1		1	1						3
ground/screw thread									1		6		3	5						15
ground lip						1							1		7					9
machine-cork													5	2						7
-screw													1		3					4
Jar:																				
moldblown						2			9		15		7	182						215
unidentified						6					73	3	1		41					124
Tableware:																				
pressed	1				3	10			6		1	13	1	4	2					41

Table 4. (Cont'd).

Type	Features																				
	1				2				3	4	5	6				7					
	S1/2	A	B	C	W1/2	A	B	C				S1/2	A	B	C	S1/2	A	B	D	TOTAL
Miscellaneous:																					
window					3	39	1	1			6	9	1	13	41						114
lamp chimney	53					12	1		20			3		24							113
lid												1									1
jar lid liner							1	1				1	1								4
melted													1								1
METAL																					
Nails:																					
machine cut	1				4	8			1		1		5								20
wire nails					10	13	1	4				1	5	5							39
unident. nails		3	3		5	47		9	2		13		6	15	10		1	4	7		125
Other Architecture			2								1										3
Kitchen:																					
skillet/kettle										1	2	2									5
containers		13		1	2	90		11	3	1	32	3	14	33		1					204
jar lids												1	1		1						3
barrel bands		3																			3
stove parts	1													1							2
utensils									1					1	1						3
Clothing:																					
shoe part						1															1
Personal:																					
key	1																				1
pocket knife	1													1							2
coin															1						1
METAL (cont'd.):																					

Table 4. (Cont'd).

Type	Features																				
	1				2				3	4	5	6				7					
	S1/2	A	B	C	W1/2	A	B	C				S1/2	A	B	C	S1/2	A	B	D	TOTAL
Tools/Activities:																					
machine parts				3		1			6		1	4	2	3	5						25
bucket			1						8			9									18
paint can						2		1	3					9							15
baling seal						1															1
spike												1									1
hoe/rake														2							2
pick axe														1	2						3
Transportation:																					
wagon parts											1	3	1	1							6
railroad spike												1	1	1							3
Furniture:																					
caster		1																			1
lamp parts							1					1									2
Arms:																					
rifle butt									1												1
ammunition														3	1						4
Other:																					
unidentified	2			3	2	7			2	1	6	1	7	4	1	4					40
wire					2						1			1							4
fencing						4						3									7
OTHER																					
Architecture:																					
brick	5				2	2		1			1				1						12
sandstone				2							2										4
Clothing:																					
leather shoe parts						5			5		2		26	12							50
leather belt														2							2

Table 4. (Cont'd).

	Features																				
	1				2				3	4	5	6				7					
Type	S1/2	A	B	C	W1/2	A	B	C				S1/2	A	B	C	S1/2	A	B	D	TOTAL
Personal:																					
bakelite lice comb														1						1
slate pencil														1						1
Arms:																					
skeet											1									1
Other:																					
cinders/clinkers		12	2		5	38		7							1		2		3	6	76
coal				3		26		26		3	3								4	2	67
TOTAL =	71	32	8	16	72	403	5	68	193	33	651	549	345	1140	167	8	1	11	15	3788	

Table 5. Artifacts from Test Unit and Trench Excavations, Site 13MA347.

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
CERAMICS														
WHITEWARE														
undecorated	15		15	1			1		136	10	642	84	27	931
embossed			5						40		73	1	1	120
decal			4						13	1	61	4	1	84
embossed/decal			2						1		120		3	126
embossed/gild									2					2
emb/gild/decal									3					3
gold decal									4		4		1	9
decal/gild			3						4					7
ivory			1											1
ivory/emb			4											4
ivory/decal			1						1					2
ivory/rim band			1											1
gild									2					2
gold rim band			3						10	1				14
handpainted												1		1
handptd. hairline									1					1
handptd. rim band			3						1		1			5
transfer print			1								1			2
late flow												37		37
flow/emb									1			9		10
flow/decal												6		6
flow/decal/gild												3		3
flow/emb/gild												1		1
flow/emb/decal											1	7		8
luster tea leaf			1								2			3
IRONSTONE														
undecorated			2						4	1	6			13
gold decal											1			1
flow-print									3					3
flow/emb									1		1			2
luster tea leaf			1											1

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
PORCELAIN														
undecorated	1								7	1		1		10
embossed	1		1						4	2				8
decal									13	3				16
embossed/decal									5	8		2		15
decal/gild									4					4
gold rim band									5					5
handpainted									9					9
handptd. rim band			1											2
embossed/handptd.											1	2		3
flow/decal/gild									1					1
STONEWARE														
Bristol	1		7						76	10	9	29		132
Bristol/Albany			2						12					14
Albany											1			1
slip glaze	1	1	1						11	1	2			17
salt glaze			1						1					2
YELLOW WARE														
embossed									2					2
LATE REDWARE									7					7
MISCELLANEOUS														
porcelain button							1							1
" doll			1											1
" insulator									1					1
toy dish											1	1		2
decorative dish									1					1
kaolin pipe			1											1
detached stem pipe									2					2
drain tile				2					1					3
whistle												1		1
chamberpot:														
whiteware undec.							14							14
wash bowl:														
ironstone undec.							3							3

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
GLASS														
BOTTLE/JAR														
unidentifiable	5		77				4	2	1751	278	163	95	12	2387
moldblown			1						26	12	5	2		46
machine made	2		5						158	32		1		198
turnmold									1					1
2 pc. moldblown			1											1
3 pc./plate/sc									8		2			10
imp. tld. cork			6						34	2	7	1	1	51
" " crown			2						6	2				10
ground rim									5					5
ground screw									8	4				12
mach. made cork	1		4						47	1			1	54
" " crown			2						44					46
" " ct			1						3					4
" " nss									8	1	2			11
" " screw	1		6						36	10				53
" " lightng.	1								5					6
" " pryoff									1					1
" " lug									1					1
embossed letters				1					85	1	1	1		89
embossed/panel									13		43			56
OTHER BOTTLE														
Chemical:														
unidentifiable										1				1
mach. made cork									2					2
Ink well:														
mach. made nss									1					1
" " cork									2					2
Cosmetic:														
unidentifiable									1					1
machine pressed			1											1
mach. made ct			1											1

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
TABLEWARE														
pressed	1		22						22		7	3		55
machine pressed									35	12				47
Depression			3											3
Carnival									1					1
milled/rouletted									42	2				44
ARCHITECTURAL														
window	1		10						863	136	20	34	3	1067
door									1	2				3
thick/ridged											1	1		2
MISCELLANEOUS														
melted	7						1		375	326	503	439		1651
unidentifiable	1								2	726			6	735
chimney			2						110	13	5			130
globe									15					15
lid liner			2						19	42				63
lid	2								3					5
tube									2					2
syringe									1					1
bead	1													1
METAL														
NAILS														
unidentifiable			26				4	2	106	73	50	5	3	269
machine cut		1	66			1		1	58	69	208	110	11	525
drawn/cut	6	11	35	7		1	27	31	590	211	283	48	12	1262
OTHER ARCHITECTURE	1		4				1	1	23	4	45	3		82
KITCHEN														
stove parts									4					4
pots/pans									7	1				8
containers									512	9	105			626
pryoff lid									3					3
screw lid									27					27
screw cap										2				2
crown cap									300	21				321
lid									1					1

Table 5. (cont'd.).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
METAL-KITCHEN CONT'D.														
utensils	2								8	2				12
pepper/salt			1						3					4
can key									2					2
lightning fastener											1			1
foil			1							1				2
TOOLS/ACTIVITIES														
tools	1								4			2		7
machine parts	18		39	1					32	45	4		1	140
container			1						5					6
paint can									258	1	1			260
varnish can									2					2
cap									3					3
bucket									5	5			10	20
battery								1						1
chain									15					15
barrel bands									3					3
skates	1								2					3
FURNITURE														
screw										1				1
lamp part									5	9				14
drawer pull									1					1
light bulb									2	1				3
spring									4	21				25
decorative plate										1				1
PERSONAL														
coin							1		2	1				4
pencil part									1					1
tobacco can									6					6
harmoni									1					1
cosmetic box											1			1
CLOTHING														
button			1				1		2		56			60
rivet									3					3
snap			1						3					4

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
CLOTHING CONT'D.														
safety pin			2											2
straight pin				1					2					3
shoe/boot part									8	1	9			18
buckle			1						1		2			4
suspender part									1		1			2
garter hook			1								1			2
cufflink											1			1
TRANSPORTATION														
wagon part	3								4					7
carriage part									2					2
auto part									2					2
horseshoe									2					2
harness part	1													1
railroad spike									3					3
ARMS														
ammo									22	1	1	2		26
OTHER														
unidentifiable	1	2							87	27	22	1		140
strap			6						57	19	7			89
bar			1											1
sheet	1	3							1580	13	12		3	1612
fencing			2						71	102	1			176
wire	1		10						544	72	1	4		632
screen									7					7
tubes									21			1		22
spring										2				2
OTHER														
ARCHITECTURAL														
brick	3		3	19			2	1	3	1	6	3		41
sandstone									1					1
limestone									2					2
mortar				8			6	1	7		5		1	28
concrete					4						2			6

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
ARCHITECTURAL														
CONT'D.														
tile block													1	1
plaster						1								1
slate									13					13
asphalt/tarpaper											3	20		23
linoleum									20					20
OTHER														
other stone		1		1					4		3			9
cinders/clinkers		6	4				2	6	7		18			43
bottle cork									3					3
crown cap cork									2					2
ground stone									1					1
graphite pencil									8					8
charcoal							1		4		10			15
cut wood							2							2
paint									1					1
mica									1					1
fabric									9					9
paper									1					1
clay											1			1
Plastics:														
unidentifiable									2					2
wrapper						1								1
calender								1						1
Synthetics:														
skeet									10					10
photographic plate									2					2
Rubber:														
unidentifiable									1					1
shoe/boot									180	2				182
jar seal									14					14
tire									108		1			109

Table 5. (Cont'd).

Type	Str. P Midden	12-13S 15-18E	17-19S 24-26E	Test Units 1	2	3	4	5	Trenches 1 A-E	1 G	4	5	6	TOTAL
OTHER CONT'D.														
Leather:														
shoe/boot				7					323	2	23			355
belt									3					3
harness									8					8
saddle									2					2
Bone:														
button									2					2
Shell:														
button									3					3
Composite:														
clothing									18					18
TOTAL	81	25	413	48	4	4	71	47	9307	2361	2570	965	98	15994

emb = embossed
sc = snap case
nss = nonstandard screw threaded
ct = continuous threaded
imp. tld. = improved tooled
mach. made = machine made

Table 6. Artifacts from Features, Site 13MA347

Type	5	6	9	10	12	13	14	17	18	19	22	24	25	26	27	28	Total
CERAMICS																	
WHITEWARE																	
undecorated		2	23													68	93
embossed		2	2													8	12
decal		3	4		1											13	21
embossed/decal			5													8	13
emb/gild/decal																3	3
decal/gild			2													3	5
ivory/emb			1														1
ivory/rim band			1														1
gold rim band		1	1														2
transfer print			8														8
transfer print/emb			1														1
flow-handptd.		1															1
flow/emb			2													6	8
flow/decal			1														1
flow/gild			1														1
luster tea leaf			4														4
irid. luster																2	2
green slip		1															1
IRONSTONE																	
undecorated			1														1
embossed			1														1
embossed/decal			1														1
emb/gild/decal			1														1
transfer print			1														1
PORCELAIN																	
embossed			2														2
decal			3														3
embossed/decal			1														1
gold rim band			5														5
handptd. rim band			1														1
STONEWARE																	
Bristol		3	2		29												34
Albany		1															1
slip glaze		1	20														21
salt glaze		1															1
unglazed/unslipped		1															1

Table 6. (cont'd.)

Type	5	6	9	10	12	13	14	17	18	19	22	24	25	26	27	28	Total
MISCELLANEOUS																	
porcelain doll part									1								1
" insulator			1														1
marble			1														1
GLASS																	
BOTTLE/JAR																	
unidentifiable		14	105		7						6	4		1		30	167
moldblown		1	1														2
machine made			10		1											2	13
3 pc./plate/sc			2														2
imp. tld. cork	1	3	14														18
" " crown			3														3
ground screw																2	2
mach. made cork			1														1
" " crown		1	1														2
" " ct			2														2
" " other			1														1
embossed letters		1	8		2						1						12
embossed design			1														1
embossed/panel			9														9
color label		1			1												2
OTHER BOTTLE																	
Chemical:																	
unidentifiable			1														1
Cosmetic:																	
mach. made			1														1
Sewing Machine Oil:																	
mach. made																1	1
TABLEWARE																	
pressed			1														1
machine pressed			3														3
Depression		3	3														6
ARCHITECTURAL																	
window		5	20		1						2						28
thick/ridged		2															2

Table 6. (cont'd.)

Type	5	6	9	10	12	13	14	17	18	19	22	24	25	26	27	28	Total
MISCELLANEOUS																	
melted		2	4								1					16	23
unidentifiable			12														12
globe			3			1											4
lid liner			1						1							1	3
lightning lid			3														3
button			1														1
ring			1														1
stopper			1														1
marble			1														1
etched unident.			1														1
METAL																	
NAILS																	
unidentifiable		10	8		3				1		1					8	31
machine cut		31	33								1				1	40	106
drawn/cut		89	89	3	16						17	2				71	287
OTHER ARCHITECTURE		5	5													1	11
KITCHEN																	
stove parts			2														2
containers			1			2				7							10
screw lid									1								1
utensils			5													1	6
TOOLS/ACTIVITIES																	
machine parts		2	25														27
PERSONAL																	
pocketknife		1															1
CLOTHING																	
button		1								1							2
shoe/boot part																7	7
buckle			1														1
OTHER																	
unidentifiable		1	9														10
strap			4		1												5
bar			10		1											1	12
sheet			6						3							9	18
fencing		5	2	3			1				1					1	13
wire		2	3	3			8										16
tubes			2														2

Table 6. (cont'd.)

Type	5	6	9	10	12	13	14	17	18	19	22	24	25	26	27	28	Total
OTHER																	
ARCHITECTURAL																	
brick		1		2			2			4	2					1	12
sandstone									2								2
mortar					1		1										2
concrete		1			1						2						4
tile block					1												1
asphalt/tarpaper		7		14													21
OTHER																	
other stone																1	1
cinders/clinkers															1		1
coal												1					1
graphite battery			3														3
charcoal														1			1
cut wood								1					1	1			3
slag																4	4
mud dabber nest																2	2
OTHER																	
Plastics:																	
wrapper						3			1								4
bead									1								1
Synthetics:																	
button			1														1
Leather:																	
belt			2														2
harness			3														3
straps			4														4
Shell:																	
button																2	2
Composition:																	
light bulb			2														2
spark plug			3														3
ring			1														1
TOTAL	1	206	536	25	68	6	12	1	11	12	34	7	1	3	2	312	1237

Table 6. (cont'd.)

Type	29 A	29 B	29 C	29 D	29 E	31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
CERAMICS																			
WHITEWARE																			
undecorated	1	1					3			4	1			1		2		13	26
embossed			1				1			1	1	1						2	7
decal		1							1		1								3
embossed/decal							1												1
decal/gild									1	1						1		9	12
ivory/emb						1													1
ivory/decal							2					2							4
gold rim band							1												1
handpainted														1					1
transfer print										1									1
flow/emb			1														1		2
flow/gild			1																1
IRONSTONE																			
undecorated							1				1			1				1	4
embossed											1						1		2
transfer print										2									2
PORCELAIN																			
undecorated						1	1			3		2				1			8
embossed												1							1
decal									1		1						1	1	4
embossed/gild							2												2
gold rim band						1						1							2
handpainted												1							1
handptd. wash						1													1
STONEWARE																			
Bristol			5							3	1						1	4	14
Bristol/Albany														1		2			3
slip glaze		1					1			1				3		1			7
salt glaze																		1	1
slipped only																		2	2
YELLOW WARE																			
undecorated																		1	1

Table 6. (cont'd.)

Type	29 A	29 B	29 C	29 D	29 E	31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
MISCELLANEOUS																			
porcelain caster										1									1
figurine														1					1
detached stem pipe																1			1
drain tile																	1		1
planter/vase														1					1
GLASS																			
BOTTLE/JAR																			
unidentifiable	2	3	26			12	32		40	41	15	3		12	20	55	3	84	348
moldblown						1												4	5
machine made						2	1		1	20	12			20	5	16	2	13	92
3 pc./plate/sc																	1		1
imp. tld. cork							1				1					1	3		6
" " screw																		1	1
mach. made cork	1					2	2			1	1					5		1	13
" " crown											6			2		17		3	28
" " ct											1	1		1		1		6	10
" " nss	1					1					1							3	6
" " screw							1		1	2	10			5		3		8	30
" " lightn'g											1			1			2	1	5
" " other							1				2								3
" " pryoff														3				1	4
" " lug														3					3
embossed letters									1										1
OTHER BOTTLE																			
Chemical:																			
mach. made cork														1					1
Cosmetic:																			
mach. made ct											2								2
TABLEWARE																			
unidentifiable			2											4					6
pressed			1				2		2		1			5			1	4	16
machine pressed						1				1	3			41		23		3	72
Depression							1									1			2
Carnival										1									1
milled/rouletted										2	6							1	9

Table 6. (cont'd.)

Type	29					31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
	A	B	C	D	E														
ARCHITECTURAL																			
window	1	1	2			25	8			27		4				19		63	150
door												4				1			5
MISCELLANEOUS																			
melted			15				14							5				7	41
unidentifiable							2			6				1					9
chimney	1	36	19			2	4		2							18		2	84
light bulb							2				5							2	9
mirror											2								2
lid liner		1	1				4			3		2				1		2	14
syringe														1					1
marble														1					1
METAL																			
NAILS																			
unidentifiable	3		144				54		1	22		3		1	2	1		11	242
machine cut	4						4		1	2							8	5	24
drawn/cut	17	345	1229	11		5	211	1	8	66		13	1	2	16	30	23	88	2066
OTHER ARCH.		1	6						1	1		1					2	4	16
KITCHEN																			
pots/pans		1									2			1			3	1	8
containers		1	3								10	16		26		11	6	16	89
pryoff lid														4					4
screw lid												3					1	1	5
screw cap									1		2							5	8
crown cap											26				4	66		2	98
lid															1	2			3
utensils	1										2							2	5
candy cover											1								1
cap											3								3
foil						2				2	4			12		3			23
poptop											4								4
barrel																	1		1
lightn'g fastn'r																		1	1
TOOLS/ACTIVITIES																			
machine parts							2			1	2			1		1	4	5	16
container	1				1		1											7	10

Table 6. (cont'd.)

Type	29 A	29 B	29 C	29 D	29 E	31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
TOOLS/ACTIVITIES CONT'D.																			
paint can																2		7	9
bucket																	2		2
pipe																1			1
cap																		1	1
FURNITURE																			
lamp part											1								1
drawer pull											1							1	2
spring		1																1	2
decorative plate										1									1
soap dish											1								1
chamberpot														2					2
PERSONAL																			
coin														1		1			2
tobacco can														1				1	2
pen											1								1
squeeze tube											4								4
aspirin case																		1	1
CLOTHING																			
shoe part			2																2
button							1									1		1	3
rivet	6		1																7
buckle			1												1				2
suspender part		1																1	2
garter clasp			1																1
TRANSPORTATION																			
wagon part										2									2
auto part																	1		1
railroad spike							1		1	4							1		7
ARMS																			
ammo			6			1												1	8
gun parts														2					2
OTHER																			
unidentifiable	1		31		9		12			10		4				2	6	10	85
sheet									2	3				1	1	19		1	27

Table 6. (cont'd.)

Type	29 A	29 B	29 C	29 D	29 E	31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
OTHER																			
CONT'D.																			
fencing	1	2	4				7		1	1					2	1	11		30
wire		2	1				23			1	3	4			1		8	7	50
spring														1				1	2
ARCHITECTURAL																			
brick						1	3			1						4			9
sandstone										4									4
mortar										1									1
concrete										1						1			2
tile block										8						1			9
asphalt/tarpaper										1		7						183	191
linoleum																		37	37
OTHER																			
cinders/clinkers						3		3	2			3			14	2			27
coal									2	1		5			1				9
bottle cork						1								1		1			3
graphite battery						1			2									1	4
" pencil															2				2
charcoal										1		2							3
cut wood							4							4					8
fabric/tape														3					3
paper				2		17	3							9	19	2	2	9	63
lime				1															1
Plastics:																			
unidentifiable							1			2	1	1		3	1			1	10
utensil							1												1
wrapper											9			1					10
cigar tip						1										1			2
collar stay											1								1
comb										2						3			5
syringe														1					1
beads														6					6
screw cap														1		1			2
belt																1			1

Table 6. (cont'd.)

Type	29					31	32	33	35	36	37	38	39	40	41	42	45	46	TOTAL
	A	B	C	D	E														
Synthetics:																			
unidentifiable														1					1
skeet										1								2	3
nylons														3					3
Rubber:																			
jar seal				2		1								1		3			7
tire																		18	18
Leather:																			
harness										1									1
Bone:																			
button			1																1
Shell:																			
button		2									1							7	10
pendant																		1	1
barrette																		1	1
TOTAL	41	400	1504	16	10	83	418	4	72	261	155	84	1	204	90	330	26	685	4454

Table 6. (cont'd.)

Type	48	49	50	51	52 E1/2	52 1-3	52 4-6	52 7-10	53	54	57	58	59	60	61	64	TOTAL
CERAMICS																	
WHITEWARE																	
undecorated	1				26	5	11					4			2		49
blue shell edge					2			1	1						2		6
embossed					4	4											8
embossed/handptd.											1						1
ivory											1					8	9
ivory/emb												1					1
ivory/decal	1										1						2
gold rim band					3												3
transfer print					6	2											8
flow/emb/gild					1												1
luster tea leaf					7	6	3	1									17
yellow glazed												1					1
IRONSTONE																	
undecorated					11	7	5					1					24
embossed					1												1
transfer print						1											1
luster tea leaf					4	5											9
PORCELAIN																	
undecorated						3						1					4
decal					7												7
transfer print					1												1
late flow												1					1
emb/handptd. wash												1					1
irid. luster												1					1
STONEWARE																	
Bristol	1				4	7						1					13
Albany					14												14
slip glaze	1	1			56	12	14	1							2		87
salt glaze					2		1										3
slipped only						3											3
YELLOW WARE																	
undecorated					5												5
annular						1											1

Table 6. (cont'd.)

Type	48	49	50	51	52 E1/2	52 1-3	52 4-6	52 7-10	53	54	57	58	59	60	61	64	TOTAL
MISCELLANEOUS																	
porcelain button					1	2	1										4
" doll part					9			1									10
toy dish					1		1										2
chamberpot:																	
whiteware undec.							1										1
" emb							1										1
GLASS																	
BOTTLE/JAR																	
unidentifiable	9	1	3		49	39	37				75	4		3	5		225
moldblown					11	5	3	1									20
machine made			6		5						27	2					40
imp. tld. cork					9	1		1			1						12
ground screw								1									1
mach. made cork											1						1
" " crown					1						1						2
" " ct					1						1						2
" " screw											5						5
" " lightning			7								1						8
" " lug											1						1
embossed letters					1												1
embossed/panel					1												1
color label											4						4
OTHER BOTTLE																	
Perfume:																	
mach. made ct					1												1
TABLEWARE																	
pressed					7	6	1	2			1	1			1		19
machine pressed							2				7						9
ARCHITECTURAL																	
window	1				30	9	17				47			1	1		106
MISCELLANEOUS																	
melted						1	4										5
unidentifiable					1												1
chimney			1	1	6	3	1	1									13
lid liner					1	1					1						3
lightning lid			1														1

Table 6. (cont'd.)

Type	48	49	50	51	52 E1/2	52 1-3	52 4-6	52 7-10	53	54	57	58	59	60	61	64	TOTAL
METAL																	
NAILS																	
unidentifiable	6	3			24	19	36	1	2		1		2	3	10		107
machine cut	1				39	84	125	54									303
drawn/cut	2	7	1		128	96	156	8	12		21	58	2	1	38		530
OTHER ARCHITECTURE	1					4	1				4	7					17
KITCHEN																	
stove parts					1												1
containers	1				1	3					37						42
pryoff lid											3	1					4
screw lid											3						3
crown cap							2				1						3
lid					1						3						4
utensils					2						1						3
can key											1						1
foil											1						1
TOOLS/ACTIVITIES																	
tools								1									1
machine parts	1				10	1	4	1			1	6			1		25
container						2											2
bucket						3											3
pipe					2												2
spike											1						1
battery											2						2
PERSONAL																	
purse part					2												2
tobacco can					1												1
harmonica					1												1
padlock									1								1
CLOTHING																	
button					1	1	1	1									4
buckle						1					1						2
bead					1												1

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
CERAMICS																		
WHITEWARE																		
undecorated		5	40	27	28	53			13	1	1	1	4		1	22		196
embossed		1	16	10	12	6			1				1			4		51
decal		2	2	3	2	2			1							2		14
embossed/decal			3			9										1		13
embossed/gild			3		4					4								11
emb/gild/decal		2	2		9	7												20
gold decal				4		1												5
decal/gild			9	1		2												12
ivory		3																3
gold rim band			4	3		12				1						3		23
handpainted			1	1			1		5							3		11
handptd. rim band																4		4
transfer print			1		3	1												5
flow-print				1	1													2
flow-handptd.																1		1
late flow			3		1													4
flow/emb																1		1
flow/emb/gild					5	2										1		8
luster tea leaf			27	2	1	13												43
IRONSTONE																		
undecorated			4	3	1	26			1							1		36
embossed					1	3	2									1		7
decal				1		4												5
gold rim band						2												2
PORCELAIN																		
undecorated				2	3	2			3									10
embossed			1	1	5					1								8
decal			3		2											1		6
embossed/decal				1	1					1								3
handpainted									4							3		7
transfer print		1					1											2
irid. luster																1		1

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
STONEWARE																		
Bristol		1	16	44	8	14				1						1		85
Bristol/Albany			11	2		2												15
Albany				1														1
slip glaze			35	87	1	20				1						1		145
salt glaze			16	32	1	18												67
unglazed/unslipped						5												5
slip glz/decorated						1												1
Ink Bottle:																		
Bristol			1															1
YELLOW WARE																		
undecorated						1												1
annular					1											9		10
embossed						1												1
mottled				1														1
MISCELLANEOUS																		
porcelain button						5												5
" doll part			25			8	1											34
toy dish						1												1
decorative dish			1															1
drain tile			1			1												2
flowerpot			34	5	7	3			3									52
wash bowl:																		
whiteware undec.			1															1
dental plate						1												1
door knob			1															1
caster			1															2
marbles																2		2
GLASS																		
BOTTLE/JAR																		
unidentifiable	23	9	91	292	180	782	8		37	11	4	1	91	4	32	97		1662
moldblown	1		10	75	7	211												304
machine made	4	5	23	38	12	20	1		1	11				13	6	39		173
turnmold			2	1														3
3 pc./plate/sc			10	5		54	17	1	4									91
3 pc./dip/sc						9												9

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
BOTTLE/JAR CONT'D.																		
apld. tld. cork			2			1												3
imp. tld. cork			139	13	4	124	4		8						1	1		294
" " crown			1													1		2
" " screw			2			3	1											6
" " lightning									3									3
ground screw			4	3	1	35			3				6					52
mach. made cork			12	7	4	13										1		37
" " crown		2	1													21		24
" " ct	1													1	8	10		20
" " nss			7	3		3												13
" " screw	7				1					4			39	4	7	18		80
" " lightning	2																	2
" " pryoff	10												1			1		12
" " lug			1												1			2
embossed letters			7	5		11										3		26
embossed/panel			1	7	1	43			8									60
color label														1	1			2
OTHER BOTTLE																		
Chemical:																		
mach. made ct	1																	1
" " screw															5			5
unidentifiable															2			2
Ink well:																		
sheared lip			1															1
Sewing Mach. Oil:																		
unidentifiable					1													1
Cosmetic:																		
mach. made			1		1										1			3
" " ct															4			4
Hair tonic:																		
mach. made ct	1																	1
TABLEWARE																		
unidentifiable			1	2					1									4
pressed	4		13	9	7	56									6	3		98
machine pressed	6		7	5						2						6		26
milled/rouletted			6	7	3	3										4		23

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
ARCHITECTURAL																		
window	24			113	37	508	89			6	2	1		2		39		821
door						9												9
etched			1	70														71
thick/ridged			5	4	1	6	1											17
MISCELLANEOUS																		
melted			1		8											19		28
unidentifiable									1									1
chimney			4	10	17	79	3		11							11		135
light bulb	3																	3
insulator	1		2	2		2												7
mirror			1	2		53			2									58
lid liner	4		8	6	8	22							27			31		106
lid			4			2												6
tube																2		2
syringe																1		1
photograph plate			42			48			6									96
chandelier			1															1
eyeglass lens				1	1	3										1		8
stopper					1													1
button						2												2
marble															3			3
medicine dropper															3			3
METAL																		
NAILS																		
unidentifiable				10	4	42	12			2			5			5		80
machine cut		1		1	9	10	18				1		4					44
drawn/cut	7	2	11	171	128	264	68			37	2	1	97	1	3	73		865
OTHER ARCHITECTURE	6				3	8								1		3		21
KITCHEN																		
spigot						1												1
stove parts						1										1		2
pots/pans			1	1	2	6				2				1	3	3		19
containers	62		2	4	12	156				3					3	4		246
pryoff lid	2													1				3
screw lid	4		2	8	2	4							6		4	5		35
screw cap																3		3

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
KITCHEN CONT'D.																		
crown cap					1										2	10		13
lid			2															2
utensils			1	2	2	19	3									1		28
can key														1				1
lightning fastener																1		1
stopper						1												1
barrel bands																2		2
TOOLS/ACTIVITIES																		
tools	1		1	2	2											1		7
machine parts	3		1		5	19	1			1						4		34
container						4										10		14
paint can																1		1
bucket				1		1												2
handle														2				2
chain										1								1
thimble						1												1
scissors				1		1												2
rod																	1	1
FURNITURE																		
lamp part			1															1
caster					1													1
light bulb	2																	2
springs				19														19
decorative plate						7												7
other					1													1
PERSONAL																		
key						1												1
tobacco can					5													5
harmonica			1															1
compact															1			1
padlock						1												1
pill container															1			1
toothpaste tube															1			1

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
CLOTHING																		
button			1			11			1									13
rivet			4			5												9
clasps									1									1
buckle						1												1
suspender part						1										1		2
garter hook			1			3											4	
TRANSPORTATION																		
wagon part			1															1
carriage part						3												3
harness part			1															1
railroad spike			2			3								1		5		11
ARMS																		
ammo						17			1				2			1		21
OTHER																		
unidentifiable	1		1	1	7	24			6							8		48
strap			3	1	1	7	3			20						2		37
bar						4										3		7
sheet	15				6	36				25						7		89
fencing	1		1		6	9							1					18
wire	1		1	1	10	14				7			2	1		6		43
spring						4												4
OTHER																		
ARCHITECTURAL																		
brick						2				3						2		7
mortar	1					1												2
concrete	1																	1
asphalt/tarpaper													8					8
OTHER																		
cinders/clinkers																5		5
coal						5				1	2					1		9
bottle cork			1			4												5
ground stone						4												4
graphite pencil																1		1
" battery				1	1	1										7		10
cut wood				1									5					6
paint						2												2

Table 6. (Cont'd.)

Type	66	67	68 S1/2	68 A	68 C	68 E	68 F	68 G	68 I	69	70	71	73	78	79	80	82	Total
OTHER CONT'D.																		
fabric						67	1	8						2	2			80
paper						1												1
twine					1													1
Plastics:																		
utensil															1			1
wrapper														3	1			4
cigar tip															1			1
baby bottle														2				2
baby pants														1				1
cap															3	1		4
button														1				1
glue bottle														1				1
toy														1	1			2
medicine vial															2			2
jewelry															1			1
crown cap liner															1			1
comb															1	1		2
Synthetics:																		
unidentifiable						11												11
bakelite comb			1						1									2
" button						1												1
celluloid						5												5
skeet						2												2
photographic plate			6			1			2									9
electric plug	1														1			2
Rubber:																		
shoe/boot						13							1			1		15
jar seal	4		1										6			4		15
cord			1	1														2
toy														2				2
glove															1			1
Leather:																		
shoe/boot			49	4		248	2		19									322
belt			2															2
harness						2	1			2								5
clothing						8			1									9

Table 6. (Cont'd.)

Type	66	67	68							69	70	71	73	78	79	80	82	Total
			S1/2	A	C	E	F	G	I									
Horn:																		
bracelet						1												1
Wood:																		
button						1												1
Composition:																		
utensil			1		1	1												3
clasp knife						1												1
photographic plates									3									3
Bone:																		
utensil																1		1
TOTAL	204	34	774	1142	602	3399	238	9	151	149	12	4	306	47	115	555	1	7742

Table 6. (Cont'd.)

Type	87	88	89	90	91	92	93	94	97	98	99	100	103	107	Total
CERAMICS															
WHITEWARE															
undecorated		12	13									1	1	13	40
embossed														1	1
decal		2	3											2	7
embossed/decal			4												4
Fiesta										4					4
IRONSTONE															
undecorated														2	2
handpainted														3	3
PORCELAIN															
embossed			2											1	3
decal/gild														1	1
handpainted			3											1	4
flow/gild														2	2
irid. luster/emb			5												5
STONEWARE															
Bristol		5		1											6
slip glaze			2					2							4
LATE REDWARE														1	1
MISCELLANEOUS															
porcelain button														3	3
" doll part		1												2	3
" insulator			1											1	2
toy dish														1	1
drain tile	8											1			9
GLASS															
BOTTLE/JAR															
unidentifiable	3	42	47	1			1			1			1	528	624
moldblown					1										1
machine made		3	8	1						2				97	111
3 pc./plate/sc														1	1
imp. tld. cork	1	1													2
" " crown		1													1
" " lightning			1												1
mach. made cork														11	11
" " crown			3											18	21
" " ct								1						1	2

Table 6. (Cont'd.)

Type	87	88	89	90	91	92	93	94	97	98	99	100	103	107	Total
BOTTLE/JAR CONT'D.															
mach. made nss														8	8
" " screw			1							2		1		9	13
" " lightning														4	4
embossed letters														2	2
OTHER BOTTLE															
Cosmetic:															
mach. made cork														1	1
mach. made screw														1	1
TABLEWARE															
pressed		2	12											47	61
machine pressed			5											7	12
milled/rouletted														21	21
ARCHITECTURAL															
window		2	10									1		254	267
thick/ridged			8												8
MISCELLANEOUS															
melted			6											104	110
unidentifiable			1						1					2	4
chimney			4											9	13
light bulb														2	2
lid liner		2	7											14	23
lightning lid														6	6
tube			2												2
flashlight										1					1
figurine														1	1
candlestick														4	4
syringe														1	1
METAL															
NAILS															
unidentifiable		7	3					1							11
drawn/cut	4	58	36	23		5					3	5		128	262
OTHER ARCHITECTURE		3		3										5	11
KITCHEN															
pots/pans														1	1
containers		2					1							52	55
pryoff lid														1	1
screw lid		3												6	9

Table 6. (Cont'd.)

Type	87	88	89	90	91	92	93	94	97	98	99	100	103	107	Total
KITCHEN CONT'D.															
screw cap														1	1
crown cap			5											320	325
lid							1								1
utensils			2											2	4
can key														1	1
lightning fastener														1	1
TOOLS/ACTIVITIES															
tools							1							1	2
machine parts		7	2											16	25
ring		1	1											2	4
container		3												7	10
paint can														26	26
bucket														10	10
hose		1													1
scissors														1	1
FURNITURE															
light bulb														1	1
PERSONAL															
coin														1	1
key														1	1
pencil part														1	1
harmonica														3	3
cosmetic box														3	3
jewelry chain														1	1
mentholatum lid			1												1
toy														2	2
CLOTHING															
safety pin														1	1
TRANSPORTATION															
wagon part														1	1
horseshoe			1											4	5
harness part														1	1
railroad spike			1											1	2
ARMS															
ammo		1											1		2

Table 6. (Cont'd.)

Type	87	88	89	90	91	92	93	94	97	98	99	100	103	107	Total
OTHER															
unidentifiable		3							1					19	23
strap			1	1										9	11
bar		3													3
sheet		2					2					7		18	29
fencing		2	1			1									4
wire		8	3			4						1		29	45
OTHER															
ARCHITECTURAL															
brick				2				1				2		2	7
mortar				4											4
concrete				1											1
asphalt/tarpaper													3	1	4
OTHER															
cinders/clinkers		4				1							2	28	35
coal		1												3	4
graphite pencil			1												1
" battery			1					1						1	3
" bar														1	1
cut wood		4		4										1	9
paint														1	1
Plastics:															
utensil												1			1
hairpin		1													1
container							1								1
toy												2			2
tack												1			1
cellophane						1									1
Rubber:															
unidentifiable													1		1
shoe/boot		1													1
jar seal														3	3
Leather:															
shoe/boot		4				3	1								8
belt														2	2
harness						1									1

Table 6. (Cont'd.)

Type	87	88	89	90	91	92	93	94	97	98	99	100	103	107	Total
Shell:															
button		1	1								1				3
comb														1	1
TOTAL	16	193	208	41	1	16	8	6	2	10	4	23	9	1908	2445

Table 6. (Cont'd.)

Type	W1/2	108 A	108 B	108 C	108 D	109	110	111	112	113	115	116	118	119	120	121	122	Total
CERAMICS																		
WHITEWARE																		
undecorated	71	114	5	13	50	6	12				2	1	11	5	23	7		320
embossed	15	11		1	25		1						1	1	9	1		65
decal	4	12		1	6		4						1		7	4		39
embossed/decal	3	7	1	3	5		5						4					28
embossed/gild		13	1	3	4													21
emb/gild/decal		1	12	14	4													31
gold decal	1																	1
decal/gild					1										1			2
ivory																2		2
ivory/emb																1		1
gild		1																1
gold rim band	11	2											1		1			15
handpainted	3				3													6
handptd. rim band	8				1											2		11
transfer print							2									3		5
flow-print		1																1
flow/emb		5																5
luster tea leaf	3				1													4
IRONSTONE																		
undecorated	41	5					2								5			53
embossed															1			1
embossed/decal	1						3											4
flow/emb							1											1
luster tea leaf	2																	2
luster rim band					1													1
PORCELAIN																		
undecorated	1	3	1												1			6
embossed		2		1														3
decal	1					1												2
embossed/decal												1						1
handpainted																1		1
STONEWARE																		
Bristol	5	11			1		8								39	18		82
Bristol/Albany	1						1											2

Table 6. (Cont'd.)

Type	108 W1/2	108 A	108 B	108 C	108 D	109	110	111	112	113	115	116	118	119	120	121	122	Total
STONEWARE CONT'D.																		
Albany	1	7			5		1											14
slip glaze	23	45			6		10											84
salt glaze	9	3		1	11		1											25
MISCELLANEOUS																		
porcelain doll	1																	1
" insulator													1			1		2
detached stem pipe															3			3
drain tile	1	5					1						2		3			12
flowerpot																2		2
GLASS																		
BOTTLE/JAR																		
unidentifiable	25	556	25	3	20	7	334					2	7		68	256		1303
moldblown	2	14					3								1	1		21
machine made	5	14				6	21								1	272		319
turnmold							1											1
3 pc./plate/sc					1		5								1			7
3 pc./dip/sc		1																1
imp. tld. cork	2	9			21	1	13								7			53
" " crown	3	4				1	9								4			21
" " screw		1													1			2
ground screw		5			3		2								1	2		13
mach. made cork	2	4				1	4									7		18
" " crown		2				2	2									9		15
" " ct		5	10													18		33
" " nss		10					1											11
" " screw		7				1	1			1						160		170
" " lightn'ng	1					1										15		17
" " pryoff		1					1						1			19		22
" " lug																9		9
embossed letters	13	73	2		1		9											98
embossed/panel	3	6																9
color label											1							1
OTHER BOTTLE																		
Chemical:																		
mach. made screw																19		19
unidentifiable																2		2

Table 6. (Cont'd.)

Type	108					109	110	111	112	113	115	116	118	119	120	121	122	Total
	W1/2	A	B	C	D													
OTHER BOTTLE																		
CONT'D.																		
Cosmetic:																		
mach. made screw																15		15
TABLEWARE																		
pressed	6	27	1		8	2	1				1		1			7		54
machine pressed	3					2	5						3			8		21
blown		2																2
milled/rouletted										1					2			3
ARCHITECTURAL																		
window	2	193	5	4	5	23	4						2		3	2		243
MISCELLANEOUS																		
melted						1	2						1		1			5
unidentifiable	8		1		2											1		12
chimney	1	14			2	2	16								1	1		37
insulator		1			1													2
lid liner	4	12	5	1	5	1									3	23		54
lid		1														2		3
figurine						1												1
eyedropper															1			1
ashtray																1		1
METAL																		
NAILS																		
unidentifiable		7			5		2		2									16
machine cut	1	2	1	2	1		9											16
drawn/cut	12	35	23	35	72	6	202						20	4	6	4	1	420
OTHER ARCHITECTURE	1					1	7									2		11
KITCHEN																		
stove parts		1				1										1		3
pots/pans		6		1												3		10
containers							14									2		16
pryoff lid																1		1
screw lid		1														10		11
screw cap																8		8
crown cap		2					6									1		9
lid		14																14

Table 6. (Cont'd.)

Type	108					109	110	111	112	113	115	116	118	119	120	121	122	Total
	W1/2	A	B	C	D													
KITCHEN CONT'D.																		
utensils		2					1											3
eggbeater																1		1
foil																1		1
grate				1														1
TOOLS/ACTIVITIES																		
tools	1			1											1			3
machine parts	1	6	1	7	2	1	8							1	2	5		34
container					2													2
bucket							6									3		9
handle	1	2																3
bar	1	2		2														5
cable				1														1
aerosol can																1		1
bicycle fender																1		1
spike							2											2
lid																1		1
iron																1		1
FURNITURE																		
lamp part															2	1		3
lock plate																1		1
PERSONAL																		
watch	1																	1
bell		1																1
toy																1		1
CLOTHING																		
button	1																	1
suspender part	1																	1
TRANSPORTATION																		
wagon part							1											1
auto part																2		2
harness part	1																	1
railroad spike			2	1	1		10											14
ARMS																		
ammo	2	2			2										1			7

Table 6. (Cont'd.)

Type	108					109	110	111	112	113	115	116	118	119	120	121	122	Total
	W1/2	A	B	C	D													
OTHER																		
unidentifiable	1	1			6	2	11					1	4		6	5		37
strap		2		2	1		9								3			17
bar							1											1
sheet		2				1	16									3		22
fencing					1		1											2
wire	7	8	3	5	2	2	28											55
OTHER ARCHITECTURAL																		
brick		1			1		4											6
sandstone						3		2										5
concrete								3								1		4
tile block						4							1					5
slate	4			8														12
OTHER																		
cinders/clinkers							5											5
coal				1			2											3
bottle cork																2		2
graphite battery		2				1	13											16
slag					1													1
Plastics:																		
binders																2		2
handle																1		1
screw cap																11		11
toy																1		1
Synthetics:																		
comb	1																	1
skeet		2			7													9
shade							2											2
Rubber:																		
unidentifiable						1												1
jar seal																7		7
toy																1		1
gasket																1		1
electric plug																2		2

Table 6. (Cont'd.)

Type	108					109	110	111	112	113	115	116	118	119	120	121	122	Total
	W1/2	A	B	C	D													
Leather:																		
shoe/boot	3	12			7	7	34								5			68
belt			1		1													2
harness					1										1			2
Composition:																		
compact																2		2
toy																6		6
TOTAL	326	1323	100	112	306	89	880	5	2	2	4	5	61	11	215	987	1	4429

APPENDIX E

SCOPE OF WORK

PART I - SECTION C, Description/Specification/Work Statement.

I. OBJECTIVE.

1.1 The following described professional services contract requires the development and execution of a Data Recovery Plan (DRP) for three historic archeological sites at Lake Red Rock, in Marion County, Iowa (Exhibit 1). The major work elements under this action are: (1) completion of site-specific intensive literature review with relevant oral interviews; (2) development of a DRP; (3) execution of the archeological, historical, archival, and geomorphological elements of the DRP; (4) the preparation of a high quality comprehensive technical report on the results of DRP execution; and (5) the preparation of a brief popular report - annotated with slides.

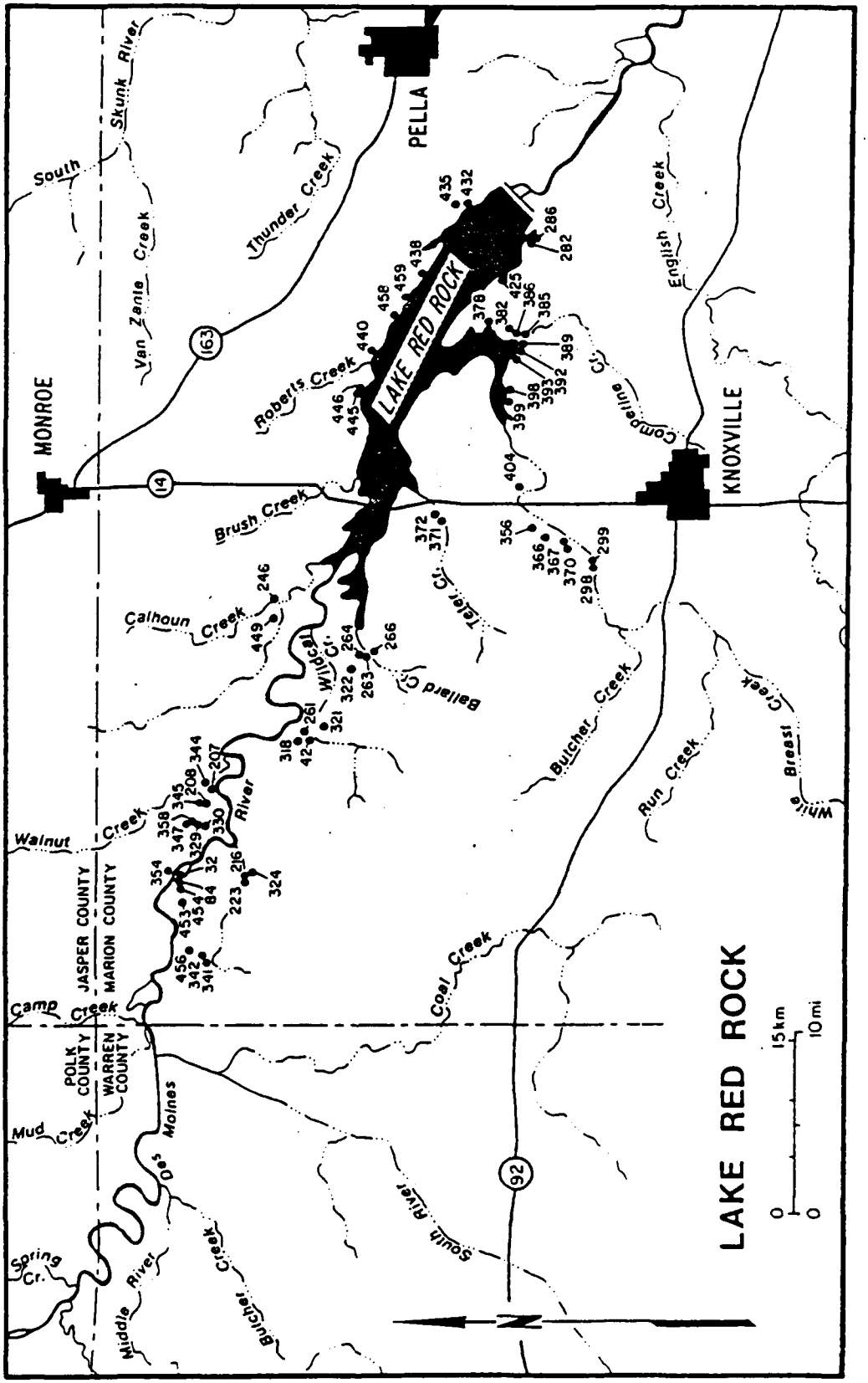
1.2 This action is in accordance with the National Historic Preservation Act (as amended in 1980), the Archeological and Historic Preservation Act of 1974, Executive Order 11593, the Archaeological Resources Protection Act (ARPA) of 1979 (as amended in 1984), ER-1105-2-438, and Title 36 of the Code of Federal Regulations, Parts 60-66 and 800, as appropriate.

1.3 Development and execution of a DRP is required to mitigate the effects of a conservation pool raise currently under consideration by the Corps of Engineers. The conservation pool will be raised from 728 feet NGVD (National Geodetic Vertical Datum) to 740 feet NGVD in a two-staged raise.

1.4 This Scope of Work will be the basis for mitigating adverse effects to these historic sites. The DRP approach is being undertaken because there is no feasible alternative mitigation strategy. The conservation pool must be raised to provide for required silt storage, flood control, natural resource enhancement, and recreational use.

II. PROJECT BACKGROUND.

2.1 The Red Rock Dam and Reservoir was authorized for flood control in Public Law 761, 75th Congress, first session (approved June 28, 1938) and in accordance with Flood Control Committee Document 1, 75th Congress, first session. Recreation and fish and wildlife facilities were subsequently authorized in Public Law 534, 78th Congress (approved December 22, 1944) and Section III of the Water Resources Development Act of 1976 (Public Law 84-587). On January 23, 1986, Rock Island District received concurrence and guidance from the Office of the Chief of Engineers concerning authority for a pool raise study.


LAKE RED ROCK
PELLA
MONROE
KNOXVILLE
JASPER COUNTY
MARION COUNTY
POLK COUNTY
WARREN COUNTY
Skunk River
South Skunk River
Van Zante Creek
Thunder Creek
Roberts Creek
Brush Creek
Calhoun Creek
Wilder Cr.
Ballard Cr.
Tiley Cr.
Walnut Creek
Camp Creek
Mud Creek
Spring Cr.
Middle River
Butcher Creek
Des Moines River
South Alive
Coal Creek
Butcher Creek
Run Creek
White Breast Cr.
English Creek
Competine Cr.
163
14
92
15 km
10 mi
0
0

5

EXHIBIT 1

2.2 At present, Lake Red Rock operates with a normal operational, or conservation, pool elevation of 728 feet NGVD, with a 2-foot pool raise (to 730 feet NGVD) during the fall waterfowl season (September 15 to December 15). The original normal operational pool was 725 feet NGVD. The pool raise to 728 feet NGVD was implemented in September 1977 and has been in effect since that time. According to the current plan of operation, the normal pool should be raised to 730 feet NGVD to restore 90,000 acre-feet originally approved. The fee title area for the project includes lands up to elevation 760 feet NGVD. Flowage easements have been obtained for land between elevations 760 and 783 feet NGVD. Recorded water levels within Lake Red Rock have been higher than projected in the original project plans. This is due to above-normal precipitation during the period since impoundment.

2.3 The land acquired in fee for the Lake Red Rock project comprised a total of 47,611 acres. In addition to fee land, the Government acquired flowage easement rights over 29,038 acres of land between 760 and 783 feet NGVD. A total of 29,419 acres of fee land is outgranted, 25,572 of that for wildlife management by the Iowa Conservation Commission (ICC). The Rock Island District, Corps of Engineers, is responsible for resource management for the 47,611 acres, including the land that is permanently inundated under the conservation pool.

2.4 Red Rock Dam is located in Marion County, Iowa, on the Des Moines River, 142.9 miles above its confluence with the Mississippi River. Pella, Iowa, is located approximately 4 miles northeast of the dam site. Operational effects to cultural resources currently vary depending upon physiographic parameters and pool fluctuations. Some areas are being silted in while others are being degraded by erosional processes. At the conservation pool elevation of 728 feet NGVD there are roughly 60 shoreline miles; at the flood control elevation of 780 feet NGVD there are 400 shoreline miles.

2.5 There are approximately 402 recorded archeological sites on Federal land at Lake Red Rock. Both prehistoric and historic components are present. Because very little archeological research had been done at Lake Red Rock, a baseline study was completed by Gilbert/Commonwealth staff in 1984 entitled Cultural Resources Reconnaissance at Lake Red Rock, Iowa (Dr. Donna Roper, Principal Investigator). This report summarized what was known about cultural resources and previous cultural resource studies. The report also established recommended research priorities for fulfilling requirements of historic preservation laws and regulations applicable to Federal projects.

2.6 Later in 1984 (and in 1985 by contract modifications), two major contracts were awarded to Gilbert/Commonwealth, 209 East Washington Avenue, Jackson, Michigan, 49201 (517/788-3000), summarized as follows:

a. DACW25-84-C-0031: required the completion of a synthesis cultural resources overview, a cultural resources management plan, an intensive survey of recreation areas, and an intensive survey of the anticipated pool raise impact zone between 728 and 760 feet NGVD. The final report is entitled Archeological Survey and Testing at Lake Red Rock, Iowa: The 1984 and 1985 Seasons (Roper et al. 1986).

b. DACW25-85-C-0037: required a comprehensive geomorphological study of Lake Red Rock with Holocene landscape evolution models and the identification of significant depositional and erosional contexts; this information was to be articulated with the reports due under item a. above. This report is entitled Late Quaternary Landscape Evolution and the Geo-Archeology of Lake Red Rock (Schuldenrein 1987).

2.7 Additional Phase II testing of the remaining unevaluated prehistoric and historic sites was conducted during 1986 and 1987 by American Resources Group, Ltd. (ARG) of Carbondale, Illinois, under two separate contracts. The Point-of-Contact for ARG is Michael McNerney, 127 North Washington, Carbondale, Illinois 62901 (618/529-2741).

a. DACW25-86-C-0059: required the Phase II testing of 23 archeological sites to determine National Register of Historic Places (NRHP) eligibility. Two historic sites (MA262 and MA400) and two prehistoric sites (MA209 and MA387) were determined eligible for the National Register based on this research. Results of the 1986 research are reported in Leah Rogers and Brad Koldehoff's Archaeological Site Testing, Lake Red Rock, Iowa: Pool Raise Project, 1986 Season (1987). Through a modification of this contract, mitigation of these two farmsteads (13MA262 and 13MA400) was conducted by ARG during the fall of 1987. A draft report on the results of the archeological mitigation of these two sites is due March 26, 1988.

b. DACW25-86-C-0016: required the evaluation of the 59 remaining sites which were to be impacted by the proposed pool raise. Results of these investigations are found within Leah Rogers, David Stanley and Jeffery Anderson's Archaeological Site Testing, Lake Red Rock, Iowa: Pool Raise Project, 1987 Season (1988). Based on this research, an additional seven sites were determined eligible for the National Register. Of these seven, three sites -- two villages and a farmstead (13MA347, 13MA449 and 13MA266) -- are historic. It is the mitigation of sites 13MA347, 13MA449, and 13MA266 which this SOW addresses.

III. PROPOSALS.

3.1 The Contractor shall conduct this investigation in a manner that ensures the greatest contribution to an understanding of Midwestern history. In an effort to ensure this, prospective Principal Investigators shall submit a technical research proposal and a separate cost proposal to the Contracting Officer for evaluation. The technical proposal shall include sufficient discussion on how the Contractor shall fulfill requirements of the Scope of Work. Key personnel shall be identified and staff estimates of labor by hours shall be included, but without associated costs. The separately sealed cost proposal shall be a detailed, itemized, quotation for personnel, goods, and services required to accomplish the technical proposal. Overhead and wage rate figures shall be clearly presented, as well as any costs for equipment, transportation, per diems, lodging, and consultant services. The cost proposal shall be sealed in a separate envelope to ensure that the technical evaluation can be accomplished without prejudice prior to evaluating cost proposals.

3.2 Wage rates are established by the U.S. Department of Labor to ensure that minimum wages are met for various technical staff. Contractors must adhere to these rates where applicable. Note that several of the higher-graded staff (such as Principal Investigator, Geomorphologist) are exempt as it is assumed that these individuals are working at a high professional level beyond the scale prescribed by wage rates. **Please do not mistake STANDARD FORM 98a for the wage rates**. This is the form that the Corps must submit to the Department of Labor to request a wage rate determination. The Department of Labor response immediately follows this form in the RFP package and can be identified by noting the signature of the Deputy Administrator. If wage rate job classifications do not quite fit, it is advised that Offerors call Mr. J. Paul VanHoorebeke, Contracting Officer's Representative, at the Rock Island District office (309/788-6361, Ext. 296) for guidance.

3.3 Prospective Offerors must adhere to the minimum professional qualifications set forth in the Secretary of the Interior's Standards and Guidelines: Archeology and Historic Preservation (Federal Register 48:190:44716-44742). For the most part, these guidelines are compatible with standards set forth by the Society of Professional Archeologists (SOPA) and standards recommended by the SHPO's. It is the responsibility of the Contractor to ensure that the designated principal investigator and key personnel are in compliance with this requirement and that their qualifications are clearly set forth by vita and/or other documentation. The Contractor shall identify, by name, the Principal Investigator and key personnel and document their experience in work of this type in the Midwest. The Principal Investigator must be able to document involvement in the project, and will be held responsible for the technical quality of the work.

3.4 Proposals will be evaluated as specified in Part IV, Section M for competitive procurements. Major areas of consideration include responsiveness to SOW, demonstrated timely performance on past contracts, qualifications/ experience, and project management. The Technical Evaluation Team will evaluate the technical proposals first without prior knowledge of the concurrently submitted cost proposals. Therefore, it is in the best interest of the Offeror to include the data necessary to evaluate the merits of the technical proposal, independent of cost considerations. Proposals must demonstrate that the Offeror is knowledgeable of previous work in the region, current research objectives, and state-of-the-art methodologies and techniques. Proposals that simply restate the Scope of Work or offer "canned" approaches may be judged nonresponsive to the RFP. A clear, well written, well thought-out research design is far more effective than fancy packaging and pages of stock text on the Offeror's abilities.

3.5 Particular emphasis in proposal evaluation will be placed on obtaining a high quality product which will best accomplish the work items delineated under Section 4, SPECIFICATIONS. Offerors should submit a comprehensive scheduling plan to document anticipated levels of effort by task. Contract award will not necessarily be based upon low estimated price, but on the most advantageous combination of method, price, and schedule that meets the Government's needs for addressing pool raise related impacts to cultural resources at Lake Red Rock. This will be a firm-fixed-price-negotiated contract. However, note that award may be made without negotiation if a

competitive pool of proposals is received with at least one which can be awarded without clarification or modification. The objective is to obtain the maximum amount of useful information in the most cost-efficient manner.

3.6 Prospective Contractors shall include in proposals a discussion of the capabilities and facilities to adequately perform field and laboratory analyses. Curation facilities also must be described in light of standards set forth by the National Park Service (Federal Register 48:190:44737).

IV. SPECIFICATIONS.

4.1 This solicitation is for the development and execution of DRP's for archeological sites 13MA347, 13MA449, and 13MA266. Detailed "Preliminary Mitigation Plans" containing a summary of work up to the present as well as suggested excavation strategies is supplied in Appendix A. The DRP's for these sites shall specify the following:

a. What data classes are present at each site

b. What research questions shall be investigated

c. What kinds of data shall be collected for each research question

d. What methods shall be used for data recovery and what, if any, sampling procedures will be used

e. What data will be lost or deemphasized as a result of "b" and "c" above

f. What types and levels of analyses will be conducted

g. How will the DRP address Iowa RP3 and Lake Red Rock Cultural Resource Management Plan (CRMP) objectives

These are considered to be minimum topics that must be addressed. DRP's are expected to go beyond them and to be as specific and detailed as the existing data allow.

4.2 Laboratory procedures shall be described in the DRP's, particularly those which require the use of specialists, such as faunal, floral, and parasitological data classes.

4.3 The Contractor must estimate the percentage of each site (area and volume) to be recovered under a DRP. Large block excavations are recommended. Removal of sterile or disturbed overburden with mechanized equipment is recommended to expose features for mapping and excavation. A major objective of large-sized excavation units is to provide information about site structure, activity areas, site organization, and distribution of features. Features which appear to be related should be excavated, analyzed, and interpreted as a research unit. After photographing and mapping, all features will be bisected or quarter sectioned, if practicable, with half being removed in natural depositional levels with 5- to 10-liter flotation samples and processing

through 1/2 inch mesh. The second half of features will be removed fairly rapidly without screening unless feature content is especially unique or critical for answering research questions.

4.4 Due to the relative complexity of the general nature of these sites -- particularly the two villages (13MA347 and 13MA449) -- the contractor is required to demonstrate expertise in a number of disciplines relevant to the study of historic archeology, including, but not limited to, field and laboratory techniques, 19th century material culture, faunal/botanical analysis, architectural history (particularly vernacular Midwestern structures) Midwestern history, oral history, and historical/cultural geography. Because of the multidisciplinary approach stressed by this RFP, a team approach is highly recommended.

4.5 An explicit research design will be required that provides the rationale, goals, and methods for this investigation, including, but not limited to:

a. The scientific and anthropological reasons for pursuing the proposed investigation.

b. What the investigator realistically hopes to determine about past human activity, including such topics as occupational sequences, settlement patterns, subsistence strategies, chronologies, trade and social networks, and quality of lifestyles.

c. What the investigator has learned concerning "b" above using the data actually generated under this contract.

d. The explicit manner in which data will be collected and analyzed, and how these relate to the research goals and results.

e. Descriptive analytic and interpretive techniques should be presented, including summaries of classification systems used.

f. Quantitative techniques used to interpret data shall be explained.

4.6 Offerors are encouraged to be creative in their approach to the DRP. Offerors are invited to suggest improvements on the Scope of Work so long as the minimum requirements are met.

4.7 Concurrent with the mitigation of these four historic sites, the Corps will be conducting excavations at 5 prehistoric sites as part of the Red Rock Pool Raise project. The Corps is solicitating proposals under separate contract for the mitigation of these prehistoric sites (RFP DACW25-88-R-0045). Contractors are encouraged to bid on either one or both of these RFP's. If the contractor should bid on both projects, the award of either contract will be based independently of the other proposal.

V. REPORTING REQUIREMENTS

5.1 The Principal Investigator shall be responsible for preparing a comprehensive technical report based upon the results of the work described in Section IV, SPECIFICATIONS. Basic data description will be provided for use both in support of the author's interpretations and conclusions, and as a source of basic information that may find wider use by other cultural resource professionals. Drawings and photographs of diagnostic materials are required.

5.2 Six copies of the draft report shall be submitted to the Contracting Officer for review 303 days after award of the contract. Draft reports shall be complete when submitted, unless other arrangements are made with the Contracting Officer, no less than 30 days prior to the due date. Changes directed by the Contracting Officer based upon draft review shall be made prior to submission of the final report. In the event that major revisions are required, the Contracting Officer may request, and the Contractor shall supply, a revised second draft report for review at no additional cost to the Government. In the event that a revised draft report is required, it will be due 45 days after receiving notice from the Contracting Officer or the Contracting Officer's representative. The final report will be due 45 days after the Contracting Officer approves the draft and issues a notice to proceed on the final.

5.3 Thirty (30) days prior to draft due date, a meeting will be arranged with the District Archeologists and the Contractor. The purpose of this meeting will be to assess the progress of laboratory analysis and report preparation to ensure the timely completion of the Contractor's draft report. Any modifications of the original contract for time extensions will be carefully scrutinized; justification for extensions must be realistic and warranted. Time extensions are <u>not</u> standard operating procedures will not be granted without sufficient justification.

5.4 After the pre-draft report meeting discussed in 5.3 above, time extensions, if requested, and approved by the Government may include monetary reimbursements to the Government for damages resulting from project delays.

5.5 The draft review period may be as long as 60 days. The intervening time is necessary to obtain and compile reviews from the Iowa SHPO, District staff, the National Park Service, and any regional experts utilized for review purposes.

5.6 Any materials (documents, artifacts, soil samples, or notes) collected under this contract shall be evaluated, analyzed, and referenced according to current professional standards for presentation in the report. These procedures must be specified in proposals. An inventory of these materials shall be supplied to the Contracting Officer with the final bill, as they remain the property of the Government and are subject to review or recall at any time.

5.7 The Contractor shall furnish the Contracting Officer with sixty (60) copies of the final document, including photographs and public information appendixes. A master copy of the final report in reproduction-ready format will be furnished to the Contracting Officer with the final bill.

5.8 The Contractor will prepare an informational report on this work suitable for presentation to the public. This report should focus on the general history of the area, the work done under the contract for the pool raise project, and what has been done to increase our understanding of cultural resources and effects to them. Appropriate color slides or illustrations shall be included with the text. The public information materials shall be suitable for use in brochures or talks to civic groups.

5.9 Prior to acceptance of the final reports by the Government, neither the Contractor nor their representatives shall release any information or materials of any nature obtained or prepared under the contract without prior approval of the Contracting Officer. After the acceptance of the final reports, their reproduction and use shall not be restricted by either party except for appendixes not intended for public release as identified by the Contracting Officer's Representative after review of the draft report.

VI. SCHEDULE

6.1 The overall contract period is 418 calendar days. The Contractor will have up to 20 days after award to initiate contract work; however, consideration will be given to Offerors who can begin in shorter timeframes during proposal review. A contract work effort schedule, in calendar days, is provided below for guidance:

Award	Day 0
Start-Up	Days 1-20
Literature Review	Days 21-24
Fieldwork: Site 1 (347)	Days 25-53
Fieldwork: Site 2 (449)	Days 54-67
Fieldwork: Site 3 (266)	Days 68-81
Downtime*	Days 82-142
Laboratory Work and Analysis	Days 142-303
On-Site Conference	Day 273
Draft Report Due	Day 303
Draft Review Period	Days 303-363
Final Report Due	Day 418

*Downtime is scheduled to allow for unforeseen project delays (i.e., inclement weather) and little, if any, billable work is anticipated for this period.

This information is provided to guide Offerors in proposal preparation. Prospective Offerors may alter the fieldwork and analysis days, as appropriate, to carry out their proposals as long as the overall contract period and reporting requirements are met. Earlier start-up times are preferred, as are shortened fieldwork and analysis schedules. Little, if any, billable work is anticipated for the 60-day draft review period.

VII. CURATION

7.1 Any artifacts or cultural materials collected and any notes, photographs, or other data generated during the performance of contract services shall be curated with the Principal Investigator for preservation upon the discretion of the Rock Island District and the Iowa SHPO. Successful Contractors outside of the State of Iowa may be required to move these materials to an approved curation facility within the state. All of these materials remain the property of the Government and shall be made available upon request by the District. All data generated under this contract shall be curated in one place. It is the Contractor's responsibility to safeguard all of this material and to provide an inventory or catalog system to facilitate access. Copies of any inventories shall be submitted to the Contracting Officer with the final bill. The National Park Service guidelines on curation will be utilized.

VIII. COORDINATION

8.1 Continuous coordination will be maintained with the District Archeologist during the course of this contract. This will consist of at least one phone call at the end of each week during the fieldwork phases, and a monthly written progress report (letter) due by the 10th day of each month through submission of the draft report. This letter report will indicate specific activities and accomplishments and outline schedules for remaining tasks. The Contractor shall also check in at the Lake Red Rock project office prior to initiating fieldwork and provide a list of staff members and a tentative work plan. The contact at Lake Red Rock will be Mr. Jerry Dowell (515-828-7522). Much of the land at Lake Red Rock, including many of the sites to be mitigated, are managed by the Iowa Department of Natural Resources (IDNR) in conjunction with the Red Rock Wildlife Management Area. The contact at the IDNR Red Rock Wildlife Unit is Mr. Richard Trine (515-848-3108). Prior to initiating any fieldwork, the contractor shall contact Mr. Trine and provide him a tentative work plan, including details on how the work will affect any agricultural fields within the wildlife management area, and to coordinate the contractor's use of existing access roads, agricultural field access paths, and any other access requirements across the wildlife area to the mitigation sites.

IX. GENERAL

9.1 Any arrangements for ingress and egress over non-Federal lands shall be the responsibility of the Contractor. It is the responsibility of the Contractor to repair any resulting damage to the access roads or other improvements that the IDNR or Federal Government maintain at Lake Red Rock. It is also the responsibility of the Contractor to return the sites to their original condition in the form of backfilling to the original contours.

9.2 This contract will be managed by District Archeologist Floyd Mansberger, Environmental Analysis Branch, Rock Island District, Corps of Engineers (309/788-6361, extension 349). The Contracting Officer's representative shall be J. Paul VanHoorebeke (extension 296). While routine informational matters will be handled by Mansberger, all bills or contracting matters should be directed to VanHoorebeke.

9.3 Payments shall be made after receipt and audit of Contractor's billing invoices. Each payment request will be audited by District staff to ensure that sufficient progress has been made in support of the bill. As a guide-

line, the payment schedule listed below shall be used. Recognizing that there is great variability in billing procedures, fractional amounts will be accepted; however, adherence to the schedule is preferred.

Completion of Literature Review	10% contract amount
Completion of Fieldwork, Site 1	20% contract amount
Completion of Fieldwork, Site 2	40% contract amount
Completion of Fieldwork, Site 3	60% contract amount
Completion of Analysis	70% contract amount
Receipt of Acceptable Draft	80% contract amount
Receipt of Final Report	100% contract amount

The Contracting Officer may approve payment for higher percentages than those shown above if an appropriate amount of work can be identified as having been accomplished.

APPENDIX F

PROPOSAL

INTRODUCTION

The following is a technical proposal submitted by Bear Creek Archeology, Inc., of Highlandville, Iowa, in response to a Rock Island Corps of Engineers (RICOE) request for proposals DACW25-88-R-0044 entitled "Development and Execution of a Data Recovery Plan for Three Historic Sites Lake Red Rock Pool Raise Project, Lake Red Rock, Iowa." The purpose of this project is to mitigate the adverse effects of the proposed raising of the conservation pool level at Lake Red Rock. The project is in accordance with the federal statutes and regulations currently governing the management of historical properties.

In the following proposal, the previous archeological and historical investigations, project area setting, and historical background will be set forth. This will be followed by a detailed discussion of the proposed research design, methodology, level of effort, project schedule, company facilities and capabilities, and key personnel. The key objective is to recover the greatest amount of significant data in a cost effective and efficient manner.

PREVIOUS INVESTIGATIONS

Archeological investigations in the Lake Red Rock project area began as early as the late nineteenth century; however, these early studies focused primarily on evidence of the prehistoric occupation of this area. It was not until the construction of Lake Red Rock in the 1960s that historic sites archeology was extensively pursued.

Federally funded historic sites investigations were conducted by Iowa State University in the project area and included the recording of historic site locations as well as some limited excavation. Of note were the excavations and surface collections conducted at several nineteenth century kiln sites including that of the Coalport, Gidel, Whitebreast, and Wright kilns, or sites 13MA103, 106, 104, and 105, respectively (Reynolds 1970).

The most intensive focus on the historic properties of the project area began in the 1980s with a series of projects sponsored by the RICOE. Three of these projects were conducted by Gilbert/Commonwealth Associates of Jackson, Michigan, between 1983 and 1986. These included 2 phase I archeological survey projects (see Roper 1984; Roper et al. 1986) and 1 cultural resource management plan project (see Roper and Bastian 1986). As a result of the latter, research concerns were examined and gaps in the historic data base were indicated to help guide future research in the project area. The archeological surveys resulted in the recording and initial significance evaluation of 146 historic sites and components. The great majority of these were habitation sites that functioned as farmsteads (Roper et al. 1986:413).

The most recent historic sites investigations at Lake Red Rock were conducted by American Resources Group, Ltd., of Carbondale, Illinois. These included 2 phase II testing projects and 1 data recovery project on 2 historic farmstead sites (see Rogers and Koldehoff 1987; Stanley et al. 1988; and Rogers et al. 1988). As a result of the phase II projects, 5 historic sites were found to be eligible for nomination to the National Register of Historic Places (NRHP) and were recommended for data recovery. The 2 farmstead sites noted above were among the 5 recommended sites, while the present proposed data recovery project concerns the remaining 3 sites.

Site 13MA266 was recorded in 1984. A general surface collection and reconnaissance were conducted at that time (Roper et al. 1986:91). It was fully evaluated in 1987 and found to be significant according to NRHP criteria. General surface collection, shovel testing, test unit excavation, and archival research were conducted as part of this evaluation (Rogers 1988:28-68). Two features, including the remains of a keyhole cellar and a possible cistern, were encountered in test unit excavations. This investigation also found that the site area included a single historic component that originally had been recorded as two separate sites, specifically, sites 13MA266 and 268. It was recommended that the 268 designation be dropped and the site descriptions combined (Rogers 1988:64).

Site 13MA347 was recorded in 1985. A general surface collection and reconnaissance was conducted as part of that investigation (Roper et al. 1986:109). It was fully evaluated in 1987 and found to be NRHP eligible. General surface collection, shovel testing, test unit and trench excavation, archival research, and oral historical interviews were conducted at that time (Rogers 1988:111-188). The remnant foundations of at least 28 structures were recorded in addition to 9 subsurface features, including 2 wells, 2 foundations (1 of which had an associated dripline), 1 other dripline, 1 board sidewalk, 1 concrete ornamental basin, 1 bottle dump, and 1 post hole. Another habitation site originally recorded as a separate site (13MA358) was found to be associated with site 347. It is considered herein to be part of the latter site.

Site 13MA449 was recorded in 1985, and a general surface collection and reconnaissance were conducted at that time. It was fully evaluated in 1987 and found to be eligible for nomination to the NRHP. General surface collection, shovel testing, test unit and trench excavation, archival research, and oral history interviews were conducted as part of that investigation (Rogers 1988:296-375). The remnant foundations of 19 structures were recorded in addition to 3 subsurface features. It also was found that two other sites, 13MA259 and 260, previously recorded separately, were actually part of site 449.

SETTING

The proposed project area is situated in the southcentral portion of the state of Iowa along the Des Moines River. It is specifically situated in that portion of Lake Red Rock within the legal boundaries of Marion County. Lake Red Rock was formed in 1969 by the U. S. Army Corps of Engineers for the purpose of downstream flood control as well as for recreational activities. The requirements of both flood control and recreation have resulted in a continuing cycle of raising and lowering the lake level. As a further result of this action, the processes of erosion and siltation have been accelerated. The impacts to archeological sites have been particularly severe to those situated along the shoreline of the main conservation pool. The lake-associated impacts to the three historic sites recommended for data recovery have been less severe and consist primarily of slope erosion and scouring.

The project area is situated near the juncture of the Small Lakes Section and Dissected Till Plain of the Central Lowland Province (Hunt 1974). Prior (1976) refers to this area as the Southern Iowa Drift Plain. It is characterized by generally level upland divides and steeply rolling hills and valleys. Wisconsinan age loess caps the area, overlying pre-Illinoian age glacial deposits (Stanley et al. 1988:11).

The biotic landscape of the project area at the time of initial Euro-American settlement was previously summarized by Roper et al. (1986) and reconstructed from U. S. General Land Office (GLO) records. It consisted of six botanical zones: floodplain; prairie; floodplain forest; sloping upland prairie; sloping upland forest; level upland prairie; and level upland forest. The resulting landscape was a mosaic of forest and prairie habitats with numerous edge areas (Rogers et al. 1988). The project area is within the tall grass prairie biome referred to as the Prairie Peninsula (Bryson and Baerreis 1968).

Dominant vegetational species included elm, bur oak, hackberry, and black walnut in the bottomland forest and bur oak, other oaks, hickory, and elms in the valley slopes and upland forests (Roper and Bastian 1986:7). Faunal species included deer, coyote, wolf, bison, elk, black bear, bobcat, fox, woodchuck, squirrel, opossum, raccoon, mink, otter, skunk, gopher, beaver, muskrat, rabbit, turkey, prairie chicken, pheasant, duck, geese, turtle, fish, and freshwater mussels. Of these, the bison, elk, black bear, and wolf were becoming scarce by the time of Euro-American settlement (Roper et al. 1986:53-67; Wright 1915:134).

Information on the faunal and botanical resources exploited during the twentieth century occupation of the project area has been supplied by various oral history informants interviewed in connection with two of the previous historic archeological projects (Rogers et al. 1988; Stanley et al. 1988). Specifically, fox, mink, muskrat, opossum, and raccoon were hunted primarily for their fur, while duck, geese, fish, and, to a lesser extent, deer were utilized for consumption. The deer population had been greatly reduced during the nineteenth century to the

point that their numbers did not begin to reach proportions sufficient for hunting until the late 1930s (Rogers et al. 1988:131, 387; Stanley et al. 1988:Appendix D, Interviews 2 and 3). Botanical resources exploited for consumption included raspberries, blackberries, gooseberries, mulberries, elderberries, wild grapes, mushrooms, walnuts, and hickory nuts (DeMoss, personal communication 1988; Rogers et al. 1988:327-363).

The three historic sites to be examined by the proposed data recovery are situated in the upper reaches of Lake Red Rock in Marion County. None are situated along the shoreline of the main conservation pool at its present normal operational elevation. Site 13MA266 is located on a bench sideslope on the south side of the Des Moines River in the Ballard Creek drainage. The location has been impacted by both agricultural activities and slope erosion. Site 13MA347 is situated on the north side of the Des Moines River on an intermediate terrace landform. It has been impacted to a lesser extent than site 266 by scouring and siltation during lake inundation. Site 13MA449 is also situated on the north side of the Des Moines River at the confluence of Calhoun and Prairie Creeks. It is located on an upland ridge and slope. It is the slope that is being impacted by lake inundation and slope erosion as well as agricultural activities. The upland portion is either at or above the maximum flood control pool level.

That portion of site 13MA499 to be excavated for data recovery and the entire area of site 266 were most recently utilized as cornfields. Unless this activity has been stopped by the RICOE, these locations will be in a similar state at the proposed start of the data recovery excavations. On the other hand, site 13MA347 has never been plowed and is usually covered with dense weedy vegetation except immediately after full inundation. This most recently occurred in 1986. By the following summer, the vegetation was extremely dense and well over head-high. It is expected that this condition will prevail at the proposed start of data recovery investigations.

HISTORICAL BACKGROUND

Euro-American settlement in the project area did not begin until the 1840s following the purchase of the territory from the Indians in 1842. The government surveys were completed by 1848, and legal land sales began shortly thereafter. Actual settlement had begun as early as 1843, with a trading post established at the future town of Red Rock. John Welch (n.d.:5) noted in his memoirs that his family established a homestead in Marion County in 1843 when the "nearest post office and store was at Oskaloosa, twenty five miles distant."

Welch (n.d.:17) further described the early settlement of the county as follows:

> The prevailing idea among the early settlers was that settlements would be confined to localities either in or near the timbered tracts. As a result of this opinion, the first settlers were usually found in neighborhoods, often with many miles of unoccupied land between them.

During the early settlement period, agriculture was characterized by subsistence level farming with emphasis on only a few crops and livestock supplemented with garden produce, fish, and wild game and plants.

The county seat of Knoxville was selected in 1845 following county organization. Other early towns in the area included Red Rock, Pella (1848), Bennington (1848), Amsterdam (1848), Rousseau (1850), and Coalport (1857). Many of these were situated either along or near the Des Moines River in anticipation of booming river trade.

Coalport, in particular, was situated near a coal vein in order to supply the steamboats with fuel. This geological formation also contained a quantity of fire clay sufficient for the production of stoneware. A kiln was established near the future town location in the late 1840s. This kiln is known archeologically as site 13MA103. It was replaced by the late 1860s by the kiln evidenced as site 13MA106 (Reynolds 1970).

The river trade never lived up to initial expectations because of the unreliability of navigation on the Des Moines River. As a result, the river towns gradually either died out or decreased in importance. With the arrival of the railroad in Marion County in 1866, the river trade never rebounded. Thereafter, the placement of rail lines would dictate the growth or decline of communities.

The last rail line in the county was the Wabash railroad which was established in 1882. Towns platted along this line included two of the sites included in the proposed data recovery investigation--Percy (13MA347) and Dunreath (13MA449).

Available archival and oral historical data indicate that Percy functioned as a community trade and shipping center. Its primary reason for existence was the presence of a rail station, elevator, and stockyards. It did, however, also serve as a focal point for social and business activities for the surrounding farms. The population peaked between 1910 and 1920, although it continued to support a core of resident families and a few businesses into the 1950s and early 1960s.

Dunreath also functioned as a community trading and shipping center as well as a coal mining community in the late nineteenth and early twentieth centuries. Its population appeared to peak in the 1890s. It had died out long before Lake Red Rock was constructed. For some reason, the community could not survive the decline of the coal mining

industry and make the adjustment to being just a trade and shipping point.

Agriculture in the late nineteenth and twentieth centuries became increasingly intensified, mechanized, and geared to market production. Recent archeological investigations on the Ratcliff and Stortes/Crookham farmstead sites in Lake Red Rock suggested that by the 1860s, Marion County farmsteads were becoming more actively involved in market production (Rogers et al. 1988). This involvement would increase in the late nineteenth century, with farming becoming fully mechanized by the mid-twentieth century.

RESEARCH DESIGN

The following research design is guided by past research in the Lake Red Rock area as well as the objectives of the Iowa Resource Protection Planning Process (RP3) (Henning 1985) and the Lake Red Rock Cultural Resource Management Plan (CRMP) (Roper and Bastian 1986). The problem orientation developed herein is designed to provide the greatest possible yield of data significant to the history of the project area and region in the most cost effective manner. The discussion will focus first on the general problem orientation followed by site-specific research concerns.

Problem Orientation

The primary focus of the proposed data recovery research will be on potential socioeconomic variability on an intra- and intersite basis. This type of study has been the focus of much of the recent research conducted in historic sites archeology, and is considered to be of importance to behavioral studies in general. Specifically, studies have examined socioeconomic stratification and its effects on consumer behavior as reflected in the documentary and archeological records. Consumer behavior is one of the cultural formation processes creating the archeological record. An understanding of this behavior and the complex variables which influence its manifestation is of paramount importance to archeological interpretation (Spencer-Wood and Heberling 1987:58). Consumer behavior studies such as those presented in Spencer-Wood (1987a:ix) have demonstrated the utility of examining the relationship between material culture and socioeconomic status, with the greatest utility found in the examination of converging lines of evidence.

Extensive socioeconomic studies have been conducted concerning the manifestation of the rigid class structure of the ante-bellum South in the archeological and documentary records. However, more studies are now being conducted on urban and rural sites in areas such as the Midwest where a rigid class structure did not exist. Questions of importance include whether or not there are recognizable socioeconomic differences in the archeological record of landowners and tenants, rural

resident and urban resident, farmers and community residents, or within and between rural communities themselves.

The recent data recovery investigations at the Stortes/Crookham (13MA262) and Ratcliff (13MA400) farmstead sites at Lake Red Rock examined socioeconomic variability between successive occupations of the farmsteads as well as between comparable sites in the project area and other regions (Rogers et al. 1988). It was found that the Ratcliff site and another site, designated as 13MA218, ranked within a moderate or middle socioeconomic level, while the Stortes/Crookham site ranked consistently higher. In addition, site 218 generally ranked slightly higher than the Ratcliff site. This study compared socioeconomic data obtained from ceramic economic scaling techniques; census personal, real, and farm estimated valuations; artifact patterns; and dietary remains, although the latter proved to be inconclusive in this analysis (Rogers et al. 1988). Of particular interest to an understanding of the socioeconomics of the region would be a comparative examination of these data with data from rural communities and other farmsteads. The proposed data recovery presents just such a research opportunity.

While the focus of the problem orientation will be on socioeconomic variability, the proposed data recovery will generate additional data applicable to a number of different studies. These include the nature of farmstead development in the region, the distribution networks of the local stoneware industry as manifested in the assemblages found on habitation and townsites, subsistence and refuse disposal patterning, and potentially ethnicity (specifically on site 13MA449). These are all questions of importance to historic studies in general, but they also address specific research objectives of the Iowa RP3 (Henning 1985) and the Lake Red Rock CRMP (Roper and Bastian 1986). The following discussion will elaborate on these objectives and the specific research questions that will be examined on a site by site basis.

Site Specific Research

Site 13MA266

Site 266 is a small farmstead dating from the 1850s to the 1880s or 90s. It was occupied by at least three known owners, one of whom also practiced medicine. The latter was the first resident, and he hailed from Virginia. The last two known residents came from Indiana and Ohio (Rogers 1988:47).

The Lake Red Rock CRMP (Roper and Bastian 1986) identified a number of research problems concerning the agriculture-oriented settlement of this area. Questions posed included the possible pattern changes with regard to the development of agriculture and transportation in the late nineteenth and twentieth centuries and comparisons with settlement patterns characteristic of the settlers' regions of origin or ethnic affiliation. Also of importance to the study of the early settlement

patterns was the nature of frontier adaptations in the project area and whether they were similar to those discerned in other frontier regions. For example, do the hypothesized traits of simplified and/or limited material culture hold true on frontier archeological sites in the project area (Roper and Bastian 1986:45, 46)?

Recent data recovery investigations on the Stortes/Crookham and Ratcliff farmstead sites at Lake Red Rock suggested that farmsteads established in the mid- to late 1850s were involved to varying degrees in market production developing away from mere subsistence level farming. The Stortes farmstead was more involved in market production but it was not the first farmstead established by that particular settler. Furthermore, there appeared to be some correlation with economic levels, with Stortes having a relatively higher economic standing than the other farmer who had a more moderate economic level (Rogers et al. 1988).

Specific research questions to be addressed in the proposed data recovery at site 266 include the following:

1. Did farmsteads in the region progressively develop from subsistence level farming to market production orientation, or were there differing adaptations related to region of origin, socioeconomics, and/or differing microenvironments? It is known that the first settler at site 266 was from Virginia, with the later residents from the Midwest. How did the cultural traditions of the settlers' region of origin adapt to the Iowa prairie? Once again, the recent data recovery investigations suggested little discernible influence from the region of origin in the archeological and dietary remains of these farmsteads (Rogers et al. 1988). Does this hold true at site 266?

As for socioeconomics, data from the recent investigations suggests that socioeconomic variation is present among the mid- to late nineteenth century farmsteads in the region, although the majority fell within a moderate or middle range. The Stortes/Crookham site, however, consistently ranked higher than similar farmstead sites in the project area as well as other regions. What socioeconomic level (or levels) is represented by the occupations of site 266, and how does it relate to comparable sites? What effect did the residents' professions have on their socioeconomic level? It is known that the first resident was also a doctor. Was he therefore at a higher social and economic status than a farmer, or did the frontier situation have an equalizing effect on occupational status differentiations considering that he was a rural doctor?

The kinds of data to be recovered in the proposed data recovery capable of addressing the above research questions include: the spatial layout and utilization of this farmstead as evidenced by the archeological remains of structures and other cultural features; ceramics and other artifact types which can be utilized in ceramic economic scaling and artifact patterning techniques; agriculture and

population census data which can provide real estate, personal property, and farm value estimates; and faunal and botanical remains in feature contexts capable of addressing dietary and possibly socioeconomic questions. The greatest need is for datable and intact cultural deposits, two of which are known to be present in the form of a cellar and a possible cistern feature.

2. As noted above, the available data suggest that farmsteads initially settled in the mid- to late 1850s were more involved in market production and had developed to varying degrees beyond subsistence level frontier farming. How does the material culture represented at site 266 compare to that found on other sites with the same occupation span, such as sites 218 and 400? The retrieval techniques of artifactual material during the proposed data recovery will be such that representative samples of artifact types can be recovered.

3. A further question which arose from the recent data recovery investigations was the patterning of refuse disposal on farmstead sites in the region. A related concern involved the nature of resource exploitation, particularly wild game and plant food. Specifically, it was found that faunal remains generally were only sparsely represented throughout the mid-nineteenth to mid-twentieth century occupations. Wild game was conspicuously sparse in the entire faunal assemblage. Wild plant foods were present but were of selected varieties. This pattern of selective plant exploitation prevailed into the late nineteenth and twentieth centuries "with the selections becoming more specialized over time as the occupants' reliance on a cash economy and commercial goods increased" (Rogers et al. 1988:410). Do these patterns prevail in the assemblages of site 266? Or, were there differing patterns of resource exploitation and/or refuse disposal which resulted in different patterning in the archeological record?

The botanical remains recovered from the phase II investigation of site 266 indicated that wild plant foods were present but only a few varieties were represented (Rogers 1988:59-63). However, the remains were recovered from only three flotation samples and are, therefore, only suggestive of a possible correlation with sites 262 and 400. The retrieval of flotation samples from all features as well as distinctive stratigraphic levels within features will be part of the proposed data recovery investigation.

The general data classes known to be present on site 266 capable of addressing all of the above questions included moderate to dense artifacts including both refined and unrefined ceramics (the latter consisting primarily of locally made stonewares); intact subsurface structural and subsistence-related features (including a keyhole cellar similar to two found in association with the early occupation of site 262); well preserved botanical remains as well as moderate faunal remains; and archival data including historical maps, population and agriculture census data, and biographical information concerning former residents and owners.

Site 13MA347

Site 13MA347 consists of the remains of the former town of Percy. The town was established in 1882 along the Wabash railroad (originally the Des Moines and St. Louis). It functioned as a small community trading and shipping center that peaked during the first two decades of the twentieth century. The decline was gradual but accelerated during the lagtime between the initial authorization of Lake Red Rock and its actual construction (Rogers 1988:142-152).

The Iowa RP3 indicated a need for a better understanding of the configuration and patterning within and between small rural towns (Henning 1985:74-75). Architectural historians and historical geographers have examined certain aspects of rural communities in Iowa, but the archeological manifestation of such communities is poorly understood. Aside from the phase II investigations of Percy and Dunreath at Lake Red Rock (Rogers 1988), the phase I and II investigations at the milling town of Motor in northeast Iowa (Hudson 1983; Rogers and Stanley 1984) and the investigation of the coal mining community of Buxton in southcentral Iowa (Gradwohl and Osborn 1984) constitute the only intensive archeological investigations to date of small, rural communities in the state.

In the Lake Red Rock area, 9 archaeological townsites have been recorded. Many of these, however, are permanently inundated or are periodically inundated and receive extremely heavy siltation including Coalport, Rousseau, Red Rock, and Cordova (Roper et al. 1986). Therefore, the intensive investigations of the townsites of Percy and Dunreath pose an excellent opportunity to examine the nature of small trading and coal mining centers in the region, particularly since they represent the entire life cycle of these communities.

The phase II investigation of the townsite of Percy indicated some variation in the size of house structures. These were separated according to large, medium, and small categories. It was postulated that this variation in size might be indicative of variation in the socioeconomic levels within this community (Rogers 1988:186-187). It is also known that there was variation in occupations of the town residents including laborers, carpenters, blacksmiths, businessmen, and merchants (Rogers 1988:147-148). Other studies have indicated that occupation type can be examined as a socioeconomic variable with certain occupations having a higher status association than others (e.g., Hauser and Featherman 1977; McBride and McBride 1987). It should be noted, however, that the association is a complex one, with many other variables such as race and religion also having an effect (Hauser and Featherman 1977:48-50).

The study by McBride and McBride (1987) included both archeological and documentary data in an examination of a small trading center in northeastern Mississippi. The town of Barton was established in the

late 1840s but had died out by the 1870s. The community, however, continued to be occupied into the early twentieth century with the residences changing in function to that of farmsteads. The analysis indicated moderate socioeconomic variation within this community correlating with variations in material culture, personal and real property, and occupation levels and valuations (McBride and McBride 1987).

Therefore, it is proposed that the orientation of research concerning the townsite of Percy be focused on the elucidation of possible socioeconomic variation related to material culture; house size, configuration, and architectural style; occupation type; dietary patterns; and property values. Specific questions to be examined include:

1. Was there socioeconomic stratification or variation within the community of Percy? How is this manifested in the archeological, documentary, architectural, and oral historical records? Does the variation in house size represent social and economic stratification, or were the differences the result of residential differences, with smaller houses representing rental properties occupied until a larger house could be procured? If socioeconomic variation exists within this community, how does it compare to other communities in the region and elsewhere?

In order to examine these questions, the proposed data recovery investigation will emphasize the recovery of representative artifact assemblages from datable contexts associated with a range of house sizes and occupation types. In addition, oral historical, archival, and architectural studies will be aimed at the examination of possible socioeconomic variation in the community. For example, it would be of great research interest to understand the perceptions that the residents themselves had of social and economic differences (or the lack thereof) within the community. Comparisons of such data with documentary and archeological evidence will illuminate the potential differences or correlations associated with the way people perceive stratification in relation to its actual manifestation.

2. The dietary patterns of the town residents is also a research concern of the proposed data recovery. This variable will be part of the socioeconomic study of this site, but it has further potential concerning the relationship between subsistence, material culture, and the local economy. For example, was the local economy predominated by local products and resources, or was there a reliance on imported and commercially produced items and foodstuffs? Did this pattern change between the growth, peak, and decline periods of the town's development? It is postulated that the dietary and material culture patterns of the later years of this community would be predominated by imported goods and manufactures supplemented with selected local products associated with both the presence of the railroad, the growth of the trucking industry, and the increasing commercialization of agricultural

production. On the other hand, the early years of the community perhaps were predominated by local products supplemented with imported items. The railroad connection, however, may have allowed for a reliance on imported items from the start.

The proposed data recovery will emphasize the collection of representative botanical, faunal, and artifactual assemblages from datable contexts in order to examine the above research concerns. This will be supplemented with available documentary and oral data concerning subsistence and material culture.

3. Related to question #2, are the changing patterns and configuration of the business community of this town. It is known that there was once a variety of businesses in this community situated on either side of the main street (Rogers 1988:146). Some of these were railroad-related, but the greater number were involved in the provision of the daily commercial and social services of the community. It is possible that the material culture and documentary records associated with these businesses can provide significant data concerning the socioeconomics of the community as well as its participation in, and degree of reliance upon, local versus imported goods and foodstuffs.

Therefore, the proposed data recovery will include commercial locations within the townsite. Representative artifactual, botanical, and faunal remains as well as available documentary and oral sources will be collected and examined.

The relevant data classes present on this site include intact structural and feature remains dating from the late nineteenth and twentieth century occupations of the town; dense and diverse artifactual material; well preserved faunal and likely botanical remains; census and tax records; former town residents, descendants, and neighboring residents with first and secondhand knowledge of the town and its social and economic lifeways; written accounts, photographs, and sketches by former residents; and RICOE acquisition file photographs of the structures standing in the early 1960s in addition to basic structural descriptions. There is also some potential for extant records from town businesses as well as probate records of former residents and businessmen. Both are good possibilities considering that one of the former merchants is still alive and may have curated his records, and that another merchant died while still in possession of a general merchandise store (Stanley et al. 1988:Appendix D, Interview 1).

Site 13MA449

Site 13MA449 represents the remains of the former town of Dunreath. It was also established in 1882 along the Wabash railroad, although its history is somewhat divergent from that of nearby Percy. Specifically, the town location was in an area of relatively rich coal veins, the potential of which more than likely had a bearing on the establishment of a community at this location. The late nineteenth and twentieth

century history of this community was predominated by the coal mining activity centered at this locality. Also unlike Percy, the town of Dunreath failed to survive into the mid-twentieth century. It appears that the decline of the coal mining industry was too great an obstacle for the community to overcome. It could not survive solely as a community trading and shipping center despite the fact that it had always functioned as such.

The Iowa RP3 (Henning 1985:112-130) noted the large quantity of data available concerning the coal mining industry of the state compared to the paucity of inventory and survey data concerning the actual sites associated with this industry. It further noted the utility of archeological and documentary research in the reconstruction of the social and economic history of coal mining communities, citing the investigation of the Buxton community as an example of the necessity for similar examinations of other mining communities.

Coal mining communities were not a rarity in the central Des Moines River valley region. During the late nineteenth and early twentieth centuries, there were numerous coal mining operations throughout this region. Many of these had communities in association, some expressly constructed for the miners. As noted above, one of these has been investigated in depth archeologically, specifically the former town of Buxton in Monroe County southeast of the Lake Red Rock area. This community was occupied predominately by black coal miners and had been built by a large coal mining company. The study included an integration of oral historical, documentary, and archeological data to examine the lifestyles and economic nature of this community (Gradwohl and Osborn 1984).

Comparisons between Dunreath and Buxton indicated more differences than similarities (Stanley and Rogers 1988:9-10). The coal mining operations at Dunreath were by more than one company, some at the same time and some in succession. Available data suggests that no single company either planned or constructed the town or even the coal miners houses, although the latter is not certain. Oral history suggested that there may have been a coal company store in Dunreath in the early twentieth century. Such stores were often monopoly operations where the coal miners had to purchase their goods. This was usually accomplished by paying the miners in script good only at the company store. Whether the store in Dunreath operated in the same manner is not known.

As noted previously, only a portion of the town of Dunreath is recommended for data recovery excavations. This consists of the lower elevations, primarily in a sloping field area. Oral history suggested that this area was the locus for coal miner residences in the late nineteenth and early twentieth centuries. Archeological investigations did note the presence of a wide artifact scatter and several possible structural locations, one of which was a sawmill (Rogers 1988). The remainder of the townsite area is well above the proposed pool raise levels and will not be impacted by that action. This area was

recommended for protection and monitoring by the RICOE as a significant cultural resource.

Because only a small portion of the actual townsite is included in the proposed data recovery, the primary objective of the excavations will be to examine the area of the suspected coal miner residences. Therefore, the primary research question concerns whether or not this area was in fact occupied by coal miners. Should that question be answered positively, then the following research questions will be addressed.

1. As noted above, coal companies often constructed communities for their miners. The houses were usually of similar design and construction, with stores owned and operated by the company. As a result, the daily life of the residents was governed by the parent coal company. It is not known what influence the coal companies had over the Dunreath community, or to what extent they were involved in its construction. Therefore, an additional question concerns whether or not the archeological record reflects some diversity in house size and type typical of rural communities, or rather a uniformity suggestive of a common origin and construction.

In order to examine this concern, the proposed data recovery will emphasize archeological investigation of the field area as well as possible documentary evidence of coal company influence reflected in company records and newspaper accounts and advertisements.

2. A further aspect of the Dunreath coal mining community was a diversity in nationality and ethnic backgrounds (Rogers 1988). Oral history data indicated that the differing groups mixed both socially and residentially, although some were still strongly identified with their nationality (Stanley et al. 1988:Appendix D, Interview 3). Are the differing ethnic backgrounds reflected in the archeological record, or was there a conformity of material culture, subsistence practices, and habitation patterns reflective of social and cultural interaction?

In order to address this concern, the proposed data recovery will attempt to retrieve representative artifactual, faunal, and botanical material from datable contexts such as privies and trash pits. This can be supplemented with oral historical data concerning peoples' perceptions of ethnic differences and conformities.

3. Aside from specific research questions concerning the nature of the coal mining community, is the possibility of socioeconomic variation within the community as a whole. If variation did exist, then how does the stratification compare to that of other communities such as Percy? Was the stratification related to varying occupations? Did the coal miners occupy a lower level economically and socially than the other residents of this community, especially those who were permanent residents and were businessmen or professionals?

In order to examine this research concern, the proposed data recovery will attempt to retrieve representative remains from datable contexts in addition to oral historical interviews and archival research geared toward the examination of socioeconomic variables.

Relevant data classes present for this site include intact cultural and structural features; dense and diverse artifacts; moderate faunal and botanical remains; former residents of the town and neighboring area with first and second-hand recollections of the community; a hand-drawn map of the town in the early twentieth century as it was remembered by a former resident of the area; census and tax records; state mine records; microfilm copies of old newspapers from the area; and RICOE acquisition photographs and file information of former structures, although only a few of these dated from the pre-1930s occupation of the town.

METHODS

The following section will outline the prefield, field, and analytical methods to be utilized in the proposed data recovery investigation. Table 1 presents a summation of the proposed work schedule, and Table 2 presents a breakdown of manpower per task to be performed.

Prefield Stage

The principal investigator of the proposed data recovery project is already familiar with the specific sites in question as well as the project area in general, having directed the three previous historic sites investigations at Lake Red Rock including 2 phase II and 1 data recovery investigation. Therefore, the extensive literature review concerning the project background and regional studies has already been conducted. Additional research concerning comparative studies in other regions and disciplines (such as historical geography) will, however, be initiated during the prefield period. This period will also be utilized for preparatory setup of the fieldwork including the acquisition of housing for the crew and heavy machinery for the fieldwork. Contacts with oral history informants for the two townsites previously interviewed by the principal investigator will also be re-established during this period, while other contacts will be initiated. These will be made first by letter, followed up by telephone calls.

Field Stage

General Methods

Controlled Surface Collection. Site 266 consists of a small farmstead the topsoil of which has been plowed. A controlled surface collection will be conducted on this site because the artifactual material may be of only a moderate density and only a general surface collection of diagnostics has been conducted (Rogers 1988). This will

Table 1. Project Schedule

Task	Calendar Days
Start-up/literature review	1-10
Fieldwork: site 347	11-42
449	43-53
266	54-67
Downtime	68-128*
Lab work/analysis	129-242
Draft report write-up/preparation	243-302
On-site conference	273
Draft report due	303
Draft report review	303-363
Final report due	418

* 61 days allowed for unforeseen project delays (e.g., inclement weather).

Table 2. Unpriced Man Hours by Task

Personnel	Pre-field	Field			Lab/Analysis	Reports		
		347	266	449		Draft	Final	Popular
Principal Investigator	80	256	120	80	228	448	160	16
Field crew		256	120	80				
" "		256	120	80				
" "		256	120	80				
" "		256	120	80				
Lab crew					228			
" "					228			
" "					228			
Illustrator						200	8	4
Edit/Report Prep.						185	40	8
Faunal Analyst					133.33*			
Botanical Analyst					100*			
Architectural Analyst					106.66*			
Heavy Machinery**		46	17	29				

* Includes a write-up by the analyst of the results of the respective analyses.
** Includes backfilling

be done in order to obtain the maximum amount of data concerning site utilization and artifact content and distribution. These data will also aid in the refinement of the areal extent to be examined by excavation.

In preparation for the controlled surface collection, the site area will be plowed and/or disked and the ground allowed to receive sufficient rainfall. A grid system of units a maximum of 10 m x 10 m in size will then be established, and the artifacts in each unit 100% collected. A distribution map will be generated from these data in order to pinpoint areas with the greatest archeological potential.

Mechanical Excavation. Heavy machinery in the form of a belly loader will be utilized to remove the plow zone and sheet midden layers on all three sites. This method has proven to be effective and efficient in the exposure of undisturbed, subsurface features as well as being a highly cost effective means for examining large areas. Caution will be exercised in the removal of the plow zones from both sites 266 and 449 due to the deflated nature of the surface deposits. Deep stripping would only serve to damage what might be otherwise undisturbed cultural deposits. Caution will also be used in the removal of the unplowed sheet midden layer at site 347 because feature locations are often present at varying levels as a result of the lengthy depositional history of these deposits. More specifically, it will be found that some features are fully exposed at a higher level than other features which will require deeper stripping in order to be fully exposed.

Hand Excavation. The excavation of test units no smaller than 1 m x 1 m in dimension may be utilized in the examination of known structural remains to lessen damage by mechanical topsoil removal. Specifically, the keyhole cellar present on site 266 may require exposure by hand excavation due to the shallowness of the plow zone. In addition, the sandstone foundation near Structure H on site 347 will be most effectively examined by hand excavation because of its proximity to the concrete foundation of that structure and a collapsed well restricting access by heavy machinery. Hand excavation will be conducted by natural stratigraphic levels where possible and by arbitrary 10 cm levels where stratigraphy is uncertain. All levels will be screened through 1/2 in. mesh and artifacts provenienced accordingly.

Feature Excavation. Immediately upon removal of the topsoil by heavy machinery, the uncovered area will be closely examined for features. The horizontal limits of any features will then be clearly defined by shovel skimming, troweling, or hoeing. All are effective methods for feature definition and specific techniques will be used where most efficient and appropriate depending on soil conditions and artifact density.

Following feature definition, the plan views will be mapped and tied in to the established site grid system or datum. Elevations will be taken establishing a below surface or below datum depth. Each

feature will then be cross-sectioned as nearly as possible to half or quarter section depending on feature size, and the half or quarter removed as a single level. This portion of the feature will not be screened, but artifacts will be collected as they are observed either during excavation or in the backdirt. The cross-sectioning will be conducted to achieve a profile of the feature from which feature function, vertical morphology, and stratigraphic levels can be identified. All profiles will be mapped and photographed.

The next step will be the removal of the remaining portion of the feature. This will be accomplished in either natural or arbitrary levels depending on the nature of the feature fill as shown in the cross-section profile. These levels will be screened through 1/2 in. mesh supplemented with samples of feature fill no less than 5 liters in volume for flotation. These samples will provide faunal, botanical, and artifactual data not recoverable through 1/2 in. mesh screen.

Deep features such as wells will likely require partial excavation with a backhoe. It has been found that because of their extreme depth, this technique is most efficient and cost effective in the excavation of these features. It also lessens the potential for bodily harm from the inherent danger of wall collapse. Upon exposure of the profiles of these features by backhoe, the features will be photographed, mapped, and the interior fill removed by hand excavation. This will be accomplished either in natural or arbitrary levels depending on the nature of the fill. It is usually extremely difficult to screen the fill of deep features. Therefore, the interior fills will be trowel-skimmed and supplemented with flotation samples.

The utilization of 1/2 in. mesh for screening of the feature deposits will result in the loss of small artifactual, faunal, and botanical material. The flotation samples will offset this loss by providing a sample of this material. The mechanical removal of the topsoil may impact the upper portions of intact features resulting in some data loss. However, from past experience by the principal investigator and others in the discipline, the amount of data lost to this technique is usually minimal. The gains in time and the amount of area which can be examined by this technique far outweigh the loss. Finally, the screening of only half of each feature will result in some data loss. This is offset by careful observation during the removal of the unscreened portion of the fill for dense concentrations or differing types of artifacts. Any artifacts observed during the removal will be collected. This assemblage can then be compared to the screened assemblage to determine the representativeness of the latter.

Backfilling. Upon completion of the fieldwork, all excavations will be backfilled and the surface returned to its original contours. It was found during the previous data recovery investigations that the only way to effectively backfill large excavation areas is with a bulldozer. Backhoes and belly loaders cannot deal with the moving of large mounds of backdirt.

Site-Specific Methods

Site 13MA266. The proposed data recovery at site 266 will consist of controlled surface collection, hand excavation, mechanical removal of the plow zone, and surface reconnaissance and shovel testing of nearby ravines and the creek banks. Specifically, this will entail the following methodology.

Controlled Surface Collection. The general methodology of this procedure has already been defined above. The collection at site 266 will cover the intact portion of the site within the field area, specifically, a 4,000 m^2 area (Rogers 1988:31). Prior to the collection, the site area will be disked and/or shallow plowed and allowed to receive sufficient rainfall. During this period a grid system of units no greater than 10 m x 10 m in size will be established. Once the field has received rain, the artifacts within each grid unit will be 100% collected and a distribution map generated.

Hand Excavation. Prior to the mechanical removal of the plow zone, the topsoil over feature 2 (i.e., the keyhole cellar) will be removed by hand excavation to minimize damage to this significant feature. In addition, the topsoil over features 1 and 3 (a possible midden remnant and a cistern, respectively) will be removed manually to minimize the danger of their destruction during mechanical stripping.

Mechanical Excavation. Utilizing the distributional data from the controlled surface collection, the specific areas for mechanical removal of the plow zone will be delineated. The plow zone will be removed by belly loader with caution exercised in the depth to which the topsoil is removed. It is anticipated that no more than 20 cm will have to be removed mechanically in order to expose subsurface features. Immediately following removal of the plow zone, the stripped area will be closely examined by surface reconnaissance for possible feature stains and artifact concentrations. Features will be clearly defined by shovel skimming or hoeing, and their plan views, elevations, and location with respect to the site datum will be recorded.

All features will be excavated according to the general methodology defined above. Known features include the keyhole cellar, midden remnant, and cistern. Possible features that may be encountered include post holes from fence lines and structures, food storage pits, structural supports (i.e., piers, trenches, stone foundation, or posts) for at least a house structure, a chimney/hearth remnant, a well, and a privy. It is anticipated that the feature density will be low enough that all features can be fully excavated within the allotted field time. Flotation samples will be recovered from all features. In addition, samples of wooden posts and trees will be retained for species identification.

The phase II investigation indicated that the main concentration of

artifacts and structural material was most dense within a 2,400 m^2 area. This will constitute the minimum amount of area to be stripped by machinery in the proposed data recovery. A maximum of 4,000 m^2 (encompassing the intact portion of the site area) potentially will be stripped depending on the results of the controlled surface collection and feature distribution encountered during stripping. It is anticipated that the entire 4,000 m^2 can be stripped and fully examined in the allotted field time. Considering the estimated extent of the entire site is 6,800 m^2, the above minimum represents 35% of the site area, while the above maximum represents 59% of the site area. It should be noted, however, that the total site area estimate includes the eroded slope to the north of the intact portion of the site. The topsoil in this area has been eroded to subsoil and the artifacts displaced downslope. No features were visible in this area during the phase II investigation when surface visibility was 100% and the surface recently eroded by lake inundation. Therefore, the main portion of the site that remains intact is within the 4,000 m^2 area.

Reconnaissance. During the excavation of this site, a surface reconnaissance, supplemented with shovel testing, will be conducted along the banks and ravines of Ballard Creek as well as the ravine on the east side of the site location. The purpose will be to locate possible refuse dumping areas utilized by the site occupants. Oral history associated with the Stortes/Crookham farmstead indicated that the residents of the Ballard Creek area often threw their refuse in ravines along the creek. While this was typical of the twentieth century occupations, it is not known if it typified the earlier occupations. Site 266 is situated closer to the creek possibly making that area a convenient dumping area used by the site's occupants. It should be noted that the creek has been dredged by a dragline and deposits have been disturbed. Shovel testing will be utilized in locations where vegetation or siltation does not permit good surface visibility. The reconnaissance activity will occupy a maximum of 1 field day and 2 field personnel.

Summary. The above detailed field methodology proposed for site 266 is designed to recover a maximum amount of significant data from the intact site area. By examining this portion of the site, the research questions previously outlined for this site concerning its layout and spatial utilization can be addressed. In addition, the recovery of flotation samples supplementing screened feature deposits will provide botanical and faunal data necessary for the analysis of the dietary patterns of the site's former occupants. Further, the reconnaissance of the creek and ravine areas will add to the understanding of the refuse disposal patterns associated with the site. Finally, the controlled surface collection and screened feature deposits will provide a representative artifact assemblage necessary for the proposed socioeconomic and local stoneware analysis.

Site 13MA347. The proposed data recovery at site 347 will consist

of hand excavation and mechanical excavation. This is detailed as follows.

Hand Excavation. Prior to mechanical stripping of the sheet midden, hand excavation will be conducted at the location of feature 6 (sandstone foundation, at the rear of structure H. This feature is too close to the concrete foundation and a collapsed well to enable machine stripping of the topsoil. Therefore, the feature will be uncovered and excavated by hand. The backhoe may be used to clear away debris and earthen mounds associated with the well in order to fully uncover the foundation.

Mechanical Excavation. The excavations at the Stortes/Crookham site, which also had an unplowed sheet midden, included systematic surface collection and shovel testing prior to the removal of this layer. However, it was found that the surface collection had little utility beyond the confirmation of mid-twentieth century refuse patterns. The shovel testing did reveal the presence of the mid-nineteenth century occupation locus in the front yard of the house site, but the midden itself did not appear to have much chronological integrity (Rogers et al. 1988:156). Attempting to apply this technique to a much larger site with numerous habitation locations would be beyond the limits of a cost effective investigation. The return in data would not justify the expenditure of time and money. Therefore, it is felt that the surface content and distribution information obtained by the phase II investigation constitutes sufficient investigation of the sheet midden content (Rogers 1988:112-139). The possibility of missing early occupation areas masked by the midden will be offset by the stripping of entire town lots according to their legal platted boundaries rather than simply radiating out a certain distance from a known foundation.

Figure 1 illustrates the proposed areas of site 347 to be mechanically stripped and investigated for features. It is proposed that a minimum of 8,028 m^2 be mechanically excavated, up to a maximum of 12,028 m^2. While the entire townsite covers an area of 156,400 m^2, this consists of the platted town and its immediate hinterland. Not all of this areal extent was ever actually occupied.

The total area pinpointed for the focus of data recovery in the preliminary mitigation plan (Stanley et al. 1988:408) consisted of 17,000 m^2. For the proposed data recovery, several locations were dropped from the pinpointed area in favor of other locations. For example, Structures M, R, and 1 were dropped and Structures d, A, D, and the area south of D substituted. These substitutions were made upon examination of the available census data, which provided better occupational data for some of the substituted locations. These substitutions were made because the occupational data is critical to the proposed research design. This is not to suggest that the dropped areas had any lesser research potential. When the new areas are added to the original pinpointed area, a total of 21,000 m^2 is obtained. Therefore, the proposed minimum excavation constitutes 38% of this enlarged area,

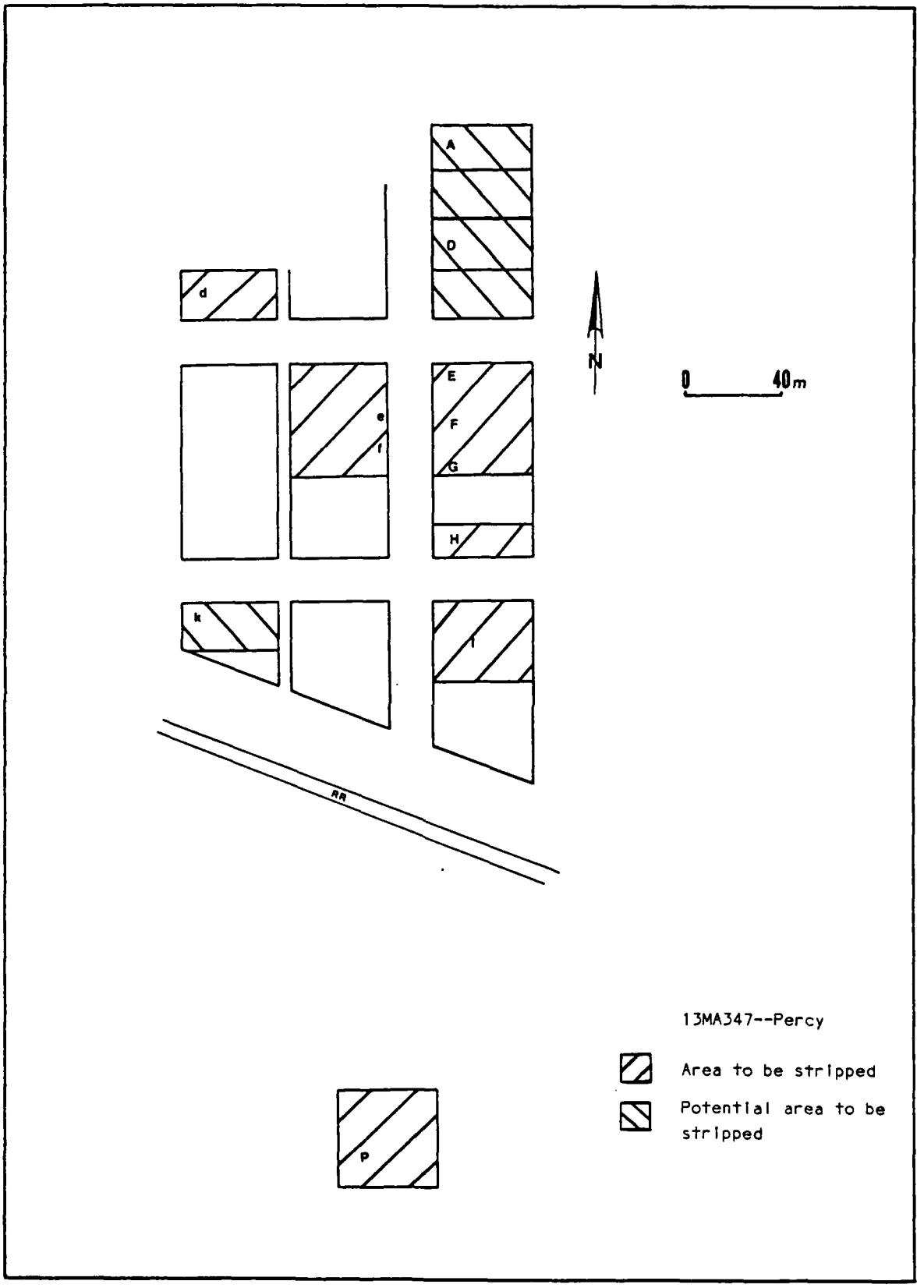


Figure 1. Proposed Areas to be Investigated by the Data Recovery at Site 13MA347.

while the maximum represents 57%. It is anticipated that 20-25 cm of sheet midden will have to be removed in order to uncover subsurface features.

Figure 1 indicates the town lots that will be excavated with their associated surface foundation remains labeled according to the phase II designations (Rogers 1988). This figure also shows the additional areas that might be investigated depending on time and complexity of the feature content of individual lots. It is anticipated that more than the minimum area can be excavated in the proposed allotted time. The order of excavation priority of the additional areas from first to last will be as follows: Structure A; the small structure south of Structure D; Structure D; and Structure k.

The lots in Figure 1 were chosen for their potential to address the socioeconomic research questions outlined previously in this proposal as well as their potential to address concerns as to the commercial district of Percy. The selection was aided by census data, the data and sketches in Mikesell (1966), and archeological evidence (Rogers 1988). Specifically, the proposed minimum excavation focuses on 6 house sites and 9 businesses. The houses represented include 2 large (Structures I and P), 2 medium (Structures d and F), and 2 small-sized structures (G and E) (Figure 1). The known occupations represented by these structures include 2 merchants (Structures I and E), 1 blacksmith (Structure G), 1 grain dealer (Structure F), 1 laborer (Structure E), 1 telegraph operator (Structure d), and 1 farmer (Structure P). The latter is also known to have been a rental property throughout its history. The businesses include 2 stores, 2 blacksmith shops, 2 restaurants, 1 butcher shop, 1 barber shop, and 1 post office.

The proposed maximum area for data recovery includes 4 additional house site locations. Specifically, the houses include 2 medium (Structures A and D) and 2 small-sized (Structure k and the unlabeled structure once present south of Structure D). The known occupations associated with these structures include 1 farmer (Structure A), 2 blacksmiths (Structures A and D), 1 carpenter (area south of Structure D), and 1 unknown (Structure k) (Figure 1).

Once the lots have been stripped by belly loader, the features will be defined and excavated as previously described. There is a potential for a very high feature density, and it may become necessary to sample types and sizes of features at each location. This possible change in methodology will be made only with the consultation and approval of RICOE archeologists. For example, post holes could be quite numerous, and it would likely be more cost effective and efficient to simply quarter- or cross-section these features, leaving the second half unexcavated. This procedure would not involve any major loss in significant data. Furthermore, it is known from oral historical and archeological data that there were a number of sandpoint wells in Percy that were still in use into the mid-twentieth century (Rogers 1988). Both features 2 and 8 which were excavated during the phase II

investigation contained material dating from the 1960s occupations. The recent nature of the fill of these features indicates a low research potential. It would likely be more efficient to either sample this type of feature, or quickly cross-section it utilizing the backhoe and sample the fill deposits.

Potential features on both house and commercial lots include wells, cisterns, refuse pits, privies, and post holes. It is likely that some lots will contain the remains of earlier houses, outbuildings, and business structures.

Summary. The proposed data recovery at site 347 is geared to recover the maximum amount of significant data capable of addressing the proposed research questions. The excavation areas focus on both business and residential structures representing a variety of house sizes, occupations, and commercial enterprises. These data are necessary for the proposed socioeconomic analysis of this townsite. Artifactual, botanical, and faunal material recovered from flotation and screened samples from feature contexts also will provide data capable of determining dietary and refuse disposal patterns.

Site 13MA449. The proposed data recovery at site 499 will consist of machine stripping of the plow zone and feature excavation. This is detailed as follows.

Machine Excavation. Prior to the stripping, a grid system will be established in the field area corresponding as near as possible to the original town plat. This will enable efficient testing of the town lots in this area to determine if habitation sites are present. A total of 20 blocks, 40 m x 40 m in size, were pinpointed in this area by the preliminary mitigation plan (Stanley et al. 1988:415). It is proposed that these blocks be investigated for habitation site locations by machine-stripped trenches 2 m wide by 40 m in length by 20 cm in depth. Specifically, each selected block will be investigated by 4 of these trenches at intervals of 10 m with the trenches beginning 5 m in from the side of the platted block.

A minimum of 4,480 m^2, consisting of 14 of the 20 designated blocks, will be excavated in this manner. This includes those shaded blocks at the lower elevations in Figure 2-52 in Rogers (1988:334). A maximum of 6,400 m^2, consisting of all 20 of the designated blocks, could potentially be investigated. While the proposed square meter totals comprise only 14% and 20%, respectively, of the estimated total of the pinpointed areas, they do constitute sample investigations of 70% and 100%, respectively, of the town blocks in this area.

Should habitation sites be located in any of the first 14 blocks, then the stripping will be expanded to investigate these areas. Therefore, the maximum amount of 6,400 m^2 potentially could be utilized within the 14 blocks. Features will be defined and excavated as

previously described. It is anticipated that feature density will be moderate to low, but if density is high, it may be necessary to sample feature types and sizes such as proposed above for the townsite of Percy. Potential features that may be found on habitation sites include cellars, privies, wells and/or cisterns, refuse pits, food storage pits, post holes, and foundation remnants.

Summary. The proposed data recovery at site 449 is geared to address the research questions previously outlined. The primary objective is to determine whether or not this area of the townsite was ever occupied. The proposed investigation of a large number of the platted blocks will enable such a determination. The excavation of features using the proposed recovery methods should provide artifactual, faunal, and botanical data capable of addressing the questions concerning socioeconomic variation, habitation and material conformity or diversity, and dietary patterning.

Post-field Stage

Analytical

Archival. Further archival research concerning all three sites will be conducted during the course of this project. This will include a closer examination of the available census data to be certain that the populations of the two towns are accurately counted; agriculture census data concerning site 266 to determine farm values during the late nineteenth century; tax records from the two towns to provide personal property value data lacking in the census records post-dating the 1870s; probate records for all key individuals from all of the sites, particularly the Percy merchant who died while in possession of one of the general stores; local newspapers (such as the Knoxville Journal) for articles and advertisements from the two towns--of particular interest would be those papers dating from 1882-1900; county directories and regional gazetteers for data on residents of the two towns; account books and coal company records if available; and aerial photographs of the project area dating from 1938, most of which are available in the map collection of the University of Iowa, Iowa City.

Repositories to be visited include the archives at Central College in Pella, Iowa; the State Archives; the State Historical Society libraries in both Des Moines and Iowa City; the Knoxville Public Library; the Marion County Courthouse; and the Marion County Roads building where the tax records are stored.

The main purpose of the archival research is to expand our knowledge of the occupants and history of these sites, particularly that of the townsites. Because the excavations are limited at Dunreath, the continuation of archival research concerning the town as a whole will help to illuminate the past lifeways of this community.

Oral Historical. The archival and archeological investigations will be supplemented with further oral historical interviews. It is doubtful that informants can be found concerning the occupation of site 266; however, the attempt will be made to locate descendants of the Jury family (the last known occupants).

The principal investigator of the proposed data recovery investigation conducted the previous oral history interviews concerning both Percy and Dunreath (Rogers 1988). Mr. Findlow, former resident of Percy, is willing to participate in an on-site interview. Another possible informant for Percy is Mr. Kermit DeHaai whose family has always lived in the vicinity of Percy. Descendants of the Mikesell family are another possibility, as are other long-time neighboring residents still in the area.

For Dunreath, it is possible that Arthur Nichols will participate in an on-site interview, as well as Carl Mohler, brother of Delbert Mohler--an informant during the phase II investigation (Rogers 1988). Other possible informants are Jack Crook and Mrs. Marion Clark who once lived either in Dunreath or in the vicinity.

Oral history interviews will be conducted to learn as much as possible about the past histories of these communities. Of particular interest to the proposed data recovery investigation is the perceptions that people had of socioeconomic stratification within their communities.

The archival research and oral history interviews will be conducted during the prefield and field stages of the proposed data recovery. The principal investigator will conduct the oral history interviews and portions of the archival research. The remainder of the archival research will be conducted by a member of the crew with prior experience in archival research.

Artifacts. The historic artifacts recovered will be analyzed in the same manner as those from the previous farmstead site data recovery investigations at Lake Red Rock (Rogers et al. 1988). This will be done to insure consistency and enable meaningful intersite comparisons.

Specifically, the historic artifacts will be identified according to material, manufacture, function, and decorative type. Diagnostic material will be identified and dated by the use of the following classifications and chronologies:

1. Refined Ceramics--Brown (1982); Lofstrom (1976); Miller (1987); Price (1982); and Wegars and Carley (1982)

2. Glass--Deiss (1981) and Lorrain (1968).

The stonewares will be examined with reference to local and

regional studies including Reynolds (1970), Schroeder (1979), Schulte (1974), Stoltz and Brooks (1966), and Till (1983). In addition, the proposed principal investigator has examined the stoneware collections from the kiln sites at Lake Red Rock housed at Iowa State University in Ames. Therefore, the local stonewares will be further examined for correlations with the characteristics noted in these collections (e.g., see Rogers et al. 1988).

A data base program for the cataloguing of nineteenth to twentieth historic artifacts is being developed for Bear Creek Archeology, Inc., and will be ready for the proposed lab analysis. It is anticipated that this program will facilitate the generation of artifact attribute studies as well as presenting the data in a detailed, tabulated manner. This type of presentation should facilitate the use of these data by other researchers, more so than by textual descriptions. The following categories will be employed in the analysis of the historic material.

Ceramics. The initial identification will be of ware type such as pearlware, whiteware, ironstone, porcelain, yellow ware, stoneware, coarse earthenware, or redware. Ironstone will be identified by a lack of porosity and a white-paste. Pearlwares will be separated from whitewares based on the decorative type and a bluish cast to the glaze color.

Decorative treatment and vessel morphology will be noted. Where possible, temporal ranges and Mean Ceramic Dates will be determined. The latter will be calculated utilizing South's (1977:217) formula and temporal ranges derived from the refined ceramic sources listed above. Minimum vessel counts will be attempted depending on the condition of the ceramic assemblages recovered.

Stonewares will be identified according to glaze type, paste color, decorative treatment, vessel type, method of manufacture, and place of manufacture. Specific attention will be paid to the identification of locally versus nonlocally produced stonewares as well as possible associations with specific local kilns.

Glass. Glass items will be identified according to function, method of manufacture, embossing, and color. Where possible, an adaptation of South's (1977) ceramic formula will be applied to the calculation of mean glass dates (see Rogers et al. 1988).

Metal. These items will be identified according to material type, method of manufacture, and function.

Other. This category will include construction materials and all those items manufactured of materials other than ceramic, glass, and metal. Construction materials include brick, mortar, concrete, sandstone, limestone, and other minerals. Other possible materials include cinders, synthetics, rubber, leather, and items made of bone and shell.

Socioeconomics. The primary objective of the proposed research design is to examine possible socioeconomic variation on an intra- and intersite basis. To accomplish this goal, the above described data recovery excavations are geared to provide material culture and subsistence remains, two of the variables selected for socioeconomic analysis. Specifically, the material culture remains will provide the data for ceramic economic scaling as well as artifact patterning. The subsistence remains have the potential to provide data on resource exploitation and dietary patterns for economic analysis, which will be described in the following section on the proposed faunal analysis.

Other variables provided by the proposed oral historical, documentary, and architectural analyses include former residents' perceptions of status and economic levels; tax record valuations of personal property; population census real/personal property valuations and identification of occupation types; agriculture census farm valuations; variations in architectural forms and styles; and house size and interior spatial utilization. There is also the potential for probate records and account books concerning the personal and commercial property of one of the former merchants of Percy. It is also possible that William Findlow, Jr., retains possession of the account books from his Percy store. Such records could provide data on consumer purchases and indebtedness.

The population census records provide real estate and personal property value estimates for the years 1860 and 1870 in Marion County. However, these data are lacking in subsequent censuses, and the 1890 census is not even available. Therefore, the census valuations can only be applied to the analysis of site 266, with comparisons made with the farmstead study by Rogers et al. (1988). The post-1880 state and federal censuses do, however, provide identifications of the occupations of the residents of both townsites. These data can be compared to other socioeconomic variables including ceramic scaling, artifact patterns, tax valuations, architectural size and spatial utilization, and oral history perceptions to further define possible socioeconomic variation.

The census data will be evaluated in light of a recent study by McBride and McBride (1987) concerning socioeconomic variation in a small town in Mississippi, as well as general historical and population studies which utilize occupation as a variable of social and economic status (e.g., see Hauser and Featherman 1977; Macfarlane 1977:155-264). For the two townsites in the proposed data recovery, it is expected that if socioeconomic stratification exists, then occupations such as merchants, managers, and professionals (e.g., doctors) would reflect a higher socioeconomic level than that of railroad and farm laborers, coal miners, and blacksmiths.

Correlations with the results of the proposed study of the tax records, oral historical record, artifactual evidence, and architectural evaluation will aid in the confirmation or disputation of this

hypothesis. A further potential is in the differentiation of variations in the socioeconomic ranking of different types of laborers, blacksmiths, carpenters, and others of a generally lower economic level.

For the analysis of the refined ceramics recovered from each site, the general methodology will be based on Miller's (1980) ceramic economic scaling technique. This consists of the relative pricing of decorative techniques on refined ceramics. It is a basic four-level scale; wherein, the first or lowest level is undecorated wares; the second level is minimally decorated wares such as shell edge, sponge, and annular; the third level is handpainted wares; and the fourth or highest level is transfer printing and flowing. This scale is based on the price of these wares, with those of the first level being the cheapest, the second level the cheapest decorated ceramics, the third level a more expensive decoration type because it required greater skill, and the fourth level being the most expensive decorative type (Miller 1980:3-4). A fifth level can be added on sites occupied into the 1850s or later; specifically, this consists of ironstone which often has a price equal to that of transfer print (Miller 1980:40). Porcelain also appears to represent one of the most expensive ware types (Miller 1980:32) and would occupy the highest level above transfer printing and ironstone.

Miller's (1980) formulations are not without shortcomings, the major one being the lack of price indices extending into the late nineteenth and early twentieth centuries. Recent studies by Thomas (1987) and Henry (1987) have attempted to expand the application of the economic scaling technique into these more recent periods. Both studies utilized ceramic prices listed in reprints of mail order catalogs dating from 1895-1927 resulting in three key index periods: the late 1890s; the early 1900s; and the 1920s (Henry 1987:369; Thomas 1987). Either one or both of these formulations will be utilized in the proposed ceramic economic scaling.

It is anticipated that the resulting ceramic scaling analysis of the assemblage recovered from site 266 will be comparable to the recent study of Lake Red Rock farmsteads by Rogers et al. (1988). That study also conducted a comparison of farmsteads in other regions such as Illinois and northeast Mississippi (Rogers et al. 1988). This comparative study will be applicable to the proposed data recovery.

That investigation also utilized an adaptation of Miller's (1980) formula; wherein, sherd counts rather than minimal vessel counts were used by averaging the prices for plates, cups, and bowls from Miller's (1980) and Thomas' (1987) indices. In addition, the CPB Mean Index Values formulated by Spencer-Wood (1987b:331) for the general period of 1850-1881 were also utilized for comparative purposes. It was found that the sherd count adaptation appeared to have validity when the results were compared to other socioeconomic variables (Rogers et al. 1988). The proposed data recovery analysis will utilize both the sherd count adaptation as well as minimum vessel counts (where possible) in

the ceramic scaling analysis. The results will then be compared with the study by Rogers et al. (1988) and any other comparable studies that become available by the time of the proposed analysis.

The ceramic scaling analysis will be supplemented with analysis of the other socioeconomic variables mentioned above. Specifically, the proposed artifact patterning study will be based on recent studies by Mansberger (1987) and Rogers et al. (1988) which utilized a methodology developed from South's (1977) artifact patterning studies, with adaptations by Otto (1977) and Heitzman (1980).

These studies hypothesized that certain functional categories of artifacts would be represented in differing proportions relative to socioeconomic variations. For example, it was hypothesized that households of upper-class status would have higher percentages of architectural remains, furniture-related items, clothing parts, and personal items, while there would lower percentages of kitchen items and tools. The study by Mansberger (1987:201-205) indicated that the hypotheses concerning kitchen, architectural, furniture, and personal items were substantiated. The study by Rogers et al. (1988:456) indicated that the hypotheses concerning architectural, clothing, and kitchen items were substantiated.

In order to continue to test the validity of this methodology in socioeconomic analyses, the proposed artifact analysis will be geared to the categorization of artifacts by functional types. General categories will include kitchen-related items (any artifacts utilized for food preparation, consumption, or storage); architectural (any materials used in the construction of structures including nails, window glass, hinges); household (domestic items not related to the kitchen activities including figurines, vases, lamp parts, mirrors, and non-foodstuff bottles); furniture parts; personal items (such as pipes, toys, doll parts, coins); clothing parts (including buttons, snaps, shoe parts, pins); transportation (such as wagon, carriage, and automobile parts, harness furnishings); arms (gun parts, ammunition); tools (such as hammers, chisels); machinery parts (including gears, levers, blades); other items (including fencing materials, drainage tiles, sheet metal); and unidentifiable (all items too poorly preserved to be identified as to function). The relative proportions of these categories represented in the artifact assemblages from the three sites proposed for data recovery will be examined in light of the above hypotheses and studies. Of interest, will be the composition of various households within the townsites in comparison to the farmstead sites.

While the problem orientation of the proposed research design is geared toward the study of socioeconomic variation, much of the data recovered from the proposed investigation will be applicable to other research problems in historic archeology and other disciplines. For example, there have been several historical geography studies conducted pertaining to Iowa rural communities and settlement. These include Hudson's (1969) study of six counties in Iowa resulting in a formulation

of a theory of rural settlement change; Berry et al.'s (1962) study of small communities in southwestern Iowa to determine the relationships of population and the range of central place functions; Golledge et al.'s (1966) study of consumer travel patterns among the dispersed farm population of Iowa in relation to the grouping of central place functions; Doerflinger's (1962) study of village population change in Iowa between 1950 and 1960; and Heusinkveld's (1958) population study of Marion, Mahaska, and Monroe counties. All of these studies will be closely examined during the proposed data recovery for insights into the nature of rural communities in Iowa.

Of interest to rural community studies, including many of those listed above, is the examination of central place theory. Briefly stated this theory holds that:

> the importance, or centrality, of a place will depend on the functions--economic, social, and political--it performs, and since the cost and frequency of demand for these functions varies then the number of people necessary to sustain them at a place will differ. This is often referred to as a threshold population. At the same time the cost and time involved in travel will outweigh the need for a function, a feature which has been termed the range of a function. A function with a low threshold and range, that is, a low-order function, will tend to appear in the rural landscape relatively frequently; in contrast, a high-order function will occur only infrequently (Lewis 1979:120).

While the examination of this theory is not one of primary goals of the proposed data recovery, the general documentary sources to be studied in association with the investigations of the two townsites will produce data which will be applicable to such a study.

Faunal. The faunal material will be analyzed by Terrance J. Martin of the Illinois State Museum in Springfield. These remains will be identified as to species, anatomical portions, and modifications. Additional analysis will focus on the possible dietary patterns and socioeconomic variables represented by the faunal assemblages. It has been found in numerous recent studies that the identification of meat cuts and their respective economic values (i.e., some cuts are more expensive than others) significantly adds to the socioeconomic interpretations of archeological and material culture remains (e.g., see Spencer-Wood 1987a).

Botanical. The botanical remains will be analyzed by Carol B. Brandt of Fort Collins, Colorado. The remains will be identified as to species and modifications. The analysis will relate the identified remains to the known environmental history of the region as well as compare them with past studies of plant exploitation during the historic occupation of this area. The basis for such a study has already been

laid by the analyses conducted by Candace J. Lutzow during previous Lake Red Rock projects (see Rogers 1988; Rogers et al. 1988). It is likely that subsampling procedures in the analysis will be required if dense organic material is present in any privy features uncovered. Subsamples will represent no less than 12.5% of a particular sample.

Architectural. The architectural analysis will focus on the two townsites and will be conducted by Robert C. Vogel of Cottage Grove, Minnesota, and Brian Betteridge of Allamakee County, Iowa. Robert Vogel will conduct the structural analysis utilizing the RICOE acquisition photographs and structural descriptions for Percy and Dunreath, the 1931 insurance map of Percy, the photographs and sketches in Mikesell's (1966) book on Percy, and any historical photographs discovered during archival research and oral history interviews. To date, only one photograph has been located from the town of Dunreath (i.e., the Nichols home) (Rogers 1988). The oral history interviews will also attempt to obtain interior and exterior structural data concerning past residential and commercial structures.

The focus of this analysis will be to identify architectural styles and temporal affiliation, possible floorplans and structural size, construction methods, patterning of styles within and between the communities, and potential ethnic or region of origin associations. Because there are no standing structures remaining in either community, this study will necessarily be limited by the available documentary and photographic data. The analysis will include on-site visits to the townsites to examine structural remains and to orient archival data to the archeological evidence.

To supplement this analysis, Brian Betteridge will examine any stone foundations encountered on the sites to identify construction materials, methods, and structural size. Mr. Betteridge is an experienced stonemason who has previously conducted this type of analysis concerning the Motor townsite in northeast Iowa (see Rogers and Stanley 1984:201-204).

The architectural analysis results will be utilized as a variable in the proposed socioeconomic analysis. Other studies have found that various house forms have socioeconomic associations. In addition, "differential concepts of the use of space within a house also separate families of different socioeconomic status" (Mansberger 1987:226). These data possibly can be obtained through the proposed architectural analysis and oral history interviews.

FACILITIES/CAPABILITIES

Bear Creek Archeology, Inc. is a woman-owned, rural Iowa-based firm which specializes in archeological and historical services. It is a recently organized corporation that involves three individuals who have extensive prehistoric and historical archeological expertise. Bear

Creek Archeology, Inc., was formed to reflect the business relationship between Leah Rogers, David G. Stanley, and Lori Stanley and to attract investment capitol.

David and Lori Stanley are Master's degree archeologists who possess a combined total of 25 years of archeological experience in the Midwest. They have been involved in archeological investigations in Minnesota, North Dakota, South Dakota, Illinois, Missouri, and Wisconsin. Ms. Stanley, who speaks, writes, and reads Spanish, has worked in Honduras as well.

During the last five years, as co-directors of the Highland Cultural Research Center (HCRC), David and Lori Stanley have completed over 145 archeological investigations in connection with the construction and maintenance of roads, bridges, parks, wastewater treatment facilities, landfills, and other federal, state, county, and municipal projects, including Certified Local Government grants. HCRC has recently completed projects for the National Park Service, the U.S. Army Corps of Engineers, and U.S. Fish and Wildlife Service. In addition, HCRC presently has yearly retainer agreements with two Iowa counties and one Minnesota municipality.

Both David and Lori Stanley have supervised archeological reconnaissance surveys, archeological site testing and National Register determinations, and archeological site mitigation projects, and have prepared the necessary documentation and reports associated with each of these project types.

Leah Rogers holds a Master's degree in Anthropology specializing in historic archeology. She has worked extensively in the state of Iowa for HCRC, Southwest Missouri State University, Louis Berger and Associates, and, most recently, American Resources Group, Ltd., at Lake Red Rock. A curriculum vitae for Ms. Rogers is included in Appendix A.

Bear Creek Archeology, Inc., maintains adequate lab facilities, field and lab equipment, and the vehicles necessary for conducting field investigations, laboratory, and report preparation for reconnaissance surveys, site testing, and archeological mitigation. The staff members provide the expertise that enables provision of a wide range of services, including archival research, prehistoric and historic overviews, nominations to the National Register of Historic Places, oral histories, linguistic reconstructions (limited to Siouan and Mayan languages), seed and plant identification, ethnohistoric investigations, and report illustration.

In addition to Leah Rogers, David Stanley, and Lori Stanley, the staff of Bear Creek Archeology, Inc., includes a Master's degree prehistoric archeologist, a Master's degree botanist, and two Bachelor's degree archeologists. The editorial, clerical, and administrative staff

is headed by an individual with a Bachelor's degree in English. Report illustrations are produced by Mark Smeby of Decorah, Iowa. He has produced numerous artifact illustrations for HCRC reports and will continue in an expanded capacity with Bear Creek Archeology, Inc., by drafting maps and other illustrations for project reports.

HCRC has often retained the services of a geomorphological consultant. Geomorphological expertise is necessary to adequately interpret or locate deeply buried cultural deposits. For these occasions, the services of Jeff Anderson of Donohue and Associates, Inc. of Sheboygan, Wisconsin are usually retained. Mr. Anderson has a Master's degree in physical geography and has conducted a number of geomorphological studies throughout the state of Iowa.

Artifacts will be curated at Luther College in Decorah, Iowa. A verbal agreement with Dale R. Henning, curator of these facilities, has been made with regard to the curation of the artifacts from the proposed data recovery investigation. The curation facilities at Luther College include storage in acid-free boxes in a humidity controlled environment.

Since Bear Creek Archeology, Inc., has only recently been organized, the following references pertain to work conducted under the auspices of the Highland Cultural Research Center. However, these references are very familiar with the quality of service offered by the individuals involved in Bear Creek Archeology, Inc.

References

David Benn
Center For Archeological Research
Southwest Missouri State University
Springfield, Missouri 65804-0089

E. Arthur Bettis
Iowa Geological Survey
123 North Capitol St.
Iowa City, Iowa 52242
(319) 338-1173

John Munson
Assistant County Engineer
Office of the Pottawattamie County Engineer
P. O. Box 1168
Council Bluffs, Iowa 51502
(712) 328-5608

Gustave W. Kerndt
Allamakee Historic Preservation Commission
360 Main St. P. O. Box 370
Lansing, Iowa 52151-0370
(319) 538-4231

KEY PERSONNEL

The proposed data recovery will require an interdisciplinary team of specialists to accomplish the goals set forth in this proposal. The present staff of Bear Creek Archeology, Inc., includes experienced personnel with B.A. and M.A. level degrees in prehistoric and historic archeology and history.

The key personnel proposed for this project are: Leah D. Rogers (Principal Investigator), Terrance J. Martin (Faunal Analysis), Carol B. Brandt (Botanical Analysis), Robert C. Vogel (Architectural Analysis), and the personnel of Key Connections, Linda Ober and Joan Listen (Editing and Report Preparation). These people are available for the duration of the project. The integration of this team study will be coordinated by the principal investigator. The curriculum vitae for each of the above key personnel can be found in Appendix A. The following is a summary of the project responsibilities and background of these individuals.

Leah D. Rogers (M.A., Michigan State University, 1985). As Principal Investigator, Ms. Rogers will coordinate the proposed interdisciplinary study and serve as project director overseeing both field and laboratory activities. She also will conduct the oral history interviews and portions of the archival analysis during the fieldwork period. It is anticipated that this would involve only minimal absences from the day-to-day fieldwork. During these few absences, G. Clark Rogers, who will be a crew member, will serve as crew chief. Mr. Rogers has over 15 years of experience in field archeology both as a crew member and as a crew chief. He is experienced in both prehistoric and historic archeology and most recently participated in the data recovery investigations at the Lake Red Rock farmstead sites conducted last fall.

In addition to her responsibilities as project director, Leah Rogers will integrate the analyses of the data recovery results and will serve as principal author for the draft, final, and popular reports. Ms. Rogers has successfully performed all of the above duties in numerous historic properties management studies, the most recent of which have been 2 phase II and 1 data recovery investigations at Lake Red Rock historic sites. Through these investigations, Ms. Rogers has become familiar with both the local and regional history of the central Des Moines River valley. She is also familiar with the archival repositories and resources and has many contacts in the Lake Red Rock area facilitating oral history investigations, archival research, and the acquisition of heavy machinery for excavation.

Ms. Rogers' experience in Iowa historic archeology also includes the following projects: the phase II investigations at the Motor townsite; the historic overview and assessment for Saylorville Lake in the central Des Moines River valley; historic overviews and historical property evaluations for several strip mine reclamation properties in

Marion, Mahaska, and Van Buren counties; the historic overview and assessment for the Big Sioux River region in Lyon County; and historic research and excavation along the Great River Road in Louisa County.

Terrance J. Martin (Ph.D., Michigan State University, 1986). Dr. Martin will conduct the analysis of the faunal remains recovered from the proposed data recovery investigations. He will also author the faunal section of the draft and final reports. Dr. Martin has considerable experience in the analysis of faunal remains from historic sites, particularly socioeconomic and dietary patterning studies. He most recently conducted the faunal analysis from the Stortes/Crookham and Ratcliff sites at Lake Red Rock.

Carol B. Brandt (M.S., Colorado State University, 1988). Ms. Brandt will conduct the analysis of the botanical remains and will author the botanical section of the draft and final reports. She has identified botanical materials from archeological sites and is experienced with both prehistoric and historic sites archeology. In addition, she has illustrating skills which may be utilized in the proposed project.

Robert C. Vogel (M.A., University of Minnesota, 1975). Mr. Vogel will conduct the architectural analysis of the two townsites and will author the results of this analysis for inclusion in the draft and final reports. He is a historical geographer with a strong background in architectural history and historic sites archeology. He has conducted architectural surveys and NRHP evaluations in Minnesota. As a result, he is very familiar with Midwestern vernacular architecture. His background as a historical geographer also will be most helpful in the historical interpretations of the Percy and Dunreath communities.

Linda Ober and Joan Listen. Ms. Ober and Ms. Listen of Key Connections in Carbondale, Illinois, will conduct the technical editing and report preparation for the draft, final, and popular reports. Both individuals have considerable experience in the editing and production of cultural resource management reports, the last four of which resulted from Lake Red Rock investigations. In addition, they have an established working relationship with the proposed principal investigator. A detailed description of the facilities and capabilities of Key Connections as well as a letter of commitment to the proposed data recovery is included in Appendix A.

Aside from these key personnel, several field, lab, and administrative personnel will be involved in this project. Some of these have been previously named in the section of this proposal describing the facilities and capabilities of Bear Creek Archeology, Inc. Potential crew members also have been contacted, and all are available to begin fieldwork immediately upon award of this contract. These include individuals with previous experience on Lake Red Rock historic sites investigations. In addition will be Brian Betteridge, a stonemason from Allamakee County, Iowa. He will conduct an evaluation

of any stone foundations that are encountered in the proposed data recovery. He has previously conducted this type of analysis at the Motor townsite in northeastern Iowa.

APPENDIX G

RELEVANT CORRESPONDENCE

DEPARTMENT OF THE ARMY
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS
CLOCK TOWER BUILDING—P.O. BOX 2004
ROCK ISLAND, ILLINOIS 61204-2004

REPLY TO
ATTENTION OF:

June 5, 1989

Planning Division

Ms. Leah Rogers
Bear Creek Archeology, Inc.
Junction of Highways 9 & 52
P.O. Box 30
Decorah, Iowa 52101

Dear Ms. Rogers:

We have enclosed the review comments for the draft report entitled The Sutton (13Ma266) Site and the Townsites of Percy (13Ma347) and Dunreath (13Ma449): Data Recovery at Three Historic Sites, Lake Red Rock, Iowa, prepared for the Rock Island District, U.S. Army Corps of Engineers, under contract number DACW25-88-C-0060.

The subject report also was provided to the Office of State Archeology and the State Historic Preservation Office in Iowa for review. These independent reviews, as well as the District comments, should be addressed in preparing the final report. The draft is of high quality and the final report will undoubtedly stand as a valuable contribution to historic archeology in Iowa and the Midwest.

The report fulfills the requirements of the Conditional No Adverse Effect determination for these sites, as stated by the State Historic Preservation Office.

We look forward to receiving the final report. If you have any questions concerning the independent reviews and this District's comments and corrections, please call Mr. Ron Deiss at 309/788-6361, Ext. 349, or you may write to the following address:

District Engineer
U.S. Army Engineer District, Rock Island
ATTN: Planning Division
Clock Tower Building - P.O. Box 2004
Rock Island, Illinois 61204-2004

Sincerely,

J. Paul VanHoorebeke
Authorized Representative
of the Contracting Officer

Enclosures

Project Review Comments 1 June 1989

Project: Data Recovery at Three Historic Sites, Lake Red Rock
Location: Lake Red Rock, Iowa

Reviewer: Ron W. Deiss PD-E

Comment No.	Page No.	Comment or Correction
1	3	Correction - 1st paragraph, 6th line; et al. should be underlined.
2	57	Comment - 1st paragraph 7th line; county, when proceeded by the county names is not capitalized in the text, although traditionally, it has been otherwise. Check the text for accuracy.
3	77	Correction - 1st paragraph, 3rd line; percent is one word - not two. Check this throughout the report.
4	81	Correction - 3rd paragraph, 5-6th line; window fragment should be window pane fragment.
5	138	Correction - 2nd paragraph, 2nd line; text uses percent sign (%) instead of "percent" - used elsewhere.
6	159	Correction - 2nd paragraph, 7th line; cultivated likely augmented purchased, should be cultivated, likely augmented and purchased.
7	176	Comment - lines 2 and 3; the 1st sentence would read better if it was ended "structure P," and delete the remainder of the sentence.
8	260	Comment - 1st paragraph, lines 2-4; on the Iowa brick call (HM 312/262-8068 WK 316/835-2241 ex.327) Jim Graves Inter'L Brick Collectors Association 1468 Coolige St. Wichita, KS 67203
9	261	Comment - 1st paragraph, 6-7th line; on marked brick see comment 9.

Project Review Comments 1 June 1989

Project: Data Recovery at Three Historic Sites, Lake Red Rock
Location: Lake Red Rock, Iowa

Reviewer: Ron W. Deiss PD-E

Comment No.	Page No.	Comment or Correction
10	265	Comment - 1st paragraph; for mention of privy floor depressions see Joan Unsickers' Excavations At Mt. Pulacki Courthouse, I.S.U., Normal, IL.
11	313	Correction/Comment - 2nd paragraph, 1st line; constraits should be constraints. (It would be best if time constraints are deleted. Describe and justify sampling strategy and make recommendations for future studies).
12	335	Comment - 2nd paragraph, 4th line; saltbox is not typically used for this period and style of architecture, it could be either off-center gable or gable with (shed) wing. or addition Saltbox is typically a specific Colonial or Colonial Revival style.
13	334	Comment - The Artifact Patterns section is well thought out and an informative, although artifact sampling/excavation techniques, category definitions and site functions are always going to the most important considerations for intra-site comparisons.
14	441	Comment - 2nd paragraph; the hipped cottage type is fairly common in the Midwest and is chronologically and statistically related to the 4-Square - also known a Cornbelt Cube, also known as the Prairie Cube, except it is 1 story. It has been referred to as a 4-Square Cottage, Cornbelt Cottage, and Prairie Cottage. Its distribution range seems to follow that of the 2 story cube - predominantly an Itallinate-derived style - it is said - and one of the first designed specifically for interior plumbing, electricity, and central heat addition as they came available. The date is 1890-1920's.
15	441	Comment/correction - 2nd paragraph, 5th line;

Project Review Comments 1 June 1989

Project: Data Recovery at Three Historic Sites, Lake Red Rock
Location: Lake Red Rock, Iowa

Reviewer: Ron W. Deiss PD-E

Comment No.	Page No.	Comment or Correction
		lapboard = (clapboard) if not, define differences.
16	447	Correction - 1st paragraph, 3rd line; relic = (relict)?
17	449	Correction - 1st paragraph, 2nd line; species = (derivation)?
18	449	Comment - 1st paragraph, 1st line; side-gabled barn = gabled barn with wing addition.
19	450	Comment - 2nd paragraph, 7-9 lines; Exposed rafter ends were extremely popular for balloon and box frame shed construction before the Craftsman and Bungalow movements.
20	493-507	Bibliography - general corrections include standardizing personal communication entries, Masters thesis to M.S., or vice versa, and realigning Wegars 1982.

The University of Iowa
Iowa City, Iowa 52242

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(319) 335-2402, 335-2397

5 May 1988

Ron Deiss
Planning Division
U.S. Army Engineer District, Rock Island
Clock Tower Building
P.O. Box 2004
Rock Island, Il 61204-2004

Re: Draft Report: The Sutton (13MA266) Site and the Townsites of Percy (13MA347) and Dunreath (13Ma449): Data Recovery at the Three Historic Sites, Lake Red Rock, Iowa.
By Rogers, Lutsow, Martin, and Vogel for Bear Creek Archeology, Inc., BCA No.1, March 1989.

Dear Mr. Deiss:

I have received your request for review of the above draft report, and make the following comments, concluding with general remarks.

1. The site evaluation criteria are very good and applicable to the NRHP.

2. Enviornmental and Historical Setting sections for each site provide good overviews of the project areas general and site specific history.

3. The Research Design and Methodology provides a valid comparison between regional (Iowa and Illinois), local, and individual sites.

4. Research Questions were well conceived and the methods for data recovery and interpretaion answer the proposed research questions.

5. The architectural descriptions and interpretations are good. Two additional sources on historic site interpretation and building types which may be found usefull for later interpretation are:

Noble, Allen G.
1984a *Wood, Brick, and Stone, Vol. 1: The North American Settlement Landscape "Houses".* University of Massachusetts Press.

Noble, Allen G.
1984b *Wood, Brick, and Stone, Vol. 2: Barns and Farm Structures.* University of Massachusetts Press.

Upton, Dell and John Michael Vlach
1986 *Common Places: Readings in American Vernacular Architecture.* University of Georgia Press, Ahtens, Georgia.

6. In the section on Excavation Results I found the discussion of "keyhole" cellars quite interesting having worked on several of the Illinois sites with Phillippe, Walters, and Mansburger.

7. The sections on Historical Background used what should be standard procedures in historic archeology and often are not. The use of primary and secondary scources along with the oral histories provided a thurough overview for intra and inter-site interpretation. The authors should be commended for the depth of their documentary investigations.

8. The tables and figures were clear and well organized although I found some of the captions to be a little light.

9. The stoneware assemblage provided a fortunate ceramic assembledge for inter-site comparison and interpretation. A lot more can be done with Iowa potteries and this can provide a start.

10. General Comments: This report is an important contribution to the interpretation of Iowa townsites. The report is well written in clear language and geared to the research design without getting overly complex. The tables are comprehensive and well-referenced and this especially applies to the floral assemblage. The sections on socioeconomic status analysis reflect current methodological and theoretical concerns in historical archeology. Ceramic economic scaling is a powerfull new method for elucidating socioeconomic status and appear to be successsfully applied here. The mean dates certainly compare well with the archival sources in terms of occupation dates.

    The report is lucid, and well organized. The authors demonstrate a solid grasp of late 19th and early 20th century material culture and rural town plan and organization. The field methods, research design, archival materials, oral histories, as well as floral and faunal analysis make the interpretations confidently reliable.

    This document easily meets the requirements for a Phase III mitigation report and presents a well rounded, thuroughly researched, documented, and well designed report of the archeological mitigation process and could stand as an example for other townsite excavations.

Thank you for the opportunity to review this draft, and I look forward to the final report.

Sincerely,

Marlin R. Ingalls

Marlin Ingalls
DOT Architectural Historian
and Historical Archeologist

MRI:mri

State Historical Society of Iowa

The Historical Division of the Department of Cultural Affairs

May 16, 1989

Mr. Paul VanHooreveke
ATTN: Planning Division
U.S. Army Engineer District
Clock Tower Building - P.O. Box 2004
Rock Island, IL 61204-2004

RE: COE - LAKE RED ROCK POOL RAISE PROJECT - DATA RECOVERY ON HISTORIC ARCHEOLOGICAL RESOURCES - CONTRACT NO. DAC25-88-C-0060

Dear Mr. VanHoorebeke:

We have reviewed the draft archeological report on the data recovery for the Sutton Site (13MA166), and the townsites of Percy (13MA347) and Dunreath (13MA449). This report provides a wealth of data on the historic occupation of Marion County in the mid to late nineteenth and early twentieth centuries. It will be a valuable addition to Iowa's limited corpus of excavated historic archeological sites.

This report fulfills all obligations of the Conditional No Adverse Effect determination for these sites. We look forward to receiving the final report.

Sincerely,

Kay Simpson
Review and Compliance Program
Bureau of Historic Preservation

cc: Mr. Dudley Hanson, COE

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