IX. Data Analysis and Interpretations

The Weldin Plantation Site, historically named Chestnut Hill, was occupied prior to 1710. A will written by Cornelius Empson in December of that year mentions his wife having the option of living on the property, indicating that a house was already being habitated at that time. It is unclear if a Empson or a tenant was living in the house. Based on our knowledge of regional domestic architectural dwellings of the period, the house was most likely log. No evidence of this house was identified during any of the extensive archaeological testing on the property by TAA or McCormick Taylor. Documentary evidence shows that the property was owner occupied from 1722/3 when Peterson obtained it until 1785, when it was purchased by John Dickinson, who hired tenant farmers. The property was owned by Dickinson and his descendants and was tenant farmed until 1862, when it was purchased by Jacob R. Weldin, after whom the archaeological site has been named. The Weldins resided on the property until its abandonment, probably in the early 1940s.

The property was in an advantageous location. Weldin Road was very close to the Concord Pike, a major route from Wilmington to the Philadelphia region. As a result, the inhabitants were connected to both Wilmington and Philadelphia, which were both experiencing rapid growth throughout the late eighteenth and nineteenth centuries. The site was situated near the Brandywine River and the Delaware River, and had access to the newer forms of transportation facilities, such as the Chesapeake and Delaware Canal which was completed in 1829 and the Philadelphia, Wilmington, and Baltimore Railroad, completed in 1839. The farm was located on the Piedmont, which has more productive soils than other areas of Delaware, and was well suited for the production of grains and dairying. There was a small drainage on the property, called Turkey Run or Matson's Run. The soils mapped within the Weldin tract are Talleyville silt loam, 3-8 percent slopes, a well drained soil that is excellent for farming.

Major archaeological features on the property include the foundations of a stone dwelling, constructed in two phases, the above-ground walls of a milk house and two associated wells, a barn, stables, ramp, and associated stone wall for the barnyard, and the foundations of a windmill over a cistern, a corn crib, several sheds or other storage buildings, and a privy ***(Figure 29)***. Phase II archaeological evaluation investigations included archaeological sampling of the majority of these features. However, the data recovery excavations focused on the foundations of the main stone dwelling because the archaeological APE was reduced after the Phase II investigations to avoid the rest of the property.

Temporally discrete contexts that were determined to be useful for our analysis can be dated to two general periods: the early to mid-nineteenth century, prior to Weldin's purchase of the property, and the second half of the nineteenth century, which was the Weldin occupation of the property. The pre-Weldin (pre-1860) archaeological remains date to the period when the site was owned by Dickinson descendants and was tenant farmed. John Bradford was the tenant on the property from 1849-1861. Sufficient documentary evidence was available from Bradford's tenancy that a comparison of the Bradford occupancy to the Weldin occupancy could be made. Although we acknowledge that some of the pre-1860 archaeological remains appear to have been deposited over a period of time (particularly the buried A horizon) and therefore cannot be specifically associated with the Bradford occupancy, for the purposes of analysis, we are

considering the Bradford tenure of the property to be representative of the archaeological expression that the tenants of the property prior to 1862 would have made. For the comparison with the Weldin occupancy, analysis of the pre-Weldin occupation of the site will examine all archaeological deposits known to date prior to 1860 with the documentary evidence of the Bradford family.

A. Research Questions

In 1992, De Cunzo and Garcia proposed archaeological research questions for New Castle and Kent County agricultural sites. They emphasize that research should focus on the entire farm landscape. They also note that comparative research on different "types" of farmsteads should be conducted. "Types" could include dairy farms, subsistence farms, owner-operated farms, tenant farms, European American farms, African American farms, or a number of other broad ranging topics (288-289).

After the completion of the Phase II archaeological evaluation investigations, it was believed that the archaeological deposits on the site might yield information about differing socioeconomic status of different types of farming in the Piedmont region of Delaware. The farm's history appears to reflect the agricultural trends seen more generally in the region: initial (probable) emphasis on wheat production in the early to late eighteenth century under a resident owner during the Intensified and Durable Occupation period, more generalized farm production during the years of its tenancy (1785-1862) during the Early Industrialization period and first half of the Industrialization and Capitalization period, followed by a shift during the Weldin family's ownership to large-scale dairying during the second half of the Industrialization and Capitalization period, which continued up to the first half of the twentieth century during the Urbanization and Suburbanization period. This very closely parallels the pattern evidenced in northern Delaware as a whole. However, after the data recovery excavations were completed, it was determined that the majority of the archaeological deposits which retain sufficient integrity to provide significant information appear to date to the period during which dairy farming was the predominant industry at the Weldin Site. In addition, both the Bradfords and the Weldins, who occupied the property during this period, were operating large commercial dairying operations. Because of this, the archaeological record at the site does not reflect different periods in the local agricultural economy as had been anticipated when the research questions were developed. Nor can comparisons be made concerning subsistence farming versus a focus on market production.

However, the fact that most of the archaeological deposits on the site appear to be associated with a period during which the farm was a commercial dairying operation provide a unique and perhaps fortuitous opportunity to consider a comparison of the archaeological expression of dairy farming on a tenant occupied and an owner occupied property. Whether or not there are observable differences between tenant and owner occupied farms is a common theme in which historians and archaeologists have taken a great interest. The fact that documentary evidence was available for both the Bradford and the Weldin occupations of the site has allowed us to contemplate that topic in some detail.

In accordance with De Cunzo and Garcia, two specific research questions were proposed by McCormick Taylor after the completion of the Phase II archaeological evaluation investigations. The first involved landscape and how progressive farming and other factors influenced the development of the landscape. The second was socioeconomic phenomena throughout the different agricultural periods in northern Delaware and whether a comparison of the class status of subsistence versus market production and/or tenants with resident owners was possible. To address these research questions, we will compare the pre-Weldin and Weldin occupations. In addition, background research conducted on Jacob Weldin and his family when they lived on the original Weldin farmstead, located on the opposite side of Weldin Road from Bradford ***(Figure 17)***, prior to their purchase of this property, allows some comparison to the Bradford and Weldin families during a contemporary period in the mid-nineteenth century.

1. Landscape and Use of Space

Mary Beaudry has called landscape "The Biggest Artifact of All (1996: 491)." As she correctly points out:

> To move towards an archaeology of farms and farming, we must stop thinking in terms of potsherds and think in terms of landscapes, and to think not just of individual features but of entire feature systems (Beaudry 2002: 139).

Although the data recovery excavations for the Weldin Plantation Site focused on the domestic residence because that was where the ground disturbing activities were proposed, it was recognized during the development of the research design that the landscape and the layout of the barn and other outbuildings were crucial in providing meaningful interpretations of lifeways at the site.

Lu Ann De Cunzo and Wade Catts (1990) frame the central question when considering landscape:

> How do socioeconomic status and aspirations, level of technological development, household economy, ethnicity and ideology, values and beliefs all influence the construction of domestic buildings and the use and improvement of the land (132)?

Our discussion of the organization, layout of the landscape, and use of space at the Weldin Plantation Site considers how three important trends would have influenced the owners and tenants: the aftermath of the Revolutionary War and the resulting Georgian mindset, progressive farming and model farmer ideals at the end of the eighteenth and first half of the nineteenth century, and from the mid-nineteenth century onward, changes that would have been associated with the development of the dairy industry.

a. Georgian Mindset

The important data that can be learned through archaeological research are "typically those engendered by large, politically and economically complex societies (Miller et al. 2000: 5)." In

the late eighteenth century, at the point in time when it is likely that the first substantial building campaign occurred at the Weldin Plantation Site, America was emerging from the struggles of the Revolutionary War. The political autonomy that resulted from achieving independence resulted in differing philosophies regarding the direction America would take, both economically and socially. Alexander Hamilton and the Federalist Party made the case for industrialization, manufacturing and commerce as a way to propel America to becoming the world's greatest economic and political force. The Federalists were not against agriculture, but sought a balance between agriculture and commerce which would result in a surplus of goods for national and international consumption. On the other hand, Thomas Jefferson was the principal leader of a school of thought that advocated for the concept of farming as a means of achieving national prosperity. His philosophy idealized the yeoman farmer who would come to represent "self-sufficiency, and traditional family and community structures (Sisson 2007: 85)." The yeoman was a central image of Thomas Jefferson's concept of the small scale, self-sufficient industrious farmer who owned his own land and was an active participant in democratic institutions. The yeoman farmer was envisioned as a safeguard against the social agitation associated with industrial development, as perceived by Jefferson.

Subsequent to the Revolution, Jeffersonian idealism advocated for the spread of yeoman farmers across the country's frontiers as a way of fostering American expansion. At the same time, the explosive growth and push for international commerce in the northern population centers, such as Philadelphia, sparked the establishment of capitalist forms of agriculture and industry. The ensuing struggle between these two differing philosophies of American development played-out in the countryside, when considering that at least three-quarters of early Americans worked on farms (Kulikoff: 1993: 342). Because so many Americans were involved with farming, the importance of agriculture to the early economic success of the nation cannot be understated.

In their essay entitled "The Archaeology of the Georgian Worldview and the 18th-Century Beginnings of Modernity" Leone and Potter discuss how the effects of the American Revolution and the Georgian worldview on our history can be considered archaeologically (1988: 211). The Georgian worldview focuses on balance, order, symmetry, segmentation, and standardization (Leone and Potter 1988: 212; Deetz 1977). Georgian ideas included a preference for order, cleanliness, privacy, and the separation of public and private spheres and would have particularly influenced wealthy landowners such as Dickinson and played a part in the emergence of progressing farming theory and practices. There was an increasing emphasis on private life (Bedell 2002: 95). Domestic spaces were enlarged and reorganized to allow for discrete activity areas, which afforded privacy and the separation of different types of activities, some of which might be considered "dirty" (Lanier and Herman 1997: 11).

It is likely that the dwelling that was located on the property from the early eighteenth century to the third quarter of that century was a log house. The construction of a new larger, more permanent house reflected the Georgian mindset. The eastern half of the stone dwelling on the Weldin Plantation Site was constructed by 1785. The house would have faced the east and would have had an open plan, meaning that the access from the outside was directly into a heated living area of the house (Herman 1987: 12). A log or frame kitchen that was attached to the north side of the house was constructed either contemporaneously with the main block or shortly thereafter, which would have reflected the idea that less desirable activities be separated from

more "civilized" ones. Lanier and Herman (1987) devote a fair amount of discussion to service wings, which had functions such as cooking or laundry. They might have been sheds or lean-tos, ells, or gable additions which extended the length of the house (39-40). The construction the kitchen addition to the left front of the house fits perfectly with Lanier and Herman's model, an interpretation supported by Herman during two visits to the site while the data recovery excavations were in progress (Herman 2003).

b. Progressive Farming

Bernard Herman (1994) has written extensively about the model farmer and how organization of the countryside was continuously remade to reflect changing attitudes about property, progress, class, and authority. Herman summarizes Benjamin Rush's philosophy of the three "species" of settlers. The first, and most undesirable, is undomesticated, ungoverned savage living in the log cabin in the wilderness. The second "species" would have aspired to be a model farmer but would not have been able to afford the necessary land and material culture. The third, and most admired, was the enlightened, civilized agriculturalist who would have been following progressive farming practices, otherwise known as the model farmer. The model farmer believed in law, education, churches, order and happiness in society, and a benevolent "public spirit (36)."

Rush's model farmer strove to tame the landscape into a cultured countryside. Instead of exploiting the land as farmers had done previously, the model farmer improved and husbanded his property. He built well-constructed stone farm buildings to keep his livestock warm, so that they did not require as much food, and used stoves instead of fireplaces in his home to use less firewood and reduce the labor in cutting and hauling firewood. His home was large, built of stone, "convenient," and furnished with "useful" furniture. He used horses instead of oxen for plowing, as they were more efficient, grew a variety of grains for export, and had dairy cows and produced butter for markets in nearby towns and cities. His road systems, field patterns, fences, livestock, and outbuildings were all designed to reflect his world view. Even the simplest building on his property was subject to reorganization from the perspective of the model farmer (Herman 1994: 37).

Ideas about progressive farming began in the late eighteenth century, as discussed extensively earlier, and began to be reflected in farmstead layout in the early nineteenth century. Experimentation with progressive farming practices sometimes resulted in the mass reorganization of farmsteads which can be seen in the archaeological record (Beaudry 2002: 130).

John Dickinson and his descendants owned the property from 1785 until 1862. As a member of the Philadelphia Society for Promoting Agriculture (which was formed the same year he purchased the Weldin Plantation Site), Dickinson was interested in promoting reform in farming to increase fertility of the land, producing greater yields, and experimenting with new farming methods and equipment. As noted previously, wealthy land owners such as Dickinson invested in their properties in an effort to attract higher quality tenants. Therefore, one would expect the archaeological expression of a farm owned by Dickinson and his descendants to reflect modern trends and improvements, even though Dickinson did not live on the property. Indeed, it would

appear that the Dickinson family invested heavily in the property, as the western half of the stone house was constructed while the property was owned by Dickinson's daughter Maria and her husband, Albanus Logan. In return, Dickinson expected his tenants to follow progressive farming practices. In 1791, in a lease for another farm that Dickinson tenanted to Charles Townshend, he specified that "…in every Respect to [do the work] with utmost Frugality & Sparingness…and not to do….any Manner or Waste or Destruction whatever on the premises (Garrison 1988: 27)."

Dickinson also made agreements with his tenants to make improvements to his properties. Using Townshend again as an example, he agreed to pay a certain amount of money for materials and specialized labor (brick laying and roof shingling) for a new house to be constructed, while Townshend was to provide the majority of the labor and any amount of money that ran over the specified amount. The specifications for the house as written by Dickinson were extremely specific, and included dimensions, the number of doors and windows, the depth of the foundations, the materials, and the type of wood to be used in the flooring (Garrison 1988: 30). It seems apparent that Dickinson was influenced by the ideas expressed by Rush. Dickinson's tenants might have been among the few who could have afforded to implement many of the progressive farming techniques to which the model farmer aspired.

Herman (1994) describes some aspects of progressive farming that might be expressed in the archeological record: improvements of land, effects of scientific and technological innovations on farm productivity, intensification of rural agricultural settlement and agriculture, and the improvement of rural agriculture (53-54).

Our research and archaeological investigations indicate that the western half of the stone house was constructed by the mid-nineteenth century. At that time, the kitchen addition would have been demolished and the orientation of the house would have been shifted to the north, facing Weldin Road. The layout of the house would have been changed to a Georgian symmetrical plan. The main entry to the house would have been into a central hall and would have now been a closed plan, which meant that access from the outside did not enter directly into a heated living area of the house (Lanier and Herman 1987: 25). During this time there were evolving ideas about the use of space and separation of activity areas, which would have been a factor in the decision to construct the addition and reconfigure the layout of the property. Extensive archaeological evidence of the demolition of the kitchen was investigated during the data recovery.

While few archaeological deposits dating to the late eighteenth or early nineteenth century have been identified at the Weldin Site, the layout of the house itself reflects the emphasis Dickinson and his descendants would have had on the progressive farming and model farmer principals. It is unknown if the original block of the stone house was built by Dickinson or if it had just been recently constructed when he purchased the property. In either case, at the end of the eighteenth century, the stone house on Dickinson's new property would have epitomized the model farmer ideals. It was a permanent, large, well-constructed stone house. In the mid-nineteenth century, Dickinson's daughter and her husband constructed a substantial, large stone addition to the house which was larger than the original block. It is likely that the rest of the farm would have reflected progressive farming techniques as well. Although the progressive farming period is

technically over by around 1850, Bradford's occupation of the property from 1849 to 1862 reflected an adherence to the principles and practices made popular during the progressive farming period.

As discussed in the context section of this report, an agricultural revolution occurred in Delaware beginning in the 1830s. Local farmers started to incorporate crop-rotation, soil-fertilization, drainage measures, and modern farm machinery into their farming practices. In addition, improvements in transportation caused shifts in the markets with which local farmers were primarily associated. In conjunction with these changes, farmers began dramatically changing the farm landscapes. Herman (1987) lists three ways in which this agricultural revolution manifested itself on the farm landscape (197). Jacob Weldin completely reorganized and rebuilt the landscape of the property within the first decade or two after he bought it, which seems to reflect the agricultural revolution and the improvement of farms that was generally occurring in the region after 1830.

First, Herman states that farm buildings constructed during this period incorporated increasingly mechanical or industrialized features into their layout (1987: 197). Second, Herman discussed the fact that barns and other farm buildings expressed a new emphasis on activity organization and the discrete use of space. He quotes a popular dictum "a place for everything and everything in its place (1987: 97)." This new emphasis was placed on every aspect and activity that occurred on the farm, and the layout was carefully designed to reflect this thought process. In the domestic sphere, the construction of additional rooms for different activities was also a reflection of this process.

While bank barns had been used on the Delaware Piedmont prior to this time, there was a new emphasis on a multi-storied bank barn, the layout of which reflected the ideals of progressive farming. The bank barn incorporated most of the farm's storage, processing, and other work related functions into one facility. However, within that building were carefully arranged and organized discrete activity areas for storage of grains, stabling of livestock, threshing, and other activities (Herman 1987: 199). Farmers did continue to use other buildings for specific functions, including horse barns, and stables, cart sheds and wagons, corncribs, and general storage buildings (Herman 1987: 205). The Weldin Plantation Site reflects the philosophy of the first two points made by Herman. It is apparent that Jacob Weldin undertook a massive reconstruction of the farm layout once he purchased the property. The buildings are large, expensive, substantial, and practical. The layout is also quite practical, with a logical flow of the relative locations of buildings that would have allowed for greater efficiency of the farm operations, specifically the movement of crops, animals, and men\women within the complex.

Finally, Herman noted that farm buildings were increasingly built on a more monumental scale, even if their functions had not particularly changed 1987: 197). This trend is only partially represented at the Weldin Plantation Site. The farm complex that Weldin built in the 1860s and 1870s was likely on a more monumental scale than the buildings that had been there previously (although we acknowledge that we have no evidence of the prior farm buildings). However, there is a practical reason for this. Weldin was operating a large commercial dairy farm and there was a need for larger, more substantial buildings. If they also happened to appear to be more impressive, that may have been a desirable secondary effect.

The written record, in primary documents as well as secondary documents, can provide insights into the lives of the residents of Chestnut Hill farm, now known as the Weldin Plantation Site. Documentation is generally sparse until the mid nineteenth century when both the population and agriculture censuses provide detailed information about the residents and what they produced agriculturally. Prior to that time the historian must depend upon probate, deed, and tax records, for the most part, to learn how residents lived and worked. Additionally, local and church histories provide some understanding of lifeways in earlier times. Sometimes the tax records are often cursory and provide little details of interest to the modern-day historian. Other times the assessors provide fascinating details about a property owner's house, barn and outbuildings. In addition, since the owners, for part of the farm's history, did not live on the property, probate information such as wills and inventories are not particularly relevant.

The early history of the property from 1680 to 1723, during the Peterson and Empson families' ownership, is vague, particularly as to what type of structures may have occupied the landscape. However, it is known that these families were owners of multiple properties and held various local political positions as well as prominent positions in Old Swedes Church. It can be assumed that for much of this period, Chestnut Hill farm was operated as a tenant property. Israel Peterson purchased the property in 1723 and likely was the first owner occupant of the farm. Despite the fact that Peterson and his wife Margaretta had eight children, they typically would have lived in a small log house of one to two rooms with a loft above for sleeping quarters. By the late nineteenth century when Jacob R. Weldin owned the property, there was a frame tenant house on the property in addition to the main stone house. This frame house may have been on the site of an earlier log house.

After Israel Peterson died in 1749, the heirs sold the property to his daughter Regina and her husband Joseph Mortonson. Little is known about the Mortonson ownership of Chestnut Hill. It is known that Mortonson was a keeper of the tavern, known as Blue Ball, on the adjoining property to the west, and in all probability, Mortonson rented out Chestnut Hill. He may have even allowed his in-laws' family to continue to reside on the farm since the youngest member didn't come of age until 1755. The Mortonsons continued the previous owners' leadership roles in Old Swedes Church. Evidently, Mortonson prospered as an innkeeper and at his death in 1771, he willed the Blue Ball tavern property to his wife, and his son Joshua received the Chestnut Hill farm. Joshua apparently lived at Chestnut Hill until he sold it to John Dickinson in 1785. Dickinson's papers note that the two-story house there was formerly occupied by Joshua Mortonson. Thus it is indicated that the two-story stone house, the eastern section of the main block of the Weldin Plantation Site, was on the property by the time of the Mortonson ownership.

The history of Chestnut Hill for the period 1785 to 1862 is particularly challenging since during that period, the owners did not occupy the property but rented it out to tenant farmers. However, it is well known that John Dickinson was also a reform-minded agriculturalist and could be considered a gentleman farmer. Dickinson sought good tenant farmers, known to have high levels of production as well as being good stewards of a farm's fertility. The 1799 tax, taken when William Little was Dickinson's tenant, provides information to confirm that now the house was a two-story, two-room stone structure with an attached kitchen.

c. The Dairy Industry

Grettler (1992) discusses the archaeological expression of commercial dairying farming, those which sold milk, butter, and cheese, in Delaware during the nineteenth and early twentieth centuries. Grettler noted that most families living in rural and even in urban settings had at least one cow to provide milk for the family's consumption. His definition of commercial includes small farms selling a nominal amount as a way to generate extra income to large operations producing thousands of pounds of milk each day (Grettler 1992: 2).

Both the Bradfords and the Weldins were running large commercial dairy farms. In 1850, Bradford owned 15 milk cows, which would have been considered a large dairy operation (Grettler 1992: 2). The farm produced 2000 pounds of butter, which, as noted previously, was over 50 times the amount of butter that a family of four (Bradford's household contained 12 people that year) could consume in a year and three times the amount of butter that most farmers in the Wilmington area produced. On average, each of Bradford's cows produced 133 pounds of butter per year, besting nearby Delaware County, Pennsylvania's average of 125 pounds per cow in 1848 (Fletcher 1971: 169). The value of the butter was more than $500, which was approximately half the cost of a farm in southern Delaware at that time. As discussed previously, Bradford also owned numerous other livestock and his farm produced wheat, Indian corn, oats, potatoes, buckwheat, clover seed, and a variety of vegetables. It is apparent that the Bradfords were operating a successful farm.

In 1870, Weldin owned 25 milk cows, in addition to a wide variety of other livestock, as discussed earlier. Weldin's farm produced 11250 pounds of butter. His household consisted of eight people that year. Large amounts of winter wheat, corn, oats, Irish potatoes, and hay were also produced. Some of the grains were undoubtedly used to feed the livestock; however, it is likely that some were also a commercial crop.

Weldin's farm was more focused on dairying, while Bradford's was more diversified. Weldin had more livestock than Bradford, with a much higher dairy production, and a larger percentage of Weldin's grain was being used to sustain the animals. This reflects the trend in the region as a whole, as dairy farming becomes more intensified throughout the second half of the nineteenth century. Two factors were instrumental in this. The first was rapid population growth in urban centers, which lacked livestock facilities necessary for commercial production of fresh milk. Instead, milk companies purchased fresh milk from nearby farmers for bottling. As the bottling system became more mechanized, the industry developed a more corporate structure which processed ever larger amounts of dairy products. This encouraged farmers to specialize more in dairy products so as to produce larger quantities of milk to compete in the newer, more formal, industry (Sheppard 2009: 284). The second was the improvement of the regional transportation systems, including both roads and rail lines. Grettler (1992) has stated that the completion of the railroad in 1854 sparked a revolution in the dairy industry, as for the first time perishable items could be transported to distant markets. He noted that cities as far away as Pittsburgh were able to receive Delaware agricultural products after the railroad opened (3).

The production of butter on individual farms began to decline in the 1880s and 1890s with the invention of the cream separator, which facilitated the development of commercial creameries.

Families began to send fluid milk to the creameries for butter production, which shifted the focus of the dairy farm (McMurry 1995: 3). This may be reflected in the drop in butter production for Weldin in 1880. In this year, he produced only 300 pounds of butter. In 1870, he was recorded as having produced 11250 pounds. While the 1870 figure may be an error, 300 pounds is still substantially less than the 2000 pounds of butter produced by Bradford in 1850, and is less than the 400 pounds produced by Weldin while he was living at the original Weldin farmstead.

Dairy farming required a great deal of investment, both financial and in labor. Dairy cows required quality sustenance so that they would produce larger quantities of milk year round. In addition, dairy cows did not begin to produce milk until they were three years old, so each individual animal was a valuable commodity. Feeding a large dairy herd necessitated cultivating large amounts of quality grains. In addition, dairy herds needed extensive infrastructure, in terms of barns, barnyards, haylofts, and other outbuildings (Grettler 1992: 5).

Grettler (1992) discusses three components of the infrastructure necessary for successful dairy farming: outbuilding construction, new farmstead layouts, and new activity areas and trash disposal patterns (6).

Having large dairy herds meant having more and larger outbuildings. Barns are larger during this time period than during any other period, between 30 and 40 feet wide and 60 and 80 feet long (Grettler 1992: 6). After Weldin purchased the property in 1862, he soon made considerable improvements to the farm. The majority of the other remaining foundations on the property, including the milk house, are associated with buildings that Weldin would have either constructed or substantially improved by the third quarter of the nineteenth century. The barn built by Weldin measures 38 by 60 feet. There was also an addition to the barn that measured 20 by 135 feet which was segmented into three sections. As discussed earlier, it appears that there were discrete areas for heifers and calves as well as a separate, but adjacent, pig pen.

The layout of dairy operations also reflected consideration of this specialized industry. The barn and other outbuildings needed to be located near a water supply. Dairy cows consume almost twice as much water as other cattle (Grettler 1992: 7). Weldin constructed a cistern immediately outside the southwestern corner of the barn. There was a windmill on top of the cistern ***(Photograph 23)***.

Grettler also observed that as dairy farming becomes more intensified, dairy related barns and other buildings tend to be constructed farther away from other buildings and in separate areas from non-dairy related outbuildings, such as stables and pig pens. He noted that nineteenth and twentieth century dairy manuals recommended separating dairy cows from domestic buildings and other livestock for sanitary reasons. However, he also opined that sanitation was probably not the most important concern of Delaware farmers (1992: 8). Whatever the overall trend in Delaware in general, this is not reflected in the farmstead layout at the Weldin Plantation Site. The barn is located with slightly over 100 feet from the house and while the pig pen is a separate enclosure, it appears to be located inside the same barn yard with the dairy barn.

The amount of manure produced by large herds of dairy cows and its disposal caused changes in trash disposal. Household debris was generally discarded with manure and therefore ended up

being spread on fields, which is reflected in the archaeological record (Grettler 1992: 9). McCormick Taylor conducted Phase I archaeological identification testing in many of the fields around the house and did indeed recover widespread low densities of domestic trash. In addition, the identification of phosphates in sampling of soils can also indicate areas where animals were and were not kept (Grettler 1992: 9). However, data recovery excavations focused on the house, and therefore all soil samples that were taken were from this area. Also, because so many foundations are still in existence and visible at the Weldin Plantation Site, it is fairly apparent where livestock was being kept.

Insight to past lifeways at the site, based upon the artifact assemblage, related primarily to consumer behavior, agricultural activities, and dietary practices. Interpretation of additional activity included identification of dairying and laundry within the basement, and sewing/clothing preparation within the early kitchen (F. 27/39) and the east side of the house. While historic documents indicate the presence of a military encampment on the Weldin property in 1862, no artifacts could be definitively attributed to this encampment; the only military related items were one early New York State militia button (1800-1840), and one crossed rifle badge that would have been used after 1875, both of which were found within AC4 of the North Yard. One lead minie-type bullet (1852-1866) was found within AC2 overlying F. 39, but could have been used for hunting purposes by the site's residents.

The disposal in F. 21/25 of at least one milkpan and two bowls that may have been used for dairy cooling ***(Photographs 153, 154 and 155)***, and the presence of a French drain along the walls of the basement in the east half of the house, provided evidence for milk storage or butter and cheese production within the house prior to the Weldin family occupation. As demonstrated in the agricultural censuses, butter production at this site was a significant part of the farm's operation from at least John Bradford's tenancy through the early years of the Weldin family occupation. The assemblage from the dirt floor and F. 21/25, which was capped by a coal/ash layer and concrete floor, appeared to date prior to the Weldin family occupation though, as most of the artifacts possessed TPQ dates prior to 1860. Butter was typically made during the cooler months of the year to prevent milk spoilage, but large-scale butter production, such as the 2000 pounds of butter produced from 1849 to 1850, would have benefitted from year-round production with milkpans stored in a basement, such as this one, which would have been cooled by a water trough during the summer months (Baker 1988). Cows were traditionally bred to freshen (begin to give milk) in early spring, and their milk production was high until late fall. Then it fell off unless they were fed root crops, which most progressive farmers provided (Fletcher 1971: 170). Dairy production was typically performed by the women of the household, and, consequently, large-scale butter production would also have benefited by the presence of several females capable of performing this task. Within Bradford's household in 1850, there were five females who could have performed this task, consisting of his wife, three of his daughters, and a female servant.

The concentration of sewing/clothing-related items in the pre-1870 surface in the North Yard, which was formed partly during demolition of the kitchen structure (F. 27/39), provided evidence for sewing in this part of the house by the pre-1860 occupants. The re-orientation of the house could have led to a shift to sewing activities in the East side of the house, and the subsequent discard of these items within the East Yard. Similar to dairy production, sewing was

an activity typically associated with women in a household setting. During the nineteenth century, sewing was promoted as a basic life skill among young women of all socioeconomic backgrounds, from reform schools to upper-class households (Beaudry 2006:105; De Cunzo 1995:48; Osaki 1988). Men were not excluded in learning this skill though, and professional tailors were as commonly found as seamstresses ***(Figure 86)***. Time for sewing lessons, however, would have been less abundant in agrarian households like this, where every member of the family would have a task related to farm or household maintenance. In households where income was derived from other occupations, as in the neighboring du Pont family, women divided sewing tasks among themselves, domestic staff, and a family seamstress, with items that required the most skill going to a professional milliner (Osaki 1988:229-230].

Analysis of the artifact assemblage and the features and foundations on the site have allowed us to examine the spatial use of the both the pre-Weldin occupants of the site as well as the use by the Weldins.

Insight to activity areas and refuse disposal activities, during the eighteenth century and early nineteenth century, was provided by contexts in which deposition occurred prior to the Weldin family occupation. These contexts included the basement floor and associated well (F. 21/25) and French Drain (F. 24) in the eastern half of the house, an in-filled eroded spot or former landscaping feature (F. 50) and a French Drain (F. 60) in the South Yard, the attached kitchen (F. 27/39) in the North Yard, and the buried A-horizon as it was encountered in all yard areas ***(Figure 29)***.

The assemblage recovered from the dirt floor and well in the eastern half of the house consisted of artifacts deposited prior to the Weldin family occupation. Most of the assemblage (n=788, 48%) was present within the well feature, with an additional 41% (n=671) scattered across the dirt floor, and 10% (n=165) present within other features formed in the floor. Dairying activities in the basement prior to the Weldin family occupation was suggested by redware vessels and the presence of a French drain (F. 24) that formed a U-shape along the northern wall, western wall, and southern wall; a minimum of one milkpan and two bowls or milkpans were identified among the redware fragments in this assemblage, and the formation of the French drain was typical of water-filled troughs located in basements for cooling of milk during the warmer summer months. The well (F. 21/25) was not likely the source of water for this activity, however, as excavation of this feature revealed it was not likely to have ever been a successful well. Cooling of milk in the summer would have been performed by families involved in year-round butter production, as opposed to butter production during the cooler months and cheese-making, which did not require the milk to cool as in the summer months. The Bradford family would certainly have been utilizing this area for dairying, based upon the amount of butter they produced per year, but it is also possible that earlier occupants, for whom agricultural or dairying data is lacking, could have been utilizing it as well. While the Weldin family may have initially made butter in the basement, the predominance of eighteenth and early nineteenth century artifacts, which were capped by a coal and ash layer, suggests dairying activities in the basement had ceased by the late nineteenth century. Additionally, a separate structure (Structure B/milkhouse) was apparently constructed in the late nineteenth century for such activities.

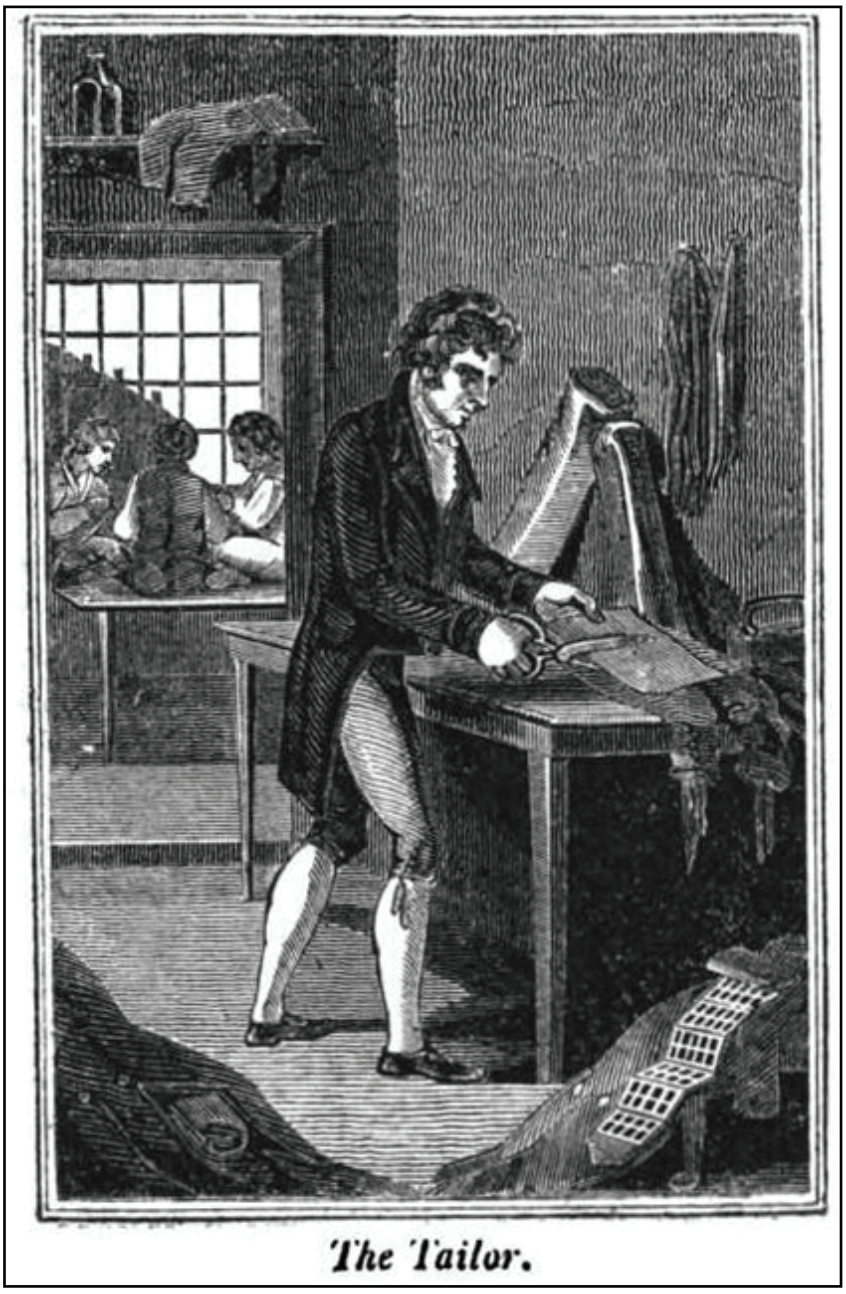

Figure 86

Depiction of 19th Century Tailor Shop taken from *The Book of English Trades and Library of The Useful Arts* (1818), J. Souter, London, England

Weldin Plantation Site, 7NC-B-11
Phase III Archaeological Data Recovery
Blue Ball Properties Area Transportation Improvement Project

Brandywine Hundred,
New Castle County, Delaware

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Refuse disposal during the early occupation of the house occurred primarily in the South Yard and the North Yard. The large amorphous stain that was F. 50 could not be conclusively identified as a landscaping feature, such as a flowerbed, or simply an eroded area, though F. 60 was discernable as a French drain. Both features yielded artifacts datable primarily to the eighteenth and early nineteenth century, including white clay pipe parts and small ceramic fragments. Most of the domestic artifacts in both features were fragments of redware, but F. 60 and its surrounding units contained a wider variety of tableware ceramics that were of the same types present within the pre-1870 surface (AC4, AC7, and AC12) and buried A-horizon in the east half of the North Yard (AC6 and AC9), with nearly equal quantities in the buried A-horizon in the North Yard and the area of F. 60. Excluding shell from Stratum IV.A in TUs 80 and 81, the quantity of domestic artifacts deposited in the east half of the North Yard was comparable to the assemblage from F. 50 and the area of F. 60; a total of 531 domestic artifacts were recovered from ACs 6 and 9 in F. 27 and F. 39, while 465 domestic artifacts were recovered from F. 50 and the area of F. 60. The East Yard was apparently not used as heavily as the other yards for refuse disposal, and given this was the front yard of the house from the time of its construction until the early to mid-nineteenth century, heavy refuse disposal in this yard would not be expected. While the buried A-horizon (AC16) in the East Yard yielded a high quantity of artifacts (n=228), most of these (n=144, 63%) were recovered from units in the southeastern corner of the house, and included later period artifacts deposited during excavation of a utility line.

While the attached kitchen was in use, it was apparently a favored spot for sewing activities as well as the usual food preparation activities. The cluster of sewing/clothing-related artifacts in the pre-1870 surface (AC4) within F. 27 provided evidence for sewing activities within the kitchen prior to the Weldin family occupation. Many of the datable sewing/clothing-related items (n=14, 37%) possessed manufacturing dates ending prior to the Weldin family occupation (1862), and the remaining datable and non-datable sewing/clothing-related items could also have been utilized by occupants prior to the Weldin family. Examples of sewing/clothing-related items datable to the eighteenth century and early nineteenth century included the George Washington Inaugural Button (1789), the New York State Militia button (1800-1840), the E. Scott Company button (early nineteenth century), glass buttons with brass shanks (1700-1840), convex two-piece buttons (1812-1830), spun-back buttons (1760-1785), and a sew-through bone backed brass button (1700-1790). Other datable sewing/clothing-related items, which could have been utilized by the early occupants, possessed beginning manufacture dates in the eighteenth century or early nineteenth century, and included gilded brass buttons that were made from the end of the eighteenth century to the end of the nineteenth century, prosser china buttons manufactured from 1840 to 1950, and a brass button made by Allen and Moore, England between 1855 and 1870. While these items were found primarily in the pre-1870 surface of this area, the concentration of these artifact types within this area of the site suggests these items were stored within the kitchen area until its demolition, which was observable in the pre-1870 surface.

Prior to the Weldin family's occupation of the property, alterations to the house included construction of a new portion of the house in the West Yard, demolition of the attached kitchen area (F. 27/39), and reorientation of the front of the house from the East Yard to the North Yard. Once the Weldin family acquired the property and made changes in architecture, changes in activity areas also occurred. A separate structure for dairy production was also likely

constructed at this time, which moved dairying activity out of the basement of the house. As with the pre-1860 contexts, patterns in refuse disposal, and potentially sewing activities, were discernable based upon assemblages recovered from contexts formed by the Weldin family. Contexts providing evidence for these changes included the post-1870 to site abandonment surface (AC2) in all yard areas, the pre-1870 surface (AC14) in the East Yard, the pre-1870 surface in the North Yard, and the privy (F. 49).

With the demolition of the kitchen structure (F. 27), which was evident in the pre-1870 surface of this area (AC4), kitchen activities apparently moved to the interior of the house. Usage of a part of the kitchen structure apparently continued though, since deposition in the pre-1870 surface within the interior of F. 39 was minimal compared to the interior of F. 27; AC4 within F. 39 yielded 392 historic artifacts, including 149 domestic class artifacts, while the interior of F. 27 yielded 8446 artifacts, including 4067 domestic class artifacts. Architectural remains were present within both features, but a valid comparison could not be made to determine whether more were present within F. 27 as a result of demolition of this structure, since additional architectural material was discarded in the field. The apparent depositional difference, however, suggests the presence of a floor prohibiting deposition in F. 39 for a portion of the time artifacts were deposited in AC4 in F. 27.

When the kitchen was demolished, sewing activities would also have moved elsewhere within the house. The second-greatest quantity of sewing/clothing-related items was recovered from the re-deposited subsoil (AC15) in the East Yard, with most being found in units disturbed by builder's trenches and a utility line. Sewing/clothing-related items found in the East Yard were likely deposited by the Weldin family, and it is possible that sewing activities were performed in the porch/piazza located in the East Yard, which had become a side yard.

Additional refuse disposal during the Weldin family occupation seems to have occurred primarily in the post-1870 surface in the east half of the North Yard and in the privy in the West Yard (F. 49). In the east half of the North Yard, a total of 1458 domestic class artifacts were likely deposited during the occupation of the house, as opposed to bottle glass and packaging that was likely deposited during Modern Period dumping. Artifacts likely deposited by the Weldin family in that area included fragments of whiteware, ironstone, yellow ware, twentieth century porcelain, fruit jar parts, and a hard rubber comb made by the India Rubber Company (1851-1898). Deposition in AC2 in all other yard areas was minimal; excavation in the west half of the North Yard yielded only 39 artifacts that were likely deposited during occupation, the East Yard yielded 116 artifacts, the South Yard yielded 204 artifacts, and the West Yard yielded 16 artifacts likely deposited during occupation. The assemblage from F. 49 was comprised by artifacts that were deposited from the late nineteenth century to the time of site abandonment, including several ironstone vessels with late nineteenth century maker's marks that were likely thrown out at the time of abandonment. The relative decrease in yard scatter, and containment of refuse within F. 49 and the east half of the North Yard, during the Weldin family occupation compared to observed refuse disposal in the buried A-horizon suggests a change in attitude towards refuse disposal, which may have been aided by the rise of public trash removal in the early twentieth century.

d. Summary

The landscape, layout, and use of space across the Weldin Plantation Site can be understood in terms of trends that were occurring nationally, regionally, and locally at the time. Ideals associated with the Georgian mindset and the progressive farmer influenced the way people thought about how they used space within their home, within their domestic yard, and across their farm. The progressive farming movement and the evolution of the dairy industry involved practical changes that maximized production and profits and allowed adaptation to the improvements in transportation and the growing urban markets.

The evolution of the main residence reflected the trends typical for the region. The probable log home was replaced with a stone home that had a log or frame service wing used as a kitchen, in accordance with Georgian ideas about discrete specialized places for different activities. The artifact assemblage allows some interpretations for activities that occurred in and around the house. It is apparent that sewing occurred in the kitchen wing, which may have been a predominantly female activity in the home. During the second quarter of the nineteenth century, butter was being made in the basement of the home, which also may have been a primarily female activity. Therefore, it is possible that these two locations, which provided us with some of the best archaeological data on the site, represent spheres which were dominated by women and girls. Refuse disposal was occurring primarily to the north and south of the house, which at the time would have been the two sides. The east yard was used infrequently for refuse disposal, which makes sense given that it was the front yard of the house during this time.

Dickinson was one of the wealthiest land owners in the region and he was actively involved in the progressive farming movement. He and his descendants endeavored to make modern improvements to the property, and he sought tenants who had the skill and work ethic carry out those philosophies about farming.

Around the middle of the nineteenth century, during the Dickinson family ownership, a large addition was added to the western portion of the stone house. At this time the kitchen addition was demolished. The orientation of the house was rotated to face Weldin Road and the plan was altered from an open plan to a closed plan, also reflecting Georgian ideals. The kitchen would have moved inside the main block of the house. Shortly afterwards, the milk house was constructed and butter making was removed from the house to the milk house. It appears that laundry was being done in the western half of the basement, which was expensively finished with an elaborately laid brick floor and a sump. Herman's description of progressive farming and how it might be reflected in the archaeological record, including farm buildings which incorporate industrialized features and a new emphasis on activity organization involving the discrete use of space appear to be discernable at the Weldin Plantation Site.

Both Bradford and Weldin were successful dairy farmers who had what were considered to be large dairy herds. Grettler outlined the three components of infrastructure necessary for successful dairy farming. Two of those three components, outbuilding construction and new farmstead layouts, are reflected by the wide-spread improvements that Weldin undertook when he purchased the property, essentially completely rebuilding the entire barnyard and all of its outbuildings.

The artifact assemblage from the Weldin occupation also reflected a shift in spatial use at the site. Sewing related artifacts were recovered from the east yard, which was now a side yard. Sewing and related activities may have occurred on a porch on the eastern side of the house. Refuse was deposited in the eastern half of the north yard, which was now the front yard, and in the west yard. However, there appears to have been much less refuse scattered across the yards during the Weldin occupation than prior to it. This may have been related to changing ideas about sanitation, but also would have been related to refuse being mixed with the manure. There would have been a great deal more manure on the property during the Weldin period than prior to it, and it would have been regularly removed to the fields.

2. Socioeconomic Phenomena

a. Tenant versus Owner Occupancy

As explained above, based on the results of the archaeological field work and context research, the socioeconomic issue on which we will focus is tenant versus owner occupied dairy farming.

A traditional view of tenancy versus owner occupied farms is that tenants will not invest in the infrastructure on a property but will instead acquire a larger quantity of and/or more expensive consumer goods which will be reflected in the archaeological record. In contrast, owners of farms will invest in improvements to the farm and will only purchase consumer goods once the farm has been modernized (Mascia 1996: 147). However, as indicated by the discussions earlier in the context and artifact analysis sections, the Weldin Plantation Site was not a typical tenant nor a typical owner occupied farm. Both the pre-Weldin and the Weldin occupations appear to have been affluent. Dickinson and his descendants were progressive minded and improved the property in an attempt to attract the highest quality tenants, or model farmers.

During the late eighteenth/early nineteenth centuries, it was common in the Delaware Valley for tenants to do only the barest minimum to maintain the houses, outbuildings, and fences. Landlords often complained about the neglect of building on their properties and there were many disputes concerning “Weare tear and Casualties (Herman 1994: 48). However, not only did Dickinson improve his properties to entice better tenants, he was very selective about whom he accepted as his tenant. Dickinson was known for setting the terms of his lease extremely high, and many prospective tenants could or would not commit to his terms (Siders 1988). Sheppard (2009) has pointed out that it was beneficial for both land owners and tenants to maximize production and profit. Land owners were speculators who desired to profit from the property, while tenants valued fertile land that would allow them to reap more productive crops. A tenant farmer was more flexible than a farmer who owned his land. He could move to another, better farm if he chose to do so (139). However, good tenant farmers, such as Bradford, often were long-term residents, remaining on a particular farm for ten years or more. Therefore, although Dickinson was extremely picky about the tenants he allowed to farm his land, the tenants who would be attracted to Dickinson’s farms were equally as picky and also wielded power in terms of having expectations for the condition of the farm.

Upward mobility was possible for tenant farmers, although tenancy conditions varied widely within Delaware. Tenancy in northern Delaware was more similar to tenancy in southeastern Pennsylvania than in the rest of Delaware. Both tenants and property owners in northern Delaware earned greater profits than in central and southern Delaware, which was more similar to tenancy in Maryland. In southeastern Pennsylvania and northern Delaware, the productivity of the land allowed the commercial productions of grain and dairy products. This provided greater profits to tenants in this region, who lived comparatively comfortable lives and planned to, with frequent success, purchase their own farms at some point. By contrast, in southern Delaware and Maryland, tenants often lived in greater poverty and never expected to own their own land. In addition, tenancy was more widespread in central and southern Delaware than in northern Delaware (Garrison 1988: 23-24). Another distinction between the tenant farmers in the northern portion of Delaware versus the rest of Delaware had to do with the way in which rent was paid. In the north, the tenant farmer paid a fixed amount of rent agreed upon in a lease, which was usually for seven years. In the south, many tenant farmers were sharecroppers who were farming for the landowner and received wages from the landowner in the form of a portion of the crops (Du Cunzo 2004: 141). This did not allow the share croppers to accumulate any wealth, as the excess wealth belonged to the land owner. It also did not inspire the farmer to work harder, as he would not benefit from the fruits of extra labor.

Tenant farmers in northern Delaware who were involved in wheat and livestock production also invested more in tools than tenants in central and southern Delaware (Garrison 1988: 32). A tenant farmer of a large farm, such as the Weldin Plantation Site (150 acres), needed more than a single pair or of horses or even oxen to plow or harvest fields concurrently. The increased number of animals required additional machinery. This is probably related to several factors, including their interest in (and ability to afford) progressive farming practices and experimentation, greater disposable income, and a focus on agricultural products that required a greater variety of tools.

One aspect of the American dream, as an outgrowth of the Georgian mindset and the Jeffersonian ideal of the virtuous yeoman was the desire to own one's own farm (home ownership is still an integral component of the American dream to this day). However, during that time, as is still true today, this was not feasible due to a variety of reasons, including economic, political, and social ones (Sheppard 140-141). Tenancy allowed farmers in northern Delaware to build some wealth and continue to pursue the dream of land ownership while supporting themselves and their families.

Progressive farming ideas and practices were adopted more by wealthier farmers, due to the risk-adverse attitude of those with fewer resources. New unproven technologies and techniques would prove disastrous for those with no financial cushion. Although there was some fluidity in the American economic status and class system, the fact that those who were already wealthy, educated, and knowledgeable about commerce were those who were willing to adopt new agricultural systems served to widen the economic gap between the classes (Ellis 1996: 62). The increased disposable income that was becoming possible during the Industrialization and Capitalization Period allowed the development of a middle class for the first time in rural Delaware (Michel 1985: 42). The Bradford and Weldin families, therefore, represented the

burgeoning middle class in Delaware with their values and desires for different types of material possession.

When the tenants are known, such as when John Bradford occupied the farm from 1849 to about 1861, much information can be learned. The tax and census records indicate that a good husbandman such as Bradford, using the resources of the land and the crops grown on the farm, was able to maintain a successful dairy operation at a level enabling him to participate in the commercial agriculture system of the period. Bradford's butter production was well above average, and he was sufficiently successful to have hired help, in addition to his large family, to assist in the farm's production. It is likely that it was during the first half of the nineteenth century at the height of the agricultural reform movement that the house was reoriented from the east to the north and a large stone addition was made to the west side of the original main block. The house now had the Georgian appearance of a central hall and front door.

Bradford can be considered a progressive farmer due to his successful farming strategies, even though the period of progressive farming was officially over by around 1850. Among these strategies was a wide diversification of operations. He not only had a large herd of dairy cattle, but also horses, oxen, and swine. The dairy cattle produced butter, and the swine could be butchered. Both the butter and butchered pork products were likely marketed in nearby Wilmington. Bradford's large dairy herd produced abundant manure to keep his grain fields fertile, and his horses and oxen enabled him to work multiple fields concurrently. His variety of crops, consisting of wheat, corn, oats, and hay as well as the market vegetables of potatoes, peas, and beans made the rotation of fields relatively easy.

Jacob R. Weldin was born on an adjoining farm to Chestnut Hill in 1821 ***(Figure 17)***, and he was able with hard work and savings to purchase it in 1862. His family had lived at this location for generations. The court and family records of the Weldin family and their large kinship network in the area provide insight into how they worked and prospered from the nearby land. The Weldins not only farmed their immediate land but also participated in the development of the marsh lands adjoining the Delaware River. The marsh lands produced a valuable marsh hay which was fed to their cattle. The Weldins were also tied to the Delaware River by the profits that could be had from local fishing resources. Through good management of the profits gained from farming and plying the Delaware, Jacob and his wife were able to purchase the large adjoining, 150-acre farm, known as Chestnut Hill.

The history of the original Weldin family homestead, adjoining Chestnut Hill, also provides insights into the type and size of buildings in the immediate neighborhood. Through the wills and inventories of the Weldin family it was learned how rooms of their dwellings were used and what their most valued possessions were. Their family's wealth was grown over a long period and was successfully passed along from generation to generation.

After purchasing Chestnut Hill, Jacob R. Weldin greatly expanded his dairying operation, which is particularly illustrated in the 1870 agriculture census. Like John Bradford, Weldin used the progressive strategy of increasing the size of his dairy herd by using both fast land and marsh land for hay and grazing. The larger herd also enabled larger crop yields through the use of manure on the crop fields. Jacob's active participation in the Grange and the Cherry Island

Marsh Company, and his transformation of Chestnut Hill from a dilapidated farm to a showcase farm are also indicative of him being a progressive farmer. Whereas, both Bradford and Weldin were progressive farmers, Weldin as a land owner was better able to manifest that by the buildings and structures he constructed or reconfigured as part of the agricultural landscape of Brandywine Hundred.

Weldin's production appears to have waned by the 1880 census. This was likely due in part to the fact that he and his wife were aging by this time, but also by the fact that farmers in the East were overwhelmed by the competition of farmers in the West. In addition, his inventory, taken in 1892, indicates that he may have been switching to beef cattle production which was less labor intensive. It is likely that during his ownership the large banked barn was constructed along with a full complement of ancillary buildings adjoining it. Some of the tools and implements in his inventory are indicative that he was involved in both the old and new farming traditions. On the other hand, the old tools and implements may just have never been discarded when they were no longer used.

After Jacob R.'s death, his son Jacob Atwood received the portion of Chestnut Hill that contained the mansion house and outbuildings. Atwood continued his father's progressive farming tradition. Atwood's inventory indicates that he was using more modern farm equipment, and he appears to have been more heavily focused on the dairy industry. However, he was working with less land, and by this time Wilmington's suburban development was considerably affecting the area. Atwood's brother Thomas sold part of his portion of the estate for the construction of the City of Wilmington's Porter Reservoir. Instead of putting his profits into additional land purchases as his father had, Atwood bought stocks and bonds and other modern conveniences. Although Atwood wanted his son, Jacob R., to continue farming, the pressure of early twentieth century suburban development was already being felt.

Following Atwood's death in 1918, the Weldins continue to own and operate Chestnut Hill farm until it sold in 1934 to a development company. The 1920 and 1930 censuses indicate that the extended Weldin family continued to live on or near the family farm, but most had occupations away from the farm. A descendant, Willis Weldin, recalled that his grandmother Ida and Uncle Jake continued on the farm until about 1942. After the Weldins left the farm, it no longer operated as a farm, and the buildings deteriorated over a long period of years.

The economic status of the pre-Weldin and the Weldin occupation of the sites was also examined through the analysis of the recovered artifact assemblage.

Insight to the economic status of the pre-Weldin site inhabitants was attempted through assessment of ceramic values. A wide variety of ceramics were present in the buried A-horizon and features associated with occupation prior to the Weldin family. MVCs were calculated for ceramic types that were likely associated with pre-1860 occupants, but the only ceramics for which CC values could be calculated based upon Miller's (1991) CC Index Tables were pearlware (1770-1840), transitional whiteware (1805-1860), and whiteware (1805-adj. 1860). Additional ceramics included creamware (1762-1820), Agateware (1740-1775), delftware (1752-1771), Jackfield (1740-1790), Chinese porcelain (1685-1840), redware (1685-1880), Nottingham stoneware (1685-1810), scratch-blue stoneware (1744-1775), white salt-glazed stoneware (1720-

1805), and Astbury-type ware (1725-1750). Pieces of ironstone, yellow ware, and late nineteenth century whiteware were also present, but were not utilized in calculations of MVCs or CC values since they were likely intrusive from post-1860 surfaces or features. The resultant MVC counts and CC values can be seen in ***Tables 20, 21, and 22***. Though Miller does not differentiate between ceramic types in his CC Value Indices, in ***Table J*** the ceramic types are listed separately here to illustrate the relative increase in value from the earlier pearlware vessels to the later whiteware vessels.

Table 20: Tableware MVCs

Ceramic Type	Bowl	Plate	Teas	Miscellaneous Hollow	Indeterminate Vessel	Totals
Creamware		4		1	1	**6**
Pearlware	4	4	10		2	**20**
Transitional Whiteware	1	2	3	1 (serving dish lid)		**7**
Whiteware		2	4	1	1	**8**
Pearlware/ Whiteware			1			**1**
Delftware					3	**3**
Jackfield				1		**1**
Porcelain-Chinese			2			**2**
Nottingham Stoneware					2	**2**
Scratch-Blue					1	**1**
White Salt-Glazed		1	1			**2**

Table 21: Redware MVCs

Vessel Form	MVC
Plates	4
Bowls	1
Milkpan	1
Bowl/Milkpan (form or glaze indicate different than above bowl and milkpan)	2
Jug	1
Jar-small	1
Bottle	1
Storage Jar	1
Miscellaneous Hollow Vessel (form or glaze indicate different than any of above hollow vessels)	2
Totals	**14**

Table 22: CC Values for Pre-1860 Occupation

Ceramic Type	Bowl	Plate	Teas	Average
Pearlware	1.2	1.95	1.94	1.69
Transitional Whiteware	1.2	2.0	1.94	1.71
Whiteware	-	2.58	2.06	2.32
Totals	**1.2**	**2.12**	**1.97**	**1.86**

The relative increase in value from pearlware to whiteware was due to the number of transfer printed vessels for whiteware and transitional whiteware versus pearlware. Most of the pearlware plates were of the less expensive shell edge variety and most of the teas were painted; only one plate and two teas were of the more expensive transfer printed variety. By comparison, both of the whiteware plates and half (n=2) of the teas were transfer printed, with additional teas being less expensive sponge-decorated and painted varieties. Decorative (or cost) preference for transitional whiteware vessels was closer to pearlware in that bowls for both were dipt (e.g. mocha or banded), one transitional whiteware plate was shell edged while the other was transfer printed, and most (n=2) of the teas were painted, with one tea being transfer printed.

As has been previously noted, it was not possible to ascribe the artifacts recovered from the buried A-horizon and features pre-dating the Weldin family to any particular occupant, which makes assessing the actual economic status indicated by these ceramics difficult. In the years preceding the War of 1812 and the Napoleonic Wars, there was a greater difference in price between decorated wares and undecorated wares compared to after. Ceramicists, most notably Miller (1991, 2008), have noted a continual fall in prices of decorated ceramics after 1814, such that the prices for painted wares, edged wares, dipt wares, and sponge wares progressed closer to the price for undecorated wares. This decline in price was due largely to competition among potters to sell their products during a period of deflation, which followed a period of inflation during the wars (Miller and Earl 2008:77-78). Consequently, without knowing when the ceramics were likely purchased it is difficult to arrive at a more accurate CC value.

For the early to mid-nineteenth century, at least one conclusion can be made based on CC values, though. The general increase in value for the later whiteware vessels would suggest a trend toward more expensive tableware in the early nineteenth century, perhaps more so by the Peirce families (1831-1849) or the John Bradford family (1849-1862), who occupied the site after pearlware production had ceased. Large-scale butter production during John Bradford's tenancy could have provided the income necessary for purchasing the more costly whiteware vessels; during the 1830's, butter became a more valuable commodity than cheese, with the price of butter per pound rising from $.09 (equivalent of $1.62 in current US dollar value) in 1825 to $.105 (equivalent of $2.10 in current US dollar value) in 1835, and the price for cheese dropping from $.10 in 1825 to $.09 in 1835 (Derks and Smith 2005; United States Bureau of the Census 1883).

Though they did not possess CC values, general histories of other represented ceramics provided additional insight to economic status and consumer behavior during the mid-eighteenth century to early nineteenth century. All of the refined earthenwares, stonewares, and likely the

delftware, were English-made ceramic types. Porcelain vessels, while Chinese in origin, were of the lower quality Deteriorated Chinese Trade Style and painted blue types. Purchase of these English-made ceramics and inexpensive Chinese porcelain for tea and tableware indicates at least moderate economic means, as well as a parallel with production and consumer trends of the time. English pottery production was spurred in the eighteenth century by a growing consumer demand for less expensive wares for use in social tea drinking, which had become a defining characteristic of civility as part of the Georgian Order, and which was an aid in maintaining social ties (Barker 2007:31; Deetz 1996:86; Orser 1998:310, 313). English-made delftware was manufactured to compete with tin-enameled wares imported from Europe and with Chinese porcelains used for tea, but as Hume notes delftware tea vessels were apt to lose their glaze at the lips, and declined in popularity for that purpose (Hume 1969:111). The delftware pieces present at the site post-date its popularity, and consequently may have been less expensive than earlier versions. White salt-glazed stoneware had become the more popular teaware by the middle of the eighteenth century, primarily owing to the development of block molds that allowed white salt-glazed stonewares to be produced in highly-decorated relief (Hume 1969:115). White salt-glazed stoneware, in turn, was replaced in popularity by creamware, which is represented here by a minimum of six vessels including four plates.

Creamware became the ceramic of choice among the middle class for teawares and plates due to its reputed association with the royalty and nobility of England, and to its cost (Barker 2007:33; Hume 1969:125-126). In a journal note written by Mrs. Papendiek, assistant wardrobe keeper for Queen Charlotte, in 1783 and quoted by Massey (2007:25), the creamware dinner service used by Mrs. Papendieck was the best for her social rank, with "Chelsea porcelain and fine Indian China [i.e. Chinese porcelain] being only for the wealthy". Mrs. Papendiek also noted that their tea and coffee set was "of common Indian China" (Massey 2007:25). While Chinese porcelain was represented, it was comprised by vessels that would have been considered "common Indian China", as they were not as finely decorated as earlier versions (Barber 1910:12; Hume 1969:257, 261). Represented porcelain consisted of Deteriorated Chinese Trade Style (1790-1825), and painted blue wares that were made until 1840. The manufacture of pearlware began as an effort to produce a ware that was whiter in appearance, that could compete with blue-decorated porcelains, and that could replace creamware when there was no more demand for it in the market (Lockett 2007:172, 175; Hume 1969:128). Judging by the number of pearlware vessels represented, and its apparent use for plates and teawares, it had become the tableware of choice at this site during the early nineteenth century.

For consideration of the Weldin family, comparison of the pre-1870 ground surface assemblages to F. 49 and the ca. 1870 to site abandonment ground surface suggests increasing economic success, and participation in contemporary consumer practices at least by the Urbanization and Early Suburbanization Period (1880-1940). Participation in contemporary consumer practices was indicated especially by the purchasing of ceramics that were popular during the late nineteenth century, utilization of glass fruit jars for home canning, and purchasing of proprietary medicines and bottled beverages.

In the pre-1870 ground surface ironstone, whiteware, and yellow ware were present in increased quantity and MVCs compared to earlier ground surfaces and features, but so were pearlware, creamware, delftware, and white salt-glazed stoneware. The abundance of early ceramics,

however, seemed to relate primarily to the demolition of the kitchen structure in the North Yard, rather than deposition of older vessels owned by the Weldin family; 99.7% (n=1310) of early ceramic types were found in the North Yard, while only 0.3% (n=4) were found in the East Yard.

A few vessels were represented that had not been seen previously among the early ceramic types, though. These included painted brown pearlware vessels with a star design (MVC=2), a pearlware cup with transfer printed blue scenic design, painted overglaze hollow pearlware (MVC=1), transfer printed blue Willow hollow pearlware (MVC=1), transfer printed blue pearlware saucers (MVC=2), a blue embossed edge pearlware plate, a scalloped green shell edged pearlware plate, banded (MVC=1) and mocha-decorated (MVC=1) creamware vessels, painted polychrome hollow delftware with a scenic design (MVC=1) and green sponge-decorated delftware (MVC=1), polychrome enameled white salt-glazed hollow vessel (MVC=1), a Barley pattern Queen's Ware rim white salt-glazed plate, and an undecorated white salt-glazed saucer. While the occupational association of the pearlware vessels is uncertain, as they may have been older vessels owned by the Weldin family, the remaining ceramics were more likely deposited by previous occupants. Spatter-decorated hollow vessel (MVC=1), Agricultural Vase pattern bowl (MVC=1), and a banded pitcher were newly represented for transitional whiteware. At a minimum, the Agricultural Vase pattern was likely associated with the Weldin family; most of the Agricultural Vase pieces were found in AC2 (ca. 1870 to site abandonment), which increases the likelihood it was deposited by the Weldin family.

Given the uncertain occupational association for pearlware, most of the transitional whiteware, and even whiteware vessels with previously observed decorations, in the pre-1870 surface assemblage CC values were calculated only for the newly represented whiteware vessels ***(Table 23)***. While Agricultural Vase pattern fragments, ironstone, and late nineteenth/twentieth century-style porcelain were present in the pre-1870 surface assemblage, these ceramics were most numerous in the ca. 1870 to site abandonment assemblage, which suggested their presence in the pre-1870 assemblage was due to soil disturbance. Consequently, CC values were not calculated for those types in the pre-1870 surface assemblage. In the ca. 1870 to site abandonment assemblage, CC values were calculated for ironstone, the Agricultural Vase pattern vessels, and newly represented whiteware vessels ***(Table 24)***. CC values were not available for the porcelain vessels, but review of prices in historic Sears and Roebuck catalogues provided information on the cost of porcelain versus ironstone (white granite) wares.

Table 23: MVC and CC Values for Pre-1870 Assemblage

	Bowl	Plate	Teas	Total/Average
MVC	-	3	8	11
CC	-	1.61	1.30	1.39

Table 24: MVC and CC Values for ca. 1870 to Site Abandonment

Ceramic Type	Bowl		Plate		Teas		MVC Total/CC Average
	MVC	*CC*	*MVC*	*CC*	*MVC*	*CC*	
Ironstone	2	2.41	8	2.13	7	1.80	17; 2.02
Whiteware	-	-	1	1.09	2	1.32	3; 1.24
Porcelain	-	-	3	-	5	-	8; -
MVC Total/CC Average	2	2.41	9	2.01	9	1.69	20; 1.91

The ca. 1870 to site abandonment assemblage provided the most insight to economic status and consumer behavior of the Weldin family. Within this assemblage, the predominant usage of ironstone (white granite ware) is notable, as is the purchase of contemporary porcelain table or teaware. The predominant usage of ironstone correlates to a general trend toward ironstone (white granite) purchasing, and the purchase of contemporary porcelain ware can be attributed to the Weldin family's economic success. During the late nineteenth century, white granite became the most commonly purchased ceramic type among American consumers (Barber 1893:19; Majewski and O'Brien 1987:121; Miller and Earl 2008:85). The increase in white granite's popularity was a result of several factors: first, improvements in its manufacture made it more durable, and competitive with French hard-paste porcelains that were being shipped to America (Barber 1893:19; Majewski and O'Brien 1987:120); second, in post-bellum America it cost less than other imported wares (Miller and Earls 2008:86); and third, beginning around 1870 an increasing number of American potteries were manufacturing this type of ware (Ketchum 2000:12; Majewski and O'Brien 1987:115; Miller and Earls 2008:86). The purchase of contemporary porcelain ware is a testament to economic success, as this type of ceramic was significantly more expensive than more common tablewares. The 1896 Sears and Roebuck catalog demonstrates the significant difference in price between white granite wares and porcelain wares; an undecorated 100 piece white granite ware set retailed for $6.90, a decorated 100 piece set sold for slightly more at $7.95, but a decorated 100 piece set of Haviland porcelain retailed for $33.75 (Sears and Roebuck 1896:667, 670) ***(Figures 87 and 88)***. Wealth accumulated by the multiple generations of the Weldin family that resided in Brandywine Hundred, and by Jacob R. Weldin's agricultural success during his occupation of this site, would have aided the purchase of these porcelain dishes.

A comparison of ironstone vessels to porcelain also suggests usage patterns for these ceramic types. The greater number of ironstone vessels, compared to porcelain, and the variety of manufacturers observed, indicated these types were used for everyday serving, which allowed for a greater chance of breakage and replacement with open stock pieces made by different manufacturers. The lesser number of porcelain vessels represented, all of which were decorated, suggested this type of ceramic was used less frequently, and therefore was less likely to be broken. In households of moderate economic means, it would be prudent to use the less expensive tableware for everyday use, and reserve the more expensive "china" for special occasions. This usage pattern would seem to correspond to financial data gleaned from agricultural censuses for Jacob R. Weldin's property, which indicated a moderate decline in the value of both farm and livestock by 1880. The represented porcelain dishes would have been

687 SEARS, ROEBUCK & CO., (Incorporated), Cheapest Supply House on Earth, Chicago.

OUR CROCKERY AND GLASSWARE DEPARTMENT.

Our stock of tableware includes only the finest selection of crockery from the **best European manufacturers.** American made crockery is well known to be inferior to the English and French manufacture. Our orders have hence been placed in Europe for the best and most select patterns with manufacturers whose goods are known the world over as the finest it is possible to produce. **Importing our own stock,** we are not only offering a line that has no superior on the market, but we are in a position to name prices against which the retailer cannot compete. You pay what he himself pays, for we sell to the consumer just as any other importer sells to the retail dealer. The advantage of our Factory-to-Consumer system is apparent. We are constantly breaking down the wall between maker of merchandise, and the actual user.

In connection with our crockery, we desire to say that **every set is most carefully packed** in barrels and casks, and we seldom or never hear of any breakage. The freight is a very small item indeed, when the great saving in price is considered. This class of goods ships as first-class freight. It is impossible to examine these goods satisfactorily at your depot. Hence we request full cash in advance on all orders. However, we practically ship **subject to your approval.** Any goods not found as represented, or unsatisfactory, may be returned to us and money refunded.

GENUINE ENGLISH STONE WARE CHINA.

Plain white. Manufactured by J. & H. Meakin, Hanley, England. We guarantee these goods to be the finest and most durable earthen ware made in the world. Warranted not to craze. One set of the above will outwear three sets of the domestic goods, and will cost but a trifle more.

No. 9610. **44 Piece Tea Set:** 12 tea plates; 12 tea cups; 12 tea saucers; one teapot (2 pieces); one cream pitcher; slop bowl; two cake plates; one sugar bowl (2 pieces). Our special price, full set.....$2.90

No. 9611. **56 Piece Tea Set:** Same composition as the 44 piece set with 12 sauce plates added. Our special price, full set.....$3.30

No. 9612. **55 Piece Dinner Set:** 6 dinner plates; 6 breakfast plates; 6 pie plates; 6 sauce plates; 6 individual butters; 6 teacups; 6 tea saucers; one open vegetable dish, 8 inch; one covered vegetable dish, 8 inch (2 pieces); one platter, 12 inch; one sugar bowl, (two pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish, (3 pieces) and one sauce boat. Our special price, full set.....$4.20

No. 9613. **100 Piece Dinner Set:** 12 dinner plates; 12 breakfast plates; 12 tea plates; 12 sauce plates; 12 individual butters; 12 teacups; 12 tea saucers; one open vegetable dish, 8 inch; two covered vegetable dishes, 10 inch (4 pieces); one platter, 10 inch; one platter, 12 inch; one sugar bowl, (2 pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish (3 pieces) and one sauce boat. Our special price, full set.....$5.90

No. 9614. **112 Piece Dinner Set:** 12 dinner plates; 12 tea plates; 12 pie plates; 12 soup plates; 12 sauce plates; 12 individual butters; 12 teacups; 12 tea saucers; two open vegetable dishes, 8 inch; two covered vegetable dishes, 8 inch (4 pieces); one platter, 10 inch; one platter, 12 inch; one platter, 14 inch; one sauce boat; one pickle dish; one sugar bowl, (2 pieces) one cream jug. Our special price full set..$7.90

No. 9615. **124 Piece Dinner Set:** 12 dinner plates; 12 breakfast plates; 12 tea plates; 12 soup plates; 12 individual butters; 12 sauce plates; 12 teacups; 12 tea saucers; 4 platters; two open vegetable dishes; one soup tureen and ladle (3 pieces); one sauce tureen and ladle and stand (4 pieces); one sauce boat; two covered dishes, 8 inch (4 pieces); one covered butter dish (3 pieces); one pickle dish; one sugar bowl; two cake plates. Our special price, full set.....$12.15

$7.95 BUYS A $20 IMPORTED 100-PIECE DINNER SET.

Manufactured by W. H. WETHERBY & SON Hanley, England.

No. 9620. While this Dinner Set retails at $20, we succeeded in making an arrangement with the manufacturers which enables us to sell the complete set at the heretofore unheard of price of $7.95. This set is suitable to decorate the tables of the wealthy, and in price **is within the reach of all.**

BARGAINS are what our customers expect of us, and even in this line we cannot afford to disappoint them. This genuine English semi-porcelain ware, not first or second grade American, but the genuine English, decorated with delicate spray of anemone flowers and leaves, put on under glaze, which prevents its wearing off. We can furnish three colors: Blue, Light-blue and Brown. **Be sure to state** which color is wanted in ordering. They are the latest style and consist of the following 100 pieces: 12 Teacups with handles; 12 Tea Saucers; 12 6-inch Plates; 12 6-inch Plates; 12 7-inch Plates; 12 Fruit Saucers; 12 Individual Butters; 1 7-inch Baker; 1 8-inch Baker; 1 8-inch Platter; 1 10-inch Platter; 1 12-inch Platter; 1 9-inch Covered Dish; 1 Sauce Boat; 1 Pickle Dish; 1 Covered Butter Dish; 1 Covered Sugar Bowl; 1 Cream Pitcher; 1 Slop Bowl. **Only.....$7.95.**

Cash in Full must accompany your Order. We pack the set carefully in a barrel and deliver to any depot in Chicago free of charge. Our price—**$7.95**—covers everything. The dishes will reach you in good order. We have never yet heard of a broken piece from any we have shipped. **This is a Rare Bargain.**

As soon as our present contract expires we will not be able to furnish any more at this price.

You should take advantage of this Special Offer while it lasts.

No. 9620.

An elegant line of Table Linen, including Table Sets, Napkins, Doilies, etc., will be found in our Dry Goods Department, by referring to the index in the back of book. We can pack such articles with an order of crockery and the freight will not be increased any. Bear in mind that 3 per cent. discount is allowed on all orders which are accompanied by full cash. Our positive quality guarantee goes with all goods.

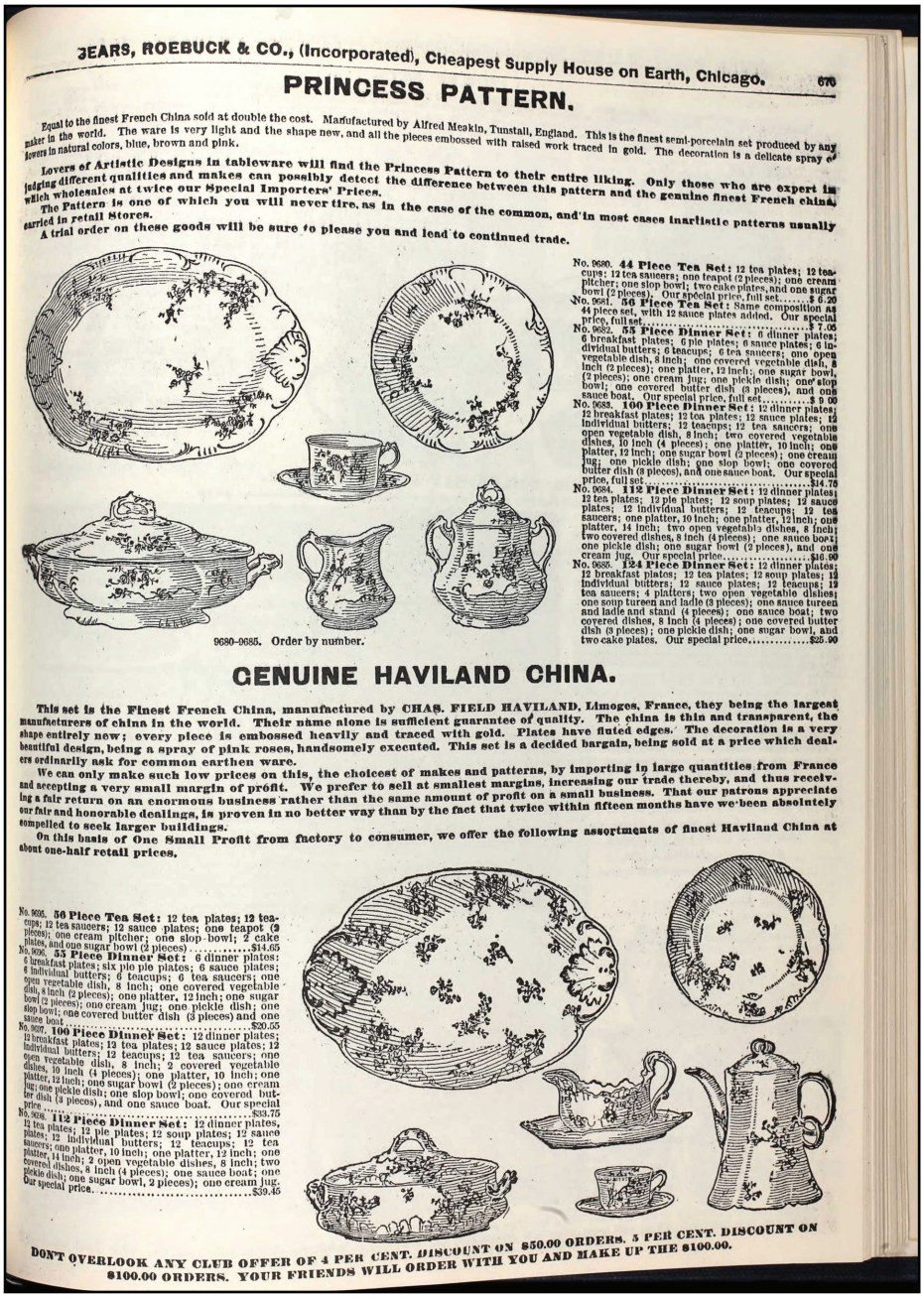
Figure 87

Sears and Roebuck White Granite Set from 1896 Spring Catalog

Weldin Plantation Site, 7NC-B-11
Phase III Archaeological Data Recovery
Blue Ball Properties Area Transportation Improvement Project

Brandywine Hundred,
New Castle County, Delaware

McCormick Taylor
Engineers & Planners Since 1946



SEARS, ROEBUCK & CO., (Incorporated), Cheapest Supply House on Earth, Chicago. 670

PRINCESS PATTERN.

Equal to the finest French China sold at double the cost. Manufactured by Alfred Meakin, Tunstall, England. This is the finest semi-porcelain set produced by any maker in the world. The ware is very light and the shape new, and all the pieces embossed with raised work traced in gold. The decoration is a delicate spray of flowers in natural colors, blue, brown and pink.

Lovers of Artistic Designs in tableware will find the Princess Pattern to their entire liking. Only those who are expert in judging different qualities and makes can possibly detect the difference between this pattern and the genuine finest French china, which wholesales at twice our Special Importers' Prices.

The Pattern is one of which you will never tire, as in the case of the common, and in most cases inartistic patterns usually carried in retail stores.

A trial order on these goods will be sure to please you and lead to continued trade.

9680-9685. Order by number.

No. 9680. **44 Piece Tea Set:** 12 tea plates; 12 tea-cups; 12 tea saucers; one teapot (2 pieces); one cream pitcher; one slop bowl; two cake plates, and one sugar bowl (2 pieces). Our special price, full set.....$ 6.20

No. 9681. **56 Piece Tea Set:** Same composition as 44 piece set, with 12 sauce plates added. Our special price, full set.....$ 7.05

No. 9682. **55 Piece Dinner Set:** 6 dinner plates; 6 breakfast plates; 6 pie plates; 6 sauce plates; 6 individual butters; 6 teacups; 6 tea saucers; one open vegetable dish, 8 inch; one covered vegetable dish, 8 inch (2 pieces); one platter, 12 inch; one sugar bowl, (2 pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish (3 pieces), and one sauce boat. Our special price, full set.....$ 9 00

No. 9683. **100 Piece Dinner Set:** 12 dinner plates; 12 breakfast plates; 12 tea plates; 12 sauce plates; 12 individual butters; 12 teacups; 12 tea saucers; one open vegetable dish, 8 inch; two covered vegetable dishes, 10 inch (4 pieces); one platter, 10 inch; one platter, 12 inch; one sugar bowl (2 pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish (3 pieces), and one sauce boat. Our special price, full set.....$14.70

No. 9684. **112 Piece Dinner Set:** 12 dinner plates; 12 tea plates; 12 pie plates; 12 soup plates; 12 sauce plates; 12 individual butters; 12 teacups; 12 tea saucers; one platter, 10 inch; one platter, 12 inch; one platter, 14 inch; two open vegetable dishes, 8 inch; two covered dishes, 8 inch (4 pieces); one sauce boat; one pickle dish; one sugar bowl (2 pieces), and one cream jug. Our special price.....$16.90

No. 9685. **124 Piece Dinner Set:** 12 dinner plates; 12 breakfast plates; 12 tea plates; 12 soup plates; 12 individual butters; 12 sauce plates; 12 teacups; 12 tea saucers; 4 platters; two open vegetable dishes; one soup tureen and ladle (3 pieces); one sauce tureen and ladle and stand (4 pieces); one sauce boat; two covered dishes, 8 inch (4 pieces); one covered butter dish (3 pieces); one pickle dish; one sugar bowl, and two cake plates. Our special price.....$25.90

GENUINE HAVILAND CHINA.

This set is the Finest French China, manufactured by CHAS. FIELD HAVILAND, Limoges, France, they being the largest manufacturers of china in the world. Their name alone is sufficient guarantee of quality. The china is thin and transparent, the shape entirely new; every piece is embossed heavily and traced with gold. Plates have fluted edges. The decoration is a very beautiful design, being a spray of pink roses, handsomely executed. This set is a decided bargain, being sold at a price which dealers ordinarily ask for common earthen ware.

We can only make such low prices on this, the choicest of makes and patterns, by importing in large quantities from France and accepting a very small margin of profit. We prefer to sell at smallest margins, increasing our trade thereby, and thus receiving a fair return on an enormous business rather than the same amount of profit on a small business. That our patrons appreciate our fair and honorable dealings, is proven in no better way than by the fact that twice within fifteen months have we been absolutely compelled to seek larger buildings.

On this basis of One Small Profit from factory to consumer, we offer the following assortments of finest Haviland China at about one-half retail prices.

No. 9695. **56 Piece Tea Set:** 12 tea plates; 12 tea-cups; 12 tea saucers; 12 sauce plates; one teapot (2 pieces); one cream pitcher; one slop bowl; 2 cake plates, and one sugar bowl (2 pieces).....$14.65

No. 9696. **55 Piece Dinner Set:** 6 dinner plates; 6 breakfast plates; six pie pie plates; 6 sauce plates; 6 individual butters; 6 teacups; 6 tea saucers; one open vegetable dish, 8 inch; one covered vegetable dish, 8 inch (2 pieces); one platter, 12 inch; one sugar bowl (2 pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish (3 pieces) and one sauce boat.....$20.55

No. 9697. **100 Piece Dinner Set:** 12 dinner plates; 12 breakfast plates; 12 tea plates; 12 sauce plates; 12 individual butters; 12 teacups; 12 tea saucers; one open vegetable dish, 8 inch; 2 covered vegetable dishes, 10 inch (4 pieces); one platter, 10 inch; one platter, 12 inch; one sugar bowl (2 pieces); one cream jug; one pickle dish; one slop bowl; one covered butter dish (3 pieces), and one sauce boat. Our special price.....$33.75

No. 9698. **112 Piece Dinner Set:** 12 dinner plates, plates; 12 pie plates; 12 soup plates; 12 sauce saucers; one platter, 10 inch; one platter, 12 inch; one platter, 14 inch; 2 open vegetable dishes, 8 inch; two covered dishes, 8 inch (4 pieces); one sauce boat; one pickle dish; one sugar bowl, 2 pieces); one cream jug. Our special price.....$39.45

DONT OVERLOOK ANY CLUB OFFER OF 4 PER CENT. DISCOUNT ON $50.00 ORDERS. 5 PER CENT. DISCOUNT ON $100.00 ORDERS. YOUR FRIENDS WILL ORDER WITH YOU AND MAKE UP THE $100.00.

Figure 88

Sears and Roebuck Porcelain Set from 1896 Spring Catalog

Weldin Plantation Site, 7NC-B-11
Phase III Archaeological Data Recovery
Blue Ball Properties Area Transportation Improvement Project

Brandywine Hundred,
New Castle County, Delaware

McCormick Taylor
Engineers & Planners Since 1946

purchased after this decline, and infrequent use could be reflective of a cautious financial attitude.

While not as telling for economic status, other artifact types in the ca. 1870 to site abandonment assemblage provide additional evidence for participation in contemporary consumer behavior. Fruit jar parts, which are first observed in the ca. 1870 to site abandonment assemblage, indicate a shift towards contemporary food storage practices. The invention of the wide-mouthed jar by Mason in 1858, and subsequent improvements in closure methods, provided a method for home food preservation that was more efficient than storage in ceramic jars (Toulouse 1969). Purchase of patent medicine, manufactured by druggists locally and from afar, also correlates to contemporary consumer behavior. The patent medicine trade experienced a period of growth from the 1860's to the 1920's, due in part to the wider availability of newspapers advertising them, and in part to a lack of respect for practicing doctors; one author noted that "as late as 1870 the head of the Harvard Medical School explained that written examinations could not be given to medical students because a majority could not write well enough", and that decreased postal rates for newspaper and mail advertisements in 1840 resulted in a broader market for patent medicines (Munsey 1970:65, 66). While only one beverage bottle was found, being a probable beer bottle manufactured by Joel B. Bryant of Wilmington between 1860 and 1880, it is also indicative of what was becoming available to the consumer in the mid to late nineteenth century. Prior to the establishment of local bottlers, like Joel B. Bryant who was among the first bottlers to practice in Wilmington, beer consumption was generally limited to local ale houses (Munsey 1970:116; United States Federal Census of 1860; Ferris and Ferris 1880:92, 350).

Agriculture and dietary practices were also analyzed, based on the recovered artifact assemblage.

For the pre-Weldin occupation of the site, dietary remains revealed subsistence practices common for farmsteads in the Mid-Atlantic region. Domesticated animals composed the majority of the diet; box turtle, rabbit and pheasant were each represented by one element, but may not have been dietary remains. Oysters and clams recovered exclusive of a large single deposit exterior to F. 39 (TUs 80 and 81 Stratum IV.A) were present in limited number (MNI=3 clams, MNI=7 oysters), while a minimum of 114 oysters were represented in Stratum IV.A of TUs 80 and 81. One fish scale suggested that fish was also consumed, though rarely. Domesticated animals included cow, pig, sheep, chicken, goose, and turkey, and each was represented by a minimum of one individual. Most of the domesticated animals were likely raised and butchered on-site; skeletal representation for identified domesticated mammals, and for large mammal and medium mammal that was likely domesticated species (cow for large mammal, pig or sheep for medium mammal) indicated complete individuals. Agricultural census data for John Bradford in 1850 recorded the presence of 11 swine and four cattle in addition to 15 milk cows and 2 working oxen, but earlier occupants may have also raised sheep and fowl, some of which could have been consumed.

Only a small percentage of the dietary bone exhibited butchery. Butchery marks were only present on mammal bone, and constituted 9% (n=9) of dietary remains, 10% of mammalian remains. The small percentage of butchered bone may relate to cooking practices; meat may have been prepared more often in large portions (e.g. leg roasts, primary rib cuts) rather than in individualized cuts (e.g. roundsteaks, prime rib steak, spare ribs), which would have required

additional butchery. Butchery methods included sawing (n=5), possible sawing (n=2), and cleaving (n=2). Sawn bone included one beef roundsteak, one beef rib, one beef shoulder bone that was a likely chuck roast cut, one medium mammal or beef rib, and one pig lower jaw that had been separated into left and right halves. Two beef ribs exhibited potential sawing, the ends exhibited smooth surfaces that were too weathered to identify saw marks. One beef (large mammal) indeterminate limb-bone was cleaved at one end, and was likely part of a roast. One sheep tibia was also cleaved, and represented part of a leg roast.

Proximity to the markets of Wilmington and Philadelphia would have been incentive for market-oriented production of agricultural commodities like beef, pork, dairy, eggs, and grain, but the faunal assemblage only provides evidence for what was consumed on-site. Variations, which would suggest transport of certain carcass portions away from the site, were not evident in skeletal part frequency among bone identifiable as domesticated species or as likely domesticated species; identifiable elements for cow, pig, sheep, large mammal, and medium mammal suggested complete carcasses and an MNI of one for each domesticated species. By the late eighteenth century, New Castle County was noted as having an abundance of meadows for feeding cattle that were sent to the markets of Wilmington and Philadelphia (Tilton 1789 in Bidwell and Falconer 1925:108). If animals were raised at the site for market, they were sent elsewhere to be slaughtered and butchered.

Though each domesticated animal was represented by an MNI of one, food preservation methods of the time would make it likely that salted or smoked pork and beef would have been consumed more often than sheep, which were used primarily for wool production and less so for mutton consumption. It has been stated that mutton and lamb meat did not preserve as well as beef or pork through salting or smoking (Bidwell and Falconer 1925:110), but the value of maintaining sheep for their wool would also have been cause for their relatively small contribution to the diet of Eastern farmers.

Oyster shells from a single large deposit in the buried A-horizon of the North Yard (TUs 80 and 81 Stratum IV) were analyzed for identification of species, seasonality, source, and harvesting and processing methods. A total of 114 left oyster valves were present in this deposit. A breakdown of the oyster analysis for TUs 80 and 81 can be found in ***Table 25***. As TUs 80 and 81 are adjacent, and the oysters from both appear to be from the same depositional episode, and that there is little difference other than quantity between the two samples, it appears that the shells are part of a single deposit. Therefore, the results from both samples will be discussed together.

The majority of the intact shells are 3.5 inches or greater in height and five or more years of age. These ranges of size and age are typical for recent harvesting practices (Kochiss 1974 pp. 6, 774, 239; Delaware Administrative Code §3774), although there are shells of less than 3.5 inches in height; most of these are or were attached to larger oysters and were harvested inadvertently. Of the 104 shells that could be typed, bed oysters are the most numerous (84%). The bed oysters in this sample were harvested from low to high salinity waters with hard mud/clay bottoms. As the range of the American oyster is well south of Wilmington, the oysters were harvested non-locally and sailed to and likely sold in Wilmington city markets where oysters from different areas could be mixed together and likely sold by size. This is not unexpected since as early as

Table 25: Oyster Analysis TUs 80 and 81 Stratum IV

	TU 80 Stratum IV	TU 81 Stratum IV	Totals
	2->5 inches in length	2.5-5.5 inches in length	
Oyster Type			
Bed	58	29	87
Channel	10	6	16
Reef	0	1	1
Indeterminate	1	9	10
Salinity Regime			
I	27	9	36
II	10	6	16
III	7	2	9
IV	22	14	36
Indeterminate	3	14	17
Season of Death			
Fall	4	1	5
Late Fall/Early Winter	4	0	4
Winter	0	0	0
Late Winter/Early Spring	1	1	2
Spring	15	7	22
Summer	20	7	27
Indeterminate	23	29	52
Opening Method			
Side-Stabbed	3	2	5
Frontal-Stabbed	1	0	1
Cracked	32	6	38

1747, Finnish naturalist Peter Kalm, noted that by October, oyster mongers with carts full of oysters are seen in city streets (Miller 1971 p. 240). Elongated oysters from deeper water, called channel oysters, make up a 15% minority while intertidal elongated thin shelled oysters, called reef oysters comprise only 1%.

Of the oysters present in this deposit, eight have ribbing indicating that they grew in shallow intertidal waters and the rest came from deeper subtidal waters. The ribbed oysters may have been harvested with a simple rake at low tide. The deeper subtidal oysters would have been harvested with oyster tongs from some sort of boat. Associated artifacts date the oyster deposit to the first half of the nineteenth century. By this time, tonging from boats was the most common form of oyster harvesting (Chaney and Miller 1992; Kochiss 1974, Miller 1971).

Evidence of opening was only observed on forty-four of the shells (38%). Three methods of opening were observed on the Weldin oysters, cracking, side stabbing, and frontal stabbing. Of the three opening methods, damage caused by cracking was the most common (86%) occurring

on 38 of the shells. Frontal stabbing and side stabbing damage was observed on only six of shells in the sample. Cracking, the most commonly observed opening procedure in this sample, is commonly practiced in the Chesapeake while stabbing is commonly practiced in Massachusetts and New Jersey (Kochiss 1974, p. 65). Cracking is also the method that is commonly used by oyster canneries where the shell is not needed after the meat is removed. Peter Kalm noted that pickling oyster meat for preservation and shipping was popular by the mid-eighteenth century (Kurlansky 2006, p. 72, 73). Shipping shucked oysters in non-hermetically sealed but iced cans began to be used in the Mid-Atlantic region in the 1830s (Kee 2006, p. 10). Stabbing and prying are used in restaurants when the shell is needed for display, presentation, and serving. The author has observed that side stabbing does not always leave a discernable mark. Other opening methods, which leave few tell tale marks, are steaming and prying from the hinge.

Oystering in the Mid-Atlantic region reached its zenith in the late nineteenth century. Oysters in the nineteenth century were eaten and cooked in numerous ways. There are numerous oyster recipes from nineteenth century cook books (Robinson 1983; Kurlansky 2006).While some wealthier individuals used oysters as a main course, most people used oysters as an appetizer or a flavoring such as in oyster stuffing or oyster soup. Oysters could be purchased in mass or individually, especially in cities. Most of the oyster shells from this deposit are about three inches in height and are of the size which could easily be eaten raw or cooked as instructed in most period recipes. The sixteen large channel oysters however, would have been too large and tough to be eaten raw or fried and were usually reserved for use in soups or stews.

Given the range of harvest dates, salinity regimes and the variety of oyster types, it appears that the oysters were gathered over time before being deposited. The shells could be the results of the inhabitants occasionally treating themselves to oysters over one to several years. The oysters could also have been scavenged from a cannery or a restaurant's shell heap.

The predominance of summer oysters is unusual. In Delaware, oystering was conducted legally year round until 1812. The effects of over fishing the Delaware oyster beds were already being felt in the first decade of the nineteenth century. In 1812 Delaware passed legislation which prohibited oystering in the summer months so as to allow the oysters to spawn and grow (Miller 1971), though there is some question as to how effective the 1812 regulations were (Owens 1998).

To help place the oysters in a regional market context, the oyster deposits from the Weldin Plantation Site were compared to a series of similarly dated deposits from Block 1191, Wilmington (Beidleman, Catts, and Custer 1986) and the Darrach Store site Feature 108, c. late 1700's early 1800's, Smyrna (DeCunzo et. al. 1992). Like Weldin, the oysters from both Block 1191 and Darrach Store are predominatly bed oysters followed by channel oysters. Some reef oysters were also recovered in Block 1191. Also like Weldin, the seasonal analysis of the oysters from Block 1191 and Darrach Store indicates that the oysters were being harvested year round. However, the oysters from Block 1191 and Darrach Store were harvested predominately in the fall to winter as opposed to Weldin's spring to summer bias. Wilson notes oysters were a common part of the diet from October through March at the nineteenth century plantation of Rose Hill, Cecil Co., Maryland (Wilson 1976; 52, 55, 56, 59). Weldin's summer bias may be

due to proximity. Block 1191 is not far from Wilmington's waterfront and Darrach Store is close to both the Smyrna River and the Delaware Bay. The residents from block 1191 and Darrach store could easily get to any oysters which were unloaded near to them. The residents of Weldin being more inland and upland may have found travel to Wilmington more difficult in the fall and winter given the nature of the weather and conditions of the local roads in the early nineteenth century.

The shells from this deposit appear to be deliberately laid down in an even layer below a clay and pea gravel layer. While there are some broken oyster shells, most of the shells are intact or in large pieces. This indicates that the shells were not used as any sort of paving. While the oysters could have been deliberately buried for odor control, the uniform thickness of the oyster lens, its immediate proximity to a wall and the flat top of the overlaying clay and pea gravel layer makes it that possibility seems unlikely. It is more likely that the oysters were used as ballast or a base layer for the overlaying clay layer so as to provide some rigidity and drainage to the clay layer. It is the author's personal experience that the original soils at the Weldin Plantation Site are hard and firm when dry but become very soft and malleable when wet. The level nature of the top of the clay layer abutting the kitchen argues for a clean well packed yard or walkway. As the soils from around the Weldin house contained few rocks and gravel, the oysters were likely either curated or gathered to be used as a base layer.

Dietary remains recovered from contexts associated with the Weldin family occupation demonstrated continued reliance upon meat from animals raised on-site. Consumption of fish, clam and oyster also continued, as indicated by an MNI of four clams, 10 oysters, and the presence of fish scales, vertebrae and one rib. Domesticated animals prevailed, and included cow, pig, sheep, chicken, duck, goose, and turkey. Cow, pig and sheep were each represented by an MNI of one. Skeletal representation indicated whole individuals were butchered on-site for cow and pig, but only teeth, one lower hindleg element, and one hindfoot element were identifiable as sheep. Agricultural census data for Jacob R. Weldin in 1870 recorded, however, the presence of 20 sheep, and while these were likely raised for their wool, any lamb or mutton consumed by the Weldin family would have come from this stock. Chicken, duck and goose elements, which were from the wing, leg, and feet, were from a minimum of two individuals each. Only one element, a mandible, was identifiable as turkey. All of the fowl would have been from stock raised by the Weldin family; the estate inventory for Jacob R. Weldin noted several ducks, geese, turkeys, and chickens among his property (in Taylor et. al. 1989:213). The faunal and documentary evidence suggests domesticated fowl may have been consumed in greater numbers than prior to the Weldin occupation.

The primary difference in dietary practices appeared to be an increase of individualized cuts. Butchered bone accounted for 25% (n=64) of dietary remains, 31% of mammalian bone, and included numerous rounsteaks (n=7), sirloin steaks (n=3), and one probable t-bone cut, in addition to a few arm roasts (n=3), leg roasts (n=3), and one complete pork picnic shoulder cut.

Weldin's documented focus on dairy production exemplified a growing trend among farmers in the Eastern United States. Cattle ranchers in the Mid-West and Western United States were able to send their products to Eastern markets along newly established train routes, which placed them in competition with Eastern farmers raising cattle for beef. Growing population in the

major cities of the East, however, required fresh milk that was better supplied by nearer farming locales (Bidwell and Falconers 1925:400, 429; Daniels 2000:37). Pork, wool, and even egg production also faced competition from western farmers; by the 1850's Cincinnati had become the pork-packing center of the United States, and an astounding number of eggs (963,000 dozen) had been sent from that city to ports in Baltimore, New York and New Orleans (Bidwell and Falconer 1925:436, 439, 442). Farmers like Jacob Weldin found the dairy industry was the best way to succeed in the face of Western competition.

Botanical analysis of remains from the Weldin family privy (F. 49), which was the only context at the site to yield a large enough sample for analysis, provided additional insight to dietary practices during the Weldin family occupation ***(Appendix G)***. In addition to a large number of raspberry/blackberry seeds (n=126,598, 98.7% of seeds), grape (n=975), elderberry (n=2), tomato (n=43), and squash (n=2) were also present. A few seeds from weed-type plants were also recovered; five pigweed seeds, three poke seeds, and 14 pigweed or goosefoot seeds were recorded. None of the seeds were carbonized, and many if not all of the seeds could have come from preserved foods still present in the discarded fruit jars within this feature. Soil from one fruit jar was processed and analyzed separately from the general feature fill, but yielded similar results as the remainder of the feature with a high number of raspberry/blackberry seeds (n=6988), as well as several grape seeds (n=56), and a few weed-type plant seeds (pigweed and poke). Examples of recovered seed types can be seen in ***Photographs 157, 158, 159*** and ***160***.

b. Conclusions

Both Bradford, who was a tenant farmer, and Weldin, who was an owner occupant, were large scale commercial dairy farmers, which allows for a comparison of the socioeconomic status of the two families, through the examination of tax records, wills, and other documents, as well as the artifact assemblage.

The Bradford and Weldin families both appear to be affluent farmers in the 1850, 1860, and 1870 censuses. They both had butter production that was well above average and both families had hired help. In addition, both had successful production of a wide variety of other types of livestock, such as sheep and pigs, and crops, such as hay and oats, although Weldin appeared to have been somewhat more focused on his dairy operation. Weldin had more than twice as many dairy cows as Bradford, although both were considered to have large herds. Substantial improvements were made to the property during both of their tenures: construction of the western half of the main house during Bradford's occupation, and substantial improvements to the entire farmyard complex during Weldin's. Both farmers used marsh and fast lands for hay and grazing. The Bradfords and the Weldins both followed progressive farming techniques and strove to modernize to increase productivity.

The archaeological record also indicates that the pre-Weldin and Weldin period occupants of the site more well-off than average. Ceramic values indicate that there may have been a trend toward more expensive tableware throughout the first half of the nineteenth century. The ceramic assemblage at the site appears to reflect a middle class standard of living for both periods. During the Weldin period, more evidence appears for participation in consumer behavior, such as the adoption of glass jars instead of ceramic storage vessels and the purchasing

Photograph 157: Grape (*Vitis sp.*) seed (cat#646) *Scale: 1 mm grid.*

Photograph 158: Elder (*Sambucus canadensis*) seed (cat#646) *Scale: 1 mm grid.*

Photograph 159: Raspberry or Blackberry (*Rubus sp.*) seeds (cat#646) *Scale: 1 mm grid.*

Photograph 160: Squash (*Cucurbita pepo*) seed (cat#646) *Scale: 1 mm grid.*

of patent medicine. However, the lack of these items for the pre-Weldin period does not indicate that the Bradfords were necessarily less affluent, as these items were becoming more popular and available to local farmers later in the nineteenth century.

A comparison of dietary practices between the two time periods shows that both relied heavily on livestock that they raised on their farm. The primary difference in dietary practices appeared to be an increase of individualized cuts during the Weldin period. A large oyster deposit associated with the pre-Weldin occupation of the site was notable, as many of the oysters appeared to have been harvested during the summer months, which was illegal after 1812.

B. Comparison of the Weldin Plantation Site to Other Farmsteads

Comparison was made between the Weldin Plantation Site (7NC-B-11) and several sites in the New Castle County and Kent County areas. These sites included the Grant Tenancy Site, the William Strickland Plantation Site (7K-A-117), the Whitten Road Farm (7NC-D-100), the Buchanan-Savin Farmstead (7NC-J-175), and the W. Eager Farm (7K-C-383).

Data from the Grant Tenancy Site was utilized for comparison with the assemblage portion representing occupation prior to the Weldin family (pre-1860), since many of the contexts at the Grant Tenancy Site were datable to the early nineteenth century, and were likely associated with tenant occupation. The William Strickland Plantation, which was owner occupied during the early to mid-eighteenth century, demonstrated differences in economic status and lifeways that would be expected between wealthy farm owners and tenant farmers. The Whitten Road Farm was owner occupied from the mid-eighteenth century until the first decade of the nineteenth century, from which point it was tenant farmed until its abandonment in the mid-nineteenth century. The artifact assemblage from the Whitten Road Farm provided evidence for lifeways similar to pre-1860 occupation at the Weldin Plantation Site. While the Buchanan-Savin Farmstead was tenant occupied during the first half of the nineteenth century, the artifact assemblage seems to correspond primarily to the owner occupied period, which lasted from 1849 until the 1960's, and during which time it operated as a successful crop and dairy farm. The W. Eager Farm was characterized by a short period of tenant occupation (ca. 1850 to 1866) followed by a short period of owner occupation (1866-1877). The artifact assemblage supported documentary evidence of poor economic status during both the tenant and owner occupations.

1. Grant Tenancy Site

Data recovery excavations were conducted at the Grant Tenancy Site in 1985 by TAA.

Contexts from the Grant Tenancy Site that provided comparable data were the cellar floor midden, the exterior midden east, the well feature (F. 8), the ash and brick concentration, and the builder's trench. During Data Recovery excavations, the exterior midden east became identifiable as an attached structure measuring 16.5 feet by six feet on the east side of the house, but reference to the feature as exterior midden east was continued for consistency. The aforementioned contexts possessed TPQ dates of 1820, which were based on South's date for whiteware, though additional artifacts would have provided later TPQ dates using Miller's (2000) TPQ list, the ash and brick concentration, the builder's trench, and the well would have

TPQ dates of 1830 or 1837 based upon Miller's date for yellow ware and metal containers, respectively, and the cellar floor midden and exterior midden east would have TPQ dates of 1837 based upon metal can fragments. The assemblages from these contexts were generalized such that ceramics, glass artifacts, and pipe fragments were quantified, but without much other detail (i.e. decoration, maker's marks [if any], manufacturing method). Detail on ceramic decoration was only provided for the exterior midden east, and was not broken down by ceramic body type (i.e. pearlware, whiteware).

Artifact types recovered from the aforementioned contexts were mostly ceramics (n=552), but architectural remains, additional domestic artifacts, coal, indeterminate flat glass (n=62), and horseshoes (n=2) were also recovered. Ceramics were comprised predominantly by pearlware (n~229) and redware (n~117). Additional ceramic types were creamware (n~26), whiteware (n~53), yellow ware (n~6), stoneware (n~4), porcelain (n~7), refined redware (n~7) and "other" (n~60). Additional domestic artifacts included tobacco pipe fragments (n=17), bone buttons (n=2), one metal button, bottle fragments (n=8) that included one mold-blown fragment, miscellaneous glass container fragments (n=13), a lead bale seal, non-descript pieces of flatware that were not quantified, and pieces of dietary bone (n=149) and shell (n=26). Architectural remains consisted of brick, cut (n=83) and wrought (n=17) nails, and window glass (n=47).

The predominance of pearlware and redware among ceramic types was also observed at the Weldin Plantation Site, suggesting purchase of similar tableware and food storage vessels. Comparison of economic status through the ceramic values was hindered, though, by differences in methods used for attributing ceramic values; the ceramic analysis at the Grant Tenancy Site compared ceramic types and values by number of fragments rather than MVCs. Utilizing a scaling system for ceramic values and several statistical calculations based on the quantity of ceramic fragments, the authors concluded high economic status for the inhabitants of the Grant Tenancy Site (Taylor et. al. 1987:134), but the predominance of undecorated refined white earthenwares, which are ascribed the lowest cost value, would suggest moderate economic status.

Dietary practices at the Grant Tenancy Site were very similar to those observed at the Weldin Plantation Site, but with apparently less consumption of beef at the Grant Tenancy Site. At both sites, domesticated animals raised on-site were dietary staples, and included pig (n=18), sheep (n=11), chicken (n=8), and cow (n=2). Fish (n=15), clams (n=7), and oysters (n=18) were also consumed at both sites. Pig elements consisted of teeth, ribs, foot elements, and hindleg elements representing butt portion hams and shank portion hams. Sheep elements were mostly vertebrae and ribs, but also included one innominate and one femur that would have been part of the butt half of a leg of lamb. Cow elements were limited to one tooth and one rib. Similar to the Weldin Plantation Site, butchery was apparently performed with a variety of tools and to a limited extent; one sawn pig hindshank and axed sheep ribs (n=6) were the only elements that exhibited butchery. One notable difference at the Grant Tenancy Site, however, was an apparently greater use of wild species that included rabbit (n=3), squirrel (n=3) and box turtle (n=10). While rabbit and box turtle were present at the Weldin Plantation Site, at the Grant Tenancy Site these species were represented by a greater number of elements, despite the noted fragmentary nature of the assemblage, which suggests they were consumed more frequently there.

Spatial patterns in refuse disposal were discernable at the Grant Tenancy Site, but identification of activity areas based upon the artifact assemblage was not possible. Concentrations in artifact quantities revealed disposal immediately outside house entrances and in nearby eroded or depressed areas (Taylor et. al. 1987:103). Distributions of artifact types remained consistent across the site, however, resulting in an inability to correlate specific areas with specific activities. In all areas, kitchen artifacts (e.g. ceramics) were the predominant artifact type, followed by architectural remains, and very few clothing-related items, personal objects, furnishing, and arms/ammunition-related items. The lack of defined activity areas was attributed to the likelihood that the occupants were utilizing a small area of land resulting in a mixing of activity areas (Taylor et. al. 1987:97).

2. William Strickland Plantation

Data recovery excavations were conducted in 1990 by the University of Delaware's Center for Archaeological Research (UDCAR) (Catts et al. 1995).

All of the contexts at the William Strickland Plantation dated to the eighteenth century, as it was noted that structures on the property were apparently absent by 1776 (Catts et. al. 1995:23). Most of the assemblage (n=16,700, 84%) was recovered from features. Ceramics represented the second-most dominant artifact type, with faunal remains being the most abundant type. Architectural remains, additional domestic artifacts, gunflints, and farming-related artifacts were also recovered. Ceramic types included local redware, and imported earthenwares, coarse stonewares, and refined stonewares. Redware composed the majority of the ceramic assemblage, and included tableware items, as well as food storage and serving items (Catts et. al. 1995:46 *Table 6*). Refined stonewares (i.e. white salt-glazed, scratch-blue, Littler's blue) and Chinese and Imari-decorated porcelain vessels were predominant among teawares (Catts et. al. 1995:46 *Table 6*). Additional domestic artifacts included non-ceramic tableware, wine bottles, sewing and clothing-related artifacts, an iron kettle, and tobacco pipe fragments (n=925), many of which possessed maker's marks though they may have been counterfeited marks (Catts et. al. 1995:60). Non-ceramic tableware consisted of glass tumbler (n=1), stemware (n=3), and serving vessel (n=1), as well as cutlery (n=21) that included bone, wood and ivory handled metal utensils. Sewing and clothing-related artifacts were primarily buckles and straight pins, but a few buttons, two pairs of scissors, and one thimble were also present. Architectural remains included brick, mortar, daub, window glass, and wrought nails. Farming-related artifacts included horseshoes and other horse hardware, one iron hoe, a chain link, a hand wrench, a file, and a box frame for a wagon wheel.

Miller's (2000) CC Index Values were not applicable for the ceramics at this site, since those values were calculated for ceramics that post-date the types present at the William Strickland Plantation. The plethora of imported ceramics, especially of refined stonewares and Chinese porcelain, implies moderate to high economic status for the early to mid-eighteenth century, however (Catts et. al. 1995:46 *Table 6*). Documentary research presented on the Strickland family bears out the high economic status they achieved. Tax lists for the area provided evidence of William Strickland's presence among the wealthy, top 10% of taxables by the time of his death, and the probate inventory compiled in 1754 recorded his vast material wealth that

included items specifically purchased for tea time, including silver teaspoons, ceramic tea wares and a tea table (Catts et. al. 1995:19-21).

Dietary practices at the site were better represented than at the Weldin Plantation Site, but some similarities and differences were suggested. Sizeable herds of cattle, sheep and swine that supplied the Strickland family with food and products for market were noted in the probate inventory, which recorded 12 cows, four calves, one bull, 23 sheep, and 15 cows on the property, and recovered dietary remains represented a minimum of 10 cows, 15 sheep, and 38 pigs with complete skeletal representation (Catts et. al. 1995:20, 73-75). As at the Weldin Plantation Site, domesticated species composed the majority of the dietary remains; wild species included commonly consumed species like turtle and squirrel, as well as one probable wolf bone with cut marks near the hindleg-foot joint, but wild species bone accounted for only 6% of the faunal assemblage (Catts et. al. 1995:79-81).

Butchery methods suggested earlier deposition than at the Weldin Plantation Site, but with a similar tendency towards preparation of larger cuts of meat. Butchery marks were present on only 2% (n=215) of the assemblage, and were consistent with home butchery in the early to mid-eighteenth century; carcasses were processed into meat cuts through chopping and cutting (Catts et. al. 1995:81). Cow bone exhibited butchery marks more often than sheep and pig (Catts et. al. 1995:81). The higher incidence of butchery marks on cow bone corresponds to its larger size; cow carcasses would require additional butchery to produce appropriately sized cuts for cooking and serving. Preparation of roasts and/or stews is suggested by the lack of individualized serving cuts for all of the butchered species, and the fact that most of the cow limb-bones were chopped to produce large cuts (Catts et. al. 1995:82-84).

Spatial patterning was obvious through the identification of post-in-ground structures, work yard areas, and artifact concentrations across the site. Around 1745-1748, William Strickland received a land patent for 223 acres (Catts et. al. 1995:101). This acreage would have provided ample space for livestock, field crops, dwelling and farm buildings, and other areas for specific activities. During the course of excavation, a main house (Structure I), a detached kitchen or living quarter (Structure III), a probable smokehouse (Structure II), two wells (F. 108 and F. 93), two outbuildings (Outbuilding I and Outbuilding II), numerous trash pits, an animal pen, and fencelines were definable at the site. These features formed a well-laid and organized landscape ***(Figure 90)***. A concentration of animal bone and ash near Structure II suggested its use as a smokehouse, while Structures I and II were defined by their architectural layout. Utilization of specific areas for food refuse disposal was suggested by a concentration of bone near F. 93, and a concentration of shell near the trash pit features. Distribution of artifacts across the site indicated refuse disposal primarily within or near features distanced 40 feet or more away from the main structural complex, with additional heavy refuse disposal south of Structure I and east of Structure II (Catts et. al. 1995:104-105). Outbuilding II and the adjacent workyard were exceptions to this refuse disposal pattern, as artifacts were present in limited quantity in these areas. The animal pen west of Structure I was indicated by soil chemistry analysis and low artifact density.

3. Whitten Road Farm

Data recovery excavations were conducted at the Whitten Road Site in 1985 by UDCAR (Shaffer et al. 1988).

Whitten Road Farm was continuously farmed from the mid-eighteenth century to the mid-nineteenth century, but occupancy changed from owner occupants to tenants beginning in the first decade of the nineteenth century. Ownership was handed down through several generations of the same family throughout the eighteenth century, and by the close of the eighteenth century, the landowners were in the top 15% of taxables for the area (Shaffer et. al. 1988:51). Tenant occupancy began after a brick house was constructed north of the site by the landowners, and continued until ca. 1851-1853 (Shaffer et. al. 1988:56, 63). The landowners of the nineteenth century continued to be in the upper percentiles of taxable for the area, so that from 1816 to 1828 the current landowner, Abraham Warwick, rose from the top 17% to the top 3% of taxables, and Edward Hamman, who owned the land from 1834 to 1846, was in the top 1% of taxables in 1837 (Shaffer et. al. 1988:56).

Imported early to mid-eighteenth century ceramics reflected the moderate to high economic status of the landowners, and were primarily of the same types observed at the Weldin Plantation Site and the William Strickland Plantation, though a much higher quantity of vessels were deposited at the William Strickland Plantation. Imported eighteenth century ceramic types included refined stonewares, tin-glazed earthenwares, coarse stonewares, refined redware that included three Astbury-type teapots, and a few Chinese porcelain vessels (Shaffer et. al. 1988:*Table 12, Plate 25*, 189).

Late eighteenth century and early nineteenth century ceramics consisted of numerous creamware and pearlware vessels, which were likely deposited during the eighteenth century by the landowners, and then later by tenants. Whiteware vessels were few in number, and would have been associated with the tenant occupants in the first half of the nineteenth century. These late eighteenth century to mid-nineteenth century ceramics could have been purchased by moderate economic status individuals. Painted vessels and shell edged vessels were more abundant than higher cost transfer printed vessels; a total of 12 edged vessels and 20 painted vessels were represented, compared to five transfer printed vessels (Shaffer et. al. 1988:*Table 12*).

Additional domestic artifacts were suggestive of deposition during the mid-eighteenth to early nineteenth century, and included bottle glass, table glass, tobacco pipe fragments, clothing fasteners, sewing-related artifacts, coins, pewter spoons, a decorative brass inlay for a knife handle, gunflints, and a brass scabbard clip. Bottle glass included English-made and American-made types that were manufactured in the late eighteenth to early nineteenth century (Shaffer et. al. 1988:195-196). Of the 105 tobacco pipe fragments, at least one possessed a maker's mark, which was used by Robert Tippet, Bristol, England during the late seventeenth century to the early eighteenth century, but dating of most of the stem fragments correlated with mid-eighteenth century occupation (Shaffer et. al. 1988:199-200). Similar to the Weldin Plantation Site, a few brass thimbles, pins and buckles, and numerous brass buttons were found. The recovered coins were also similar to those found at the Weldin Plantation Site, though fewer in quantity, and dated from the late eighteenth century to the mid-nineteenth century. Recovered coins included

one New Jersey State coin with illegible date, an 1803 cent, and one 1835 dime (Shaffer et. al. 1988:203).

Similar to the pre-1860 Weldin Plantation Site assemblage, a small faunal assemblage was recovered that indicated a reliance upon domesticated species as food sources. A minimum of three pigs, one cow, and one sheep were represented (Shaffer et. al. 1988:207 *Table 14*). All of the pig remains (n=19) were teeth, while half (n=4) of the cow remains were teeth, and the only element identifiable as sheep was a femur. Oyster fragments (n=6) were also present. The only pieces of bone that exhibited butchery marks were one medium-sized mammal remain that possessed a "slash mark" at the joint, and two large mammal (cow or horse) remains with the same mark in the same location. The limited occurrence of butchery marks, and the few pieces identifiable to species, likely related to most of the faunal assemblage being too small to analyze; of the 800 pieces of bone, only 15% were deemed sizable enough for analysis (Shaffer et. al. 1988:206).

Spatial analysis at the Whitten Road Farm involved the identification and interpretation of three post-in-ground structures. The functions of these structures were revealed through architectural design, artifact distribution, soil chemical analysis, and feature composition. Structure I was identified as a kitchen and possible living quarter based upon its size and the amount of domestic artifacts recovered within its vicinity (Shaffer et. al. 1988:71). The kitchen/quarter function of this structure was further supported by the presence of a probable hearth feature (F. 63 and F. 64), high levels of calcium north of the structure likely related to shell deposition as fertilizer for a garden, and high levels of potassium likely related to cleaning of wood ash from the hearth (Shaffer et. al. 1988:81, 140). Structure II was identified as an agricultural outbuilding based upon its small size, absence of domestic artifact concentrations, and absence of interior features such as a hearth (Shaffer et. al. 1988:93). High phosphate levels in the yard area between Structure I and Structure II were interpreted as the result of livestock waste and food refuse disposal (Shaffer et. al. 1988:140). Structure III was identifiable as a barn due to its size and layout, which matched English-type barns recorded in New Jersey, and based upon the lack of domestic artifact concentrations (Shaffer et. al. 1988:99-100). Features located near Structure III, as well as soil chemical analysis, provided further evidence for the use of Structure III as a barn. Feature 21 was a shallow pit containing numerous fire-cracked rock fragments, and was likely a fire pit for boiling water to assist in the removal of hair from swine carcasses (Shaffer et. al. 1988:104). Feature 35 was a trench feature located in even closer proximity than F. 21 to Structure III, and was likely used for manure run-off (Shaffer et. al. 1988:104). High levels of phosphate were also recorded near Structure III, and combined with the proximity of F. 21 and F. 35, indicated the keeping and butchering of livestock in this area. While domestic debris was noted near Structure I, food refuse was apparently disposed of farther from the house, as seen through a concentration of bone in a midden deposit (F. 144) distanced from the main complex (Shaffer et. al. 1988:130-131).

4. Buchanan-Savin Farm

Data recovery excavations were recovered at the Buchanan-Savin Farmstead in 1990 by UDCAR (Scholl et al. 1994).

Successive generations of the Buchanan family farmed this site from ca. 1850 to 1921, at which time it was sold to the Moffett family, who constructed several new structures away from the older complex and operated a dairy farm on the site. The Buchanan family was apparently successful in their farming endeavors, as the value of their farm nearly doubled from $8,000 to $15,000 between 1850 and 1860, and by 1880 they had introduced more farm machinery (Scholl et. al. 1994:21, 24). In 1860 the farm included crops like corn, wheat, oats, and sweet potatoes, orchards, and livestock, at least some of which were used for dairy (Scholl et. al. 1994:21). By 1880, farm production was apparently focused on corn, wheat, and dairy products (Scholl et. al. 1994:24). The dairy industry of the Moffett family apparently lasted until ca. 1969, when the property was sold to a non-agricultural business (Scholl et. al. 1994:25).

The artifact assemblage from this site was most similar to the post-1860 assemblages at the Weldin Plantation Site, especially the portion recovered from the late nineteenth to early twentieth century privy, F. 49. Ceramic vessel counts demonstrated higher percentages of whiteware (MVC=48, 45%) and ironstone (MVC=23, 22%) relative to other ceramic types (Scholl et. al. 1994:53). Additional ceramic types were bone china (MVC=10, 9%) redware (MVC=8, 7%), stoneware (MVC=5, 5%), yellow ware (MVC=2, 2%), Bennington-type (MVC=1, 1%), American porcelain (MVC=3, 3%), and Fiesta ware (MVC=1, 1%) (Sholl et. al. 1994:75 *Table 19*). The average CC Index Value for the site was 1.68, and indicated low to moderate economic status (Sholl et. al. 1994:129 *Table 27*). Most of the vessels for which CC Index Values were applicable were apparently undecorated wares, among which bowls were predominantly ironstone (white granite), and plates were predominantly whiteware (cream-colored ware); CC values were not calculable for teaware recovered at the site (Sholl et. al. 1994:53, 128 *Table 26*). Those values, though, do not take into account ceramic costs from the late nineteenth century onward. The predominance of undecorated ironstone, and the presence of at least some porcelain vessels, would seem to demonstrate moderate economic status in the same fashion as the ceramics recovered from the Weldin Plantation Site.

Numerous glass vessels including pharmaceutical bottles and food jars also indicated consumer behavior similar to the Weldin family. Bottle types included a minimum of 33 medicine bottles, four alcohol bottles, five condiment bottles, and three chemical bottles (Sholl et. al. 1994:55). Also found were a minimum of nine food jars, 24 tumblers, eight other glass dining vessels, and 18 kerosene lamps (Sholl et. al. 1994:55). The represented medicine bottles demonstrated a similar, though greater, need or desire for tonics that were likely purchased locally and/or by mail-order. Likewise, the utilization of glass jars for home canning represents a shift to contemporary food preservation practices, which was also evident in the post-1860 Weldin assemblage.

Dietary remains provided less information than at the Weldin Plantation Site, but also suggested consumption of domesticated animals raised on-site. Taxonomically identifiable remains consisted of one cow ankle bone, pig bone (n=209) representing a minimum of seven pigs, and bird bone (n=2) that represented a minimum of two birds (Sholl et. al. 1994:84 *Table 22*, *Appendix XI*). Butchery marks were apparently absent. Bone identifiable as pig consisted predominantly of head and foot elements, but also included rib fragments (n=23) (Sholl et. al. 1994:*Appendix XI*). The single vertebra identifiable as pig can be associated with a head cut as it is the first neck vertebra. The authors noted that agricultural census data revealed animals at the

site were of the slaughtering type (Sholl et. al. 1994:60, 62). If the recovered bone represents the sum total of bone found at the site, it is possible that meat consumption was limited to low meat-yield cuts from the slaughtered animals. Oyster was apparently the only marine species present, and was represented by a minimum of 105 individuals within a shell concentration. Oyster analysis indicated year-round harvesting, mostly by hand-raking at low tide, of predominantly mudflat type oysters, and a few reef and sandbar type oysters.

The landscape of the Buchanan-Savin Farmstead consisted of a farmhouse, numerous outbuildings and five fencelines. Outbuildings included a carriage house (Structure I), a back building/kitchen (Structure II), a meal corn and tool house (Structure III), stable wings for the carriage house (Outbuilding I), two agricultural buildings (Outbuildings II and V), an addition to Structure I (Outbuilding II), a well shed (Outbuilding IV), and two privies (Privy I and Privy II). With the exception of Privy I, all of the outbuildings were post-in-ground type; Privy I was apparently supported by brick piers (Sholl et. al. 1994:28-43). Domestic activities were observed in the area of the farmhouse and the back building/kitchen through a concentration of ceramics in the plowzone between those two structures (Sholl et. al. 1994:81). Butchering activity near Outbuilding II was suggested by the highest concentration of bone being found there, followed by a concentration of bone along Fenceline V, which would have resulted from food refuse being disposed of far from the house (Sholl et. al. 1994:35 *Table 7*).

5. W. Eager Farm

Data recovery excavations were conducted at the W. Eager site by UDCAR in 1991 (Grettler et al. 1991).

While ownership for the land on which the W. Eager Farm Site is situated goes back to 1688, the site did not possess any structures until sometime between 1834 and 1859 (Grettler et. al. 1991:72, 73). The land was bought in 1850 by Wilson L. Cannon, who is assumed to have started construction on the property, but was tenanted out by him until sale of the property to William Eager in 1866 (Grettler et. al. 1991:73). Tax assessments recorded consistently lower values than neighboring farms during both the tenant and owner-occupied phases (Grettler et. al. 1991:75-76). Livestock and crop production are implied by the presence of a barn, stable and crib in the 1860 tax assessment, but the authors do not provide any additional detail (Grettler et. al. 1991:75). When farmed by Eager, a small number of livestock were present (two milk cows, three hogs, one horse, and two mules), and market products consisted of Indian corn, wheat, molasses, honey, and butter (Grettler et. al. 1991:77). The relatively low tax assessments for both occupations may at least partially relate to how the structures were built. The only evidence for former structures was provided by differences in artifact concentrations. No foundations, cellar holes, or hearths were encountered, and the lack thereof was noted as typical for poorer farms (Grettler et. al. 1991:80, 85-87, 109).

The artifact assemblage was comprised primarily by ceramics, but also included architectural remains that were mostly brick fragments, mid-late nineteenth century bottle and jar glass that lacked maker's marks, glass tableware and furnishing items, tobacco pipe fragments, a few buttons, and dietary remains. Most of the ceramics (n=4065) were undecorated whiteware (n=1438), which likely corresponds to the later time period for habitation (Grettler et. al.

1991:178 *Appendix IV*). Redware fragments were also numerous (n=633), and ceramic types pre-dating site occupation were also present, with undecorated pearlware fragments being the most numerous (n=420) (Grettler et. al. 1991:178 *Appendix IV*). The sherds of pearlware (n=640), creamware (n=2), English stoneware (n=2), and Chinese porcelain (n=1) were likely from curated vessels, and could have been used by either the tenant occupants or by the Eager family. Fragments of ironstone (n=181), flow blue printed whiteware (n=87), cut sponge-stamped whiteware (n=5), and yellow ware (n=24) provided evidence of more contemporary ceramic purchases. The abundance of undecorated whiteware, which possesses the lowest cost value, combined with significant quantities of earlier ceramics, is reflective of the low economic status possessed by the occupants of the site.

Dietary remains consisted of only 190 pieces of bone and 81 oyster shell fragments. Bone that was identifiable to species (n=38) consisted solely of cow and pig elements, with cow bone being the most numerous (92%) (Grettler et. al. 1991:126). Consumption of low meat-yield beef cuts was indicated by five metapodial fragments (Grettler et. al. 1991:126). Data regarding livestock in the 1870 tax assessment makes it apparent that a small number of hogs was maintained for meat, and milk cows were likely slaughtered only when they were no longer useful for dairy.

A house, barn, stable and crib were built for the property by 1860, but the project area for the W. Eager Farm only contained the house and associated refuse deposits. The location for the house was evident through mapping of artifact distributions; foundation, cellar hole and hearth were lacking, but it was observable as an area of low artifact density (less than 5 artifacts per STP) surrounded by areas of high artifact density resulting from sheet refuse deposits and demolition (Grettler et. al. 1991:87). The house was apparently constructed as a frame house with a minimal foundation of probable brick piers, which was typical of poor tenant farms in the region during the late nineteenth century (Grettler et. al. 1991:75, 86). This construction technique, and its association with poor tenant farms, is further evident by the lower value assigned to the farm compared to neighboring tenant farms in the mid and late nineteenth century (Grettler et. al. 1991:75-77). Activity areas were not discernable, but a pattern of refuse disposal beyond the identified fencelines was. The disposal of refuse farther away from the house, along the fencelines, was noted as typical for the region in the late nineteenth century (Grettler et. al. 199:88).

6. Summary of Inter-Site Comparisons

When compared to other farmsteads in New Castle and Kent Counties, the assemblage recovered from the Weldin Plantation Site appears to be most similar to the Whitten Road Site for its early years, and the Buchanan-Savin Farmstead for the years it was occupied by the Weldin family. While the William Strickland Plantation produced an assemblage deposited during the eighteenth century, it was characterized by a greater quantity of imported eighteenth century vessels than at the Weldin Plantation Site, which seemed to reflect greater purchasing power due to higher economic status. The Grant Tenancy Site produced an assemblage that was likely deposited during the early nineteenth century, and contained some of the same ceramic types as at the Weldin Plantation Site, especially in regard to a predominance of pearlware and redware, but the ceramic assemblage was not comparable to the Weldin Plantation Site; different methods were utilized for ascertaining economic status from the ceramic assemblage; undecorated refined

white earthenwares, which have the lowest CC value, appeared to be the predominant type at the Grant Tenancy Site based upon relative percentages of fragments, whereas MVCs for the Weldin Plantation Site indicated more decorated wares than undecorated. Different dietary practices were also apparent at the William Strickland Plantation and the Grant Tenancy Site compared to the Weldin Plantation Site; the faunal assemblage from the William Strickland Plantation was larger and comprised by higher MNI counts for all the domesticated species, and while the faunal assemblage at the Grant Tenancy Site was closer in size and MNI counts, beef consumption was apparently less frequent and wild species consumption was apparently more frequent than at the Weldin Plantation Site. The W. Eager Farm produced an assemblage that was deposited during the latter half of the nineteenth century, but both the ceramic assemblage and the faunal assemblage provided evidence of lower economic status than at the Weldin Plantation Site. The ceramic assemblage was comprised of undecorated whitewares and older vessels that would have been curated by the earlier tenants or the Eager family, and the dietary remains were comprised primarily by low meat-yield cuts.

Additionally, spatial analysis revealed differences in landscape use compared to the William Strickland Plantation, the Grant Tenancy Site and the W. Eager Farm. The William Strickland Plantation was formed by a complex of post-in-ground structures, including a smokehouse and a detached kitchen structure. Identified activity areas consisted of the smokehouse area, the detached kitchen area, and an animal pen, with refuse disposal primarily occurring at a great distance from the main structures. At the Grant Tenancy Site, activity areas were not discernable as a likely result of mixing of activities within a limited amount of space. Refuse disposal at the Grant Tenancy Site, however, occurred in a pattern similar to that observed at the Weldin Plantation Site; refuse was discarded in the immediate vicinity of the house, and in an eroded or depressed area like F. 50 at the Weldin Plantation Site. Activity areas were also not evident at the W. Eager Farm, for which little investment was made in the construction of the house, and no other structures were present. Analysis of artifact distributions at the W. Eager Farm revealed only a trend toward disposal of refuse along the fenceline, which was typical of late nineteenth century discard practices for the region.

Both the Weldin Plantation Site and the Whitten Road Farm yielded imported English ceramics suggestive of moderate economic status during the eighteenth century and early nineteenth century. Refined stoneware (e.g. white salt-glazed, scratch-blue) and creamware vessels were indicative of moderate to high economic status during the eighteenth century for both sites. Tin-glazed earthenwares (e.g. delftwares, Faience, Majolica), and pearlware vessels at both sites were more indicative of moderate economic status, however. Since the Whitten Road Farm was occupied during the years when tin-glazed wares were less popular, at least as tea wares, it is possible that the vessels at that site represent low-cost purchases, as they did at the Weldin Plantation Site. Late eighteenth to early nineteenth century pearlware vessels were more abundant than whiteware vessels at both sites, and both assemblages were comprised primarily by inexpensive shell edged and painted vessels.

Dietary practices were also similar at the Weldin Plantation Site and the Whitten Road Farm. At both sites the primary meat sources were cattle, swine, and sheep. Butchery methods could not be closely compared due to the limited occurrence of butchery marks in the Whitten Road Farm assemblage, which was likely due to the fragmentary nature of the assemblage. The occurrence

of “slash marks” at the joints of two large mammal remains would suggest, however, the use of a chopping tool for butchering carcasses. At the Weldin Plantation Site the use of saws and chopping tools was evident among the faunal assemblage.

Landscape use at the Whitten Road Farm differed from the Weldin Plantation Site. At Whitten Road Farm, structures were post-in-ground type, and consisted of a kitchen/living quarter, and two agricultural outbuildings. During the early nineteenth century, the Weldin Plantation Site structures included a stone foundation two-story main house with attached kitchen and full basement, a stone granary, a log and frame barn and cow house. The financial investment in more permanent structures at the Weldin Plantation Site suggests a greater investment on the part of John Dickinson, which was related to his desire to attract tenants who could achieve higher profits. It is also possible that Dickinson’s wealth was greater than the landowner of the Whitten Road Farm, which would have permitted more investment in the Weldin Plantation Site farm. At the Whitten Road Farm, artifact distributions and soil chemistry analysis aided in the identification of the kitchen area, barn, butchery area, and the disposal of food refuse distanced from main structural complex. Artifact distributions at the Weldin Plantation Site provided evidence for the attached kitchen, sewing activities within the attached kitchen, and dairying activities in the basement of the house. Refuse disposal, including food, was concentrated along the northern wall of the house, particularly after the attached kitchen was demolished. Additional refuse was discarded a short distance from the house in the South Yard, including within an eroded area (F. 50) and a drainage feature (F. 60). Even after renovations were made to the house, which moved the kitchen activities inward, doubled the size of the house, and made the northern side the front of the house, refuse disposal continued close to the house along the northern wall, as well as in areas that needed to be filled, like the builder’s trenches in the East Yard.

The assemblage recovered from the Buchanan-Savin Farmastead demonstrated similar ceramic purchasing and participation in contemporary consumer practices, but potentially poorer dietary practices than were observable for the Weldin family. Ceramics purchased by the Buchanan family were similar to those purchased by the Weldin family, and exemplified the popularity of undecorated ironstone vessels in the late nineteenth century. Porcelain vessels, which would have been relatively expensive in the late nineteenth century, were also found at both sites. The number of porcelain vessels discarded was lower than the ironstone vessels, however, which suggested porcelain vessels were used less frequently, as would occur in households with moderate to high economic status. The use of glass jars for home canning and the use of patent medicine bottles was evident at both sites, and similar to the purchase of undecorated ironstone exemplified contemporary consumer behavior. The number of medicine bottles was greater, however, at the Buchan-Savin Farmstead. Poorer dietary practices were evident at the Buchanan-Savin Farmstead through a smaller faunal assemblage, which consisted primarily of low-meat yield cuts. The faunal assemblage from the Weldin Plantation Site indicated consumption of a wide variety of meat cuts, including several high meat-yield steaks. Oyster consumption was apparently similar at both sites, however, as the same species were represented, with mudflat oysters being predominant at both locations, and year-round harvesting was indicated.

Architectural design and artifact distributions at the Buchanan-Savin Farmstead demonstrated differences in landscape use that were likely related to differences in agricultural practices. While both sites possessed a main farmhouse with stone foundation, the Buchanan-Savin Farmstead possessed many more outbuildings, nearly all of which were post-in-ground type structures, and several fencelines. The number and type of outbuildings at the Buchanan-Savin Farmstead indicate considerable investment in agricultural endeavors, which were focused on livestock, grain and orchard production. At the Weldin Plantation Site, such a number of livestock and crop storage buildings would not have been necessary due to a focus on dairying. While a butchery area was not definable at the Weldin Plantation Site, and refuse was disposed of close to the house and within a privy feature (F. 49), at the Buchanan-Savin Farmstead concentrations of faunal remains indicated a butchery area near one agricultural outbuilding (Outbuilding II), and food refuse disposal along one particular fenceline (Fenceline V). One similarity existed in ceramics being found in association with many of the features, but with a distribution around the farmhouses and kitchen areas indicating domestic activities in those areas.

In sum, the artifact assemblage recovered from the Weldin Plantation Site provided insight to consumer behavior and economic status for both the early occupants and the Weldin family, which was comparable to research on other eighteenth century and nineteenth century farmsteads within New Castle County and Kent County. The assemblage that was deposited prior to the Weldin family occupation could not be attributed to any particular owner occupant or tenant occupant, but contained ceramics suggestive of moderate economic status. The occupants during that time were of similar economic status as the occupants of Whitten Road Farm, and were not as well off as the Strickland family or as poor as the tenants at the Grant Tenancy Site. The assemblage that was deposited by the Weldin family was reflective of moderate to high economic status, which was also reflected at the Buchanan-Savin Farmstead, with the exception of a possibly better diet for the Weldin family than the Buchanan family, and was in contrast to the low economic status reflected at the W. Eager Farm.

C. Daily Life on a Late Nineteenth Century Dairy Farm

A day in the life of a late nineteenth century dairy farmer's family would have been filled with work, for both young and old. The day would often begin before dawn with the farmer going to the barn to milk the cows. He would be accompanied by his wife, sons, or hired help. While the farmer and his wife or hired help were milking the cows, the sons or younger members of the family would feed the cows a mixture of chopped grain and hay. The younger family members may also be employed in carrying the fresh milk to the milk house. In the milk house the milk was strained and put into cans. Once the cans were filled, they were usually placed in a trough of cold water to cool the milk. The youngsters would also have to pump water into the watering trough within the barnyard. After all of the cows were milked and fed, they were let out of their stalls and allowed into the barnyard where the water trough was filled and ready to quench their thirst. Once the cows were allowed time to get their fill of water, they would be driven from the barnyard to the meadows for the day, again often by younger family members.

After the milking was completed, the family would return to the house where a daughter or two may have prepared a hearty breakfast. Following breakfast, the farmer and his sons or male

hired help, depending on the season, would go fix fences, prepare the fields, plant crops, and harvest hay or grains. After breakfast, the farmer's wife, daughters and/or female hired help would gather the eggs and otherwise tend to the chickens and farm fowl. Following that they'd return to the dairy or milk house to gather cream from a previous day's milk and/or check the lids on the cans to see if the day's milk was sufficiently cool for shipment to the city. Then, either an elder son or the hired man would haul the milk to a shipping point in the city. If there was sufficient cream from previous days' milking, the wife and her help would churn butter. The manufactured butter would be placed in firkins and stored in a cool place such as a spring house or cellar. The women and girls would also perform other domestic chores such as sewing, baking, and laundry.

At dinner time the men would return from the fields for a meal prepared by the wife or daughters and/or female hired help. After dinner, the farmer may work on business accounts while the sons and hired help would make sure the other farm animals such as the swine were cared for. Then the farmer and hired help would return to the field work of that particular season. In late afternoon younger males of the family would herd the milk cows from the meadows into the barnyard where the cows could drink water and loaf until milking time. Other chores performed by the hired help or younger males of the family included chopping and bringing in wood for the cook stove and other stoves in the house. When the farmer and hired help returned from the fields, another round of milking and feeding occurred, and the milk was again stored and cooled in the milk house. After the milking was completed, straw was spread in the stalls for the comfortable bedding of the cows overnight. Then the family retired to the farmhouse where supper had been prepared by the wife, daughters and/or hired help. After a 12-14 hour day, the family was ready for bed by 8:00 or 9:00 that evening.